The effect of Extraversion on stress and resilience levels caused by social distancing measures during Covid-19

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Abstract:

Since December 2019, the Covid-19 virus has spread continuously to all parts of the world. As a reaction, many governments issued lockdowns and restrictions upon the contacts outside of one's household. This caused an increase in self-reported loneliness, social disconnection, and stress. This study examined the association of social distancing measures and stress and resilience, with extraversion as a possible moderator. The data was gathered with an online questionnaire (N = 676, aged > 18 years). This study did not assess an association between social distancing measures and stress (p = .27) and consequently no moderation could take place (p = .10), nevertheless extraversion was found to be a significant predictor for stress (p < .05). The study did assess extraversion to have a moderating effect upon the association of social distancing measures and resilience (p < .05). Resilience levels increase, as introverts adhere to the social distancing measures. A conclusion that can be drawn is that social distancing measures are no significant predictor for stress, however they are for resilience. Additionally, extraversion is a significant predictor for stress and resilience and a significant moderator for resilience.

1. Introduction:

1.1. Stress and resilience in times of Covid-19:

In December 2019, the first cases of the virus Covid-19 in Wuhan, China, appeared. Since then, the world has changed (Taylor, 2020). To contain the spread of the virus and to prevent health care systems from being overloaded, governments issued a range of safety-measures. Citizens are ordered to engage in social distancing measures (SDM) and to refrain from social contacts apart from their household. Social gatherings are banned, universities, non-essential workplaces, bars, and restaurants are closed (Douglas et al., 2020). An increase

of self-reported loneliness, social disconnection (Killgore et al., 2020), stress (Vicario-Merino & Muñoz-Agustin, 2020) and lower resilience levels (Killgore et al., 2020) have been reported. There is a need to investigate which personal psychological variables, like personality, influence the well-being of an individual during the Covid-19 measures. It is essential to find resilience promoting and stress reducing factors to develop primary or secondary prevention methods and stress management methods to deal with stressors caused by the pandemic.

Stress is the feeling that the stressful demands exceed one's perceived capacity to deal with them (Richardson et al., 2012). External factors like economic adversity, social isolation and health anxiety are factors that have contributed to the increased stress levels of the population since the outbreak of Covid-19 (Rajkumar, 2020). *Resilience* is the ability to cope well in the face of adversity (Sudom et al., 2014). Lower resilience levels have been found since the beginning of Covid-19 in the general population (Killgore et al., 2020). One factor that influences stress as well as resilience is personality.

1.2. Possible influences of extraversion on stress and resilience:

The Big Five Factor Model (BFFM) is one of the most validated models to measure the five dimensions of personality: *openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism* (see Rothman & Coetzer, 2003). Extraversion describes the tendency of an individual to orient their interests and energy towards their outer or towards their inner world (American Psychological Association [APA], n.d.). Individuals with high scorings in this dimension (i.e., extroverts/ extroversion), experience more positive affect, are optimistic, tend to seek out stimulation (Rothman & Coetzer, 2003; Power & Pluess, 2015) and have a decreased risk of developing a mental disorder (Lü et al., 2014). They orient their interest towards the outer world (APA, n.d.). Individuals on the opposite end of this

dimension (i.e., introverts/ introversion) are more reserved, controlled and even-paced (Rothman & Coetzer, 2003). They orient their interest towards the inner world (APA, n.d.).

Extroversion is typically associated with lower levels of stress. Extroverts usually have a stronger social support network (Swickert et al., 2002; Folk et al., 2020). Their feeling of social connectedness (see Lee & Robbins, 200) is greater (Lee et al., 2008) and their feeling of availability of social support is higher (Campbell-Sills et al., 2006; Swickert et al., 2002; Folk et al., 2020). They are more likely to utilize this support in times of distress (Swickert et al., 2002). This typically has a reducing impact upon their appraisal of stress. Given the way extroverts cope with stress, it can be assumed that with the current lockdowns and SDMs, the accessibility to social support networks is compromised, the feeling of social connectedness is inhibited, and the feeling of stress is increased. Introversion on the other hand is generally associated with higher stress levels and diminished positive affect (Kniffin et al., 2021; Davidson et al., 2015). Introverts typically have fewer social interactions than extroverts (Liu et al., 2021). It can be assumed that SDM and the current lockdowns did not have a significant impact on the personal social contacts of introverts, since it only caused small deviations in the normal social behaviour (Liu et al., 2021), specifically, since introverts prefer to communicate online (Whitty et al., 2018). It can thus be expected that the levels of stress through SDM in introverts are decreased.

Extroverts also typically have higher resilience levels than introverts. It is assumed that this is also grounded upon extroverts' heightened feelings of social connectedness, enhanced feelings of social support as well as upon an increased experience of positive affect (Swickert et al., 2002; Folk et al., 2020). These protective factors might however not be as impactful through the restrictions of the SDM. It is thus expected that the resilience levels of extroverts will be decreased. Introverts on the other hand typically have lower resilience levels to begin with. They are less likely to utilize their social support network (Swickert et

al., 2002) and are more prone to engage in solitude (Zelenski et al., 2014). It is therefore presumed that the restrictions on personal social contacts might not be as detrimental for introverts as for extroverts, as their way of life has not dramatically changed (Liu et al., 2021; Wijngaards et al., 2020). Previous studies found a negative association between introversion and depression, as introverts adhered more strictly to the SDM. The current lifestyle that has been shaped by the SDM might allow introverts to be more alone and to choose when to engage in social interactions (Wijngaards et al., 2020), which is more accommodating to the low tolerance of environmental stimulation and the preference for lower levels of sensory input of introverts (Leary et al., 2003). An increase in resilience levels for introverts can thus be expected.

1.3. Hypotheses:

The objective of this study is to investigate the moderating effect of extraversion on the relationship between SDM and stress and resilience. This study is the first – to our knowledge – that investigates the association between extraversion, resilience, stress, and the implications of SDM during the Covid-19 pandemic. Based upon previous findings regarding extraversion and stress and resilience (see Swickert et al., 2002; Folk et al., 2020; Campbell-Sills et al., 2006; Lee et al., 2008; Wijngaards et al., 2020; Liu et al., 2021) as well as due to the unique components of the SDM, this study hypothesizes that:

Firstly, with a decreased sense of availability of social support, it is hypothesized that extroversion has a positive moderation effect upon stress caused by the Covid-19 safety distancing measures.

Secondly, since the lockdowns and SDM presumably only caused small deviations in the behaviour of introverts, it is assumed that introversion has a negative moderation effect upon stress caused by the SDM.

Thirdly, it is presumed that the decreased sense of availability of social support and the impaired feelings of social connectedness will have an influence on resilience of extroverts as well. Therefore, it is hypothesized that extroversion will have a negative moderation effect on resilience caused by SDM.

Fourth and finally, the negative association between introversion and depression (Wijngaards et al., 2020) as well as the fact that the current way of life might suit an introvert better (Wijngaards et al., 2020), generates the hypothesis that as the SDM increases, the resilience scores of introverts will rise simultaniously.

2. Methods:

2.1. Sample:

1108 participants were recruited through the social media platforms Facebook, Instagram, LinkedIn, Reddit, Twitter, as well as through the Sona systems (Sona Systems, n.d.). Additionally, organisations that dealt with target groups (e.g., LGBTQ+ or Mindfulness groups) were contacted by email. Participants had the opportunity to win a free laughter yoga class by participating. The study has been approved by the Ethics Review Board of the Faculty of Social Sciences of Utrecht University according to the standards of the National Ethics Council for Social and Behavioural Sciences. Consent was gathered from the participants before the start of the survey by clicking several boxes. This study was part of a larger study that investigated the impact of Covid-19 on different population groups. To assess a broad picture, participants from all countries, socio-economic backgrounds and living situations were included. The inclusion criteria were minimal. There was only a minimum age requirement of eighteen years. Participants were excluded for not fulfilling the minimum age requirement, trolling, not consenting to participation or not completing parts of the

questionnaires that were necessary for the analysis. The total of participants after exclusion was 676. The completion rate was 61%.

2.2. Questionnaires:

The survey consisted of nine questionnaires: *Perceived Stress Scale* (Cohen et al., 1983), the *Brief Resilience Scale* (Smith et al., 2008), *Mindful Attention Awareness Scale (*Brown et al., 2003), *Parkour/Sports scale* (Holzmüller & Braumüller, 2020), *Big five Inventory* (John & Srivastava, 1999), *Ruminative Response Scale* (Treynor et al., 2003) and the *Coping Strategies Inventory Short-Form* (Addison et al., 2007). Items regarding the general demographics were designed by the researchers themselves. The items regarding the experience of Covid-19, were put together by Covid-19 related questionnaires (Harkness, 2020; World Health Organization, 2020), as well as partly devised by the researchers themselves. As mentioned before, this study was part of a bigger study. This study focused mainly on the results of the Perceived Stress scale, the Brief Resilience Scale, the Big Five Inventory (BFI) and the Covid-19 scales, the remaining questionnaires were used in the other parts of the study.

The Perceived Stress Scale consists of fourteen items and is designed to measure which life situations are appraised as particularly stressful (Cohen et al., 1983). A score of thirteen points is considered low, between fourteen and twenty-six as moderate and between twenty-seven and forty as high (NH Department of Administrative Services, n.d.). The reliability and validity have been proven for the English version as well as for the other translations (Cohen et al., 1983; Schneider et al., 2020; Kok, 2019). The Alpha reliability lies in this study by .92.

The Big five Inventory (BFI) consists out of 44 items and measures the personality dimensions of the Big five factor model. This study used solely items that measured the dimension of extraversion, thus, a total of eight. Reliability and validity have been proven, for

the English version as well as for the translations (Benet-Martínez & John, 1998; Rammstedt & Danner, 2017; Dennisen et al., 2008). The Alpha reliability in this study is .75 for the Extraversion scale. No official norm scores of the BFI are given (John, 2009). Consequently, this study will set the cut-off scores for introversion one standard deviation (*SD* = 0.699) below the mean (*M* = 3.11), thus by 2.41. The cut-off score for extroversion will subsequently be at 3.81.

The brief resilience scale (Smith et al., 2008) is a short survey consisting of six items, which are designed to measure the resilience of the subject. A strong Alpha reliability has been shown in various studies (Smith et al., 2008; Soer et al., 2019; Chimoritz 2018). In this study, the Alpha reliability lies at .86. A resilience score until 2.99 points is considered low, till 4.30 as moderate and finally, till 5.00 as high (Smith et al., 2008)

Finally, to assess the behaviour of the participants during the Covid-19 pandemic, the researchers made use of the Pandemic Stress index (Harkness, 2020) and the Survey tool and guidance guideline, developed by the WHO (World Health Organization, 2020). Some of the items were designed by the researchers themselves. The Alpha reliability lies by .61.

2.3. Design:

This study is devised in a quantitative quasi-experimental cross-sectional design. Two moderation analysis were conducted: In the first study, social distancing (measured by the items `refraining from attending social events´, `refraining from visiting bars or restaurants` and `maintaining physical distance in public`) was used as a predictor, perceived stress as the outcome variable and extraversion as the moderator. Age, gender, sexual orientation, current financial situation, as well as the participants belief of the probability to get infected (EPI), were used as covariates, as assessed by a multivariate analysis of variance (Manova). The second moderation analysis was of a similar design; however, resilience was used as an

outcome variable and the variables gender, sexual orientation, financial situation and the EPI, were used as covariates.

The study has been conducted in November 2020. During this time period, some countries enforced full lockdowns (e.g., Austria or Ireland), while other countries only enforced light lockdowns (e.g., Germany or the Netherlands). However, the reduction of social contacts and home isolation was recommended almost worldwide (Scala et al., 2020).

2.4. General procedure:

The participants could partake in the study by following the link that was included into the social media posts, e-mails or Sona System posts. Before they could participate, the participants had to read an information letter and give their consent by clicking several boxes. They were then asked to fill out the survey, which took approximately twenty minutes. The survey was available in English, Dutch, and German. The participation was kept anonymous. The participants received a randomized code. This code could be used to contact the researchers. After completion of the survey, the participants were debriefed. The collected data was secured on the servers of Utrecht University.

2.5. Statistical Analysis:

The possible moderating influence of extraversion (moderator) upon the relationship between SDM (independent) and stress and resilience (dependent), was assessed with a moderation analysis in PROCESS in SPSS. The level of statistical significance was at $p < 0.05$. All assumptions were met. A Manova was used to assess potential group differences regarding the dependent variables (stress and resilience), that were then used as coveriates. The level of statistical significance was at $p < 0.05$ here as well. All assumptions were met except for the normal distribution assumption. However, due to the size of the sample, it was assumed that the Manova would be robust (Finch, 2005).

3. Results:

3.1. Sample characteristics:

The sample of this study consisted mostly out of young (60.2%), highly educated (70.3%), western (97%), heterosexual (60.9%) participants. The mean of perceived stress for the complete sample is 19.03 (*SD* = 8.12), which is considered moderately stressed (NH Department of Administrative Services, n.d). The mean of resilience lies by 3.27 (*SD* = 0.79), which is considered normal (Smith et al., 2008). Through a Manova, significant group differences in the variables gender, age, sexual orientation, current financial situation and EPI, in regard to stress are found (see table 2 below). Similar group differences are found for the dependent variable resilience, except for age (see table 2 below). Generally, young people (18-38 years), transgender, homosexual, or bisexual participants whose financial situation has worsened due to Covid-19 or who estimated the probability to be infected as quite high, have the highest stress levels (see table 1 below). Consequently, they also experience the lowest resilience levels (see table 1). Taking these group differences into consideration, gender, age, sexual orientation, EPI as well as current financial situation are used as covariates in the subsequent moderation analysis for the relationship between SDM and stress. The same groups, except for age, are used as covariates in the following moderation analysis for the relationship between SDM and resilience.

Table 1

Means (M) and standard deviations (SD) for stress and resilience by gender, age, sexual orientation, EPI and current financial situation

Group	*N*	Stress		Resilience	
		M	SD	M	SD
Gender					
Male	350	17.15	0.42	3.47	0.40
Female	272	20.60	0.47	3.11	0.47
Transgender	39	24.00	1.17	2.77	0.14
Age					
18-28	407	20.42	0.37	3.20	0.04
29-38	143	19.14	0.68	3.36	0.07
39-48	48	15.96	1.27	3.35	0.12
49-58	45	14.46	1.24	3.39	0.12
59-68	30	11.43	1.26	3.50	0.12
69-78	3	18.00	7.02	2.94	0.64
Sexual Orientation					
Heterosexual	412	17.37	0.37	3.38	0.03
Homosexual	129	20.26	0.71	3.20	0.08
Bisexual	92	24.08	0.89	3.02	0.09
EPI					
Low	30	16.10	1.74	3.48	0.17
Moderate	191	19.80	0.59	3.18	0.06
High	56	22.25	1.07	3.08	0.11
Current Financial Situation					
Improved	129	17.63	0.73	3.39	0.07
Remains the same	400	18.05	0.38	3.35	0.04
Worsened	147	22.90	0.65	2.93	0.07

Note: N = 676

Table 2:

Results of Manova analysis

		Stress			Resilience	
	Df	F-value	partial η^2	Df	F-value	partial η^2
Gender	4, 671	11.98***	.067	4, 671	13.68***	.075
Age	5, 670	12.97***	.088	4, 670	1.85	.014
Sexual Orientation	4, 670	16.29***	.089	4, 670	7.13***	.041
EPI	5, 670	4.68***	.034	5, 670	3.23**	.024
Current financial situation	2, 673	23.00***	.050	2, 673	17.74***	.050

Note. N = 675, * $p < .05$. ** $p < .01$. *** $p < .001$

3.2. Main Analysis

3.2.1. Extraversion as moderator for perceived stress (Hypotheses 1 and 2):

In the first moderation analysis, a possible influence of extraversion upon the relationship of SDM and stress, is assessed. The overall model is significant $F(7, 667) = 20.82$, $p < .001$, predicting 17.9% of the variance. It is found that SDM is no significant predictor for perceived stress (b = -1.50, 95% CI [-3.64, 0.63], t = -1.38, $p = .17$). Extraversion is a (negative) significant predictor for stress (b = -5.42, 95% CI [-9.31, -1.53], t = -2.74, $p < .01$). The interaction effect is non-significant (b = 0.54, 95% CI [-.011, 1.20], t = 1.63, $p = .10$) (see table 3).

Table 3

Moderation analysis: SDM x Extraversion x Perceived Stress

	b	*SE B*	*t*
Constant***	22.40	6.69	3.35
SDM	-1.50	1.09	-1.38
Extroversion**	-5.42	1.98	-2.74
Interaction effect	0.54	0.33	1.63

Note. N = 675, * $p < .05$. ** $p < .01$. *** $p < .001$. The model controls for the covariates age, gender, sexual orientation, current financial situation, and the estimation of the probability to be infected.

3.2.2. Extraversion as moderator for resilience (Hypotheses 3 and 4):

In the second moderation analysis, the possible influence of extraversion on the relationship between SDM and resilience is analysed. The overall model is significant $F(7, 667) = 21.36$, $p < .001$, predicting 18.3% of the variance. SDM (b = 0.28, 95% CI [0.08, 0.49], t = 2.67, $p < .01$), as well as extraversion are significant predictors for resilience (b = 0.79, 95% CI [0.41, 1.17], t = 4.11, $p < .001$). The interaction effect is significant as well (b = -0.09, 95% CI [-0.15, -0.02], t = -2.66, $p < .01$) (see table 4).

Table 4

Moderation analysis: SDM x Extroversion x Resilience

	B	*SE B*	*t*
Constant*	1.79	0.65	2.73

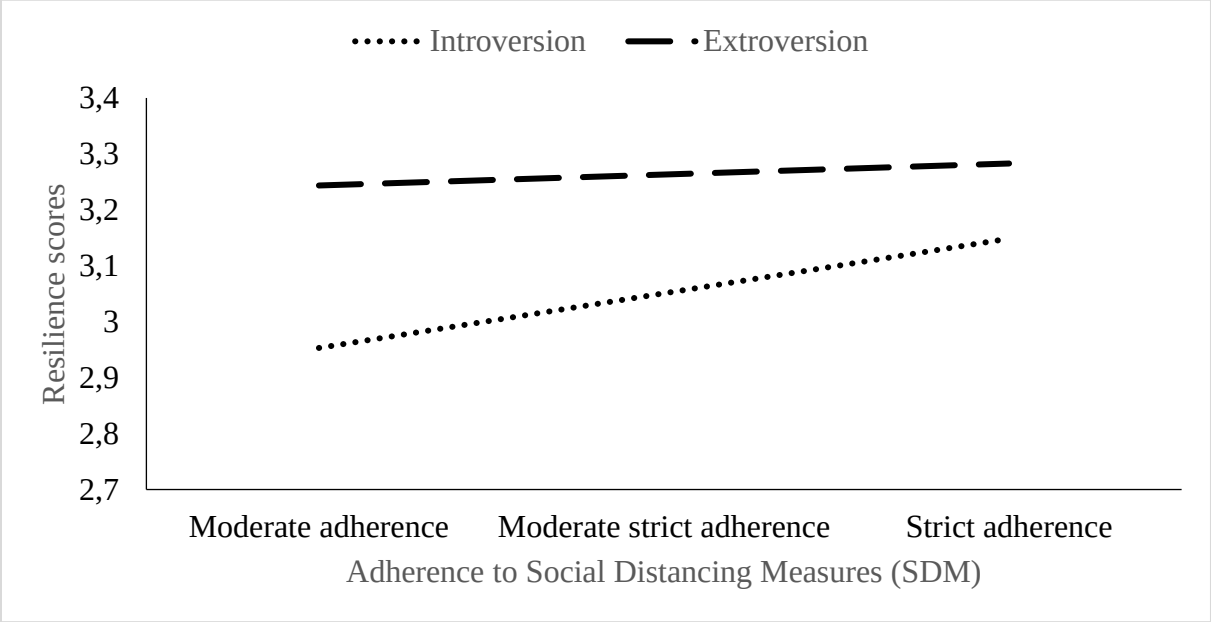
SDM*	0.28	0.11	2.67
Extroversion***	0.79	0.19	4.11
Interaction effect*	-0.09	0.03	-2.66

Note. $N = 676$, * $p < .05$. ** $p < .01$. *** $p < .001$. The model controls for the covariates gender, sexual orientation, financial situation, and the estimation of the probability to be infected.

Extroversion does not have a significant effect on resilience (b = -0.05, 95% CI [-0.10, 0.01], t = -1.53, p = .12), introversion does have a significant effect (b = 0.08, 95% CI [0.00, 0.14], t = 2.25, p <.05) on the resilience score in relation to SDM (see figure 1). While extroverts seem to have naturally higher resilience scores than introverts, as the adherence to SDM increases, the resilience scores for introverts, increases simultaneously (see figure 1).

Figure 1

Simple slope analysis of the changes in resilience scores as the SDM are more strictly followed.



Note. Course of resilience scores as the SDM are more strictly adhered. Simple slope analysis shows a positive increase of resilience for introversion as the SDM are more strictly adhered (b = 0.08, t = 2.25, $p < .05$). There is no significant increase in extroversion (b = -0.05, t = -1.53, $p = .13$).

4. Discussion:

In this study, two moderation analyses were conducted to assess the influence of extraversion on the relationship between the SDM and stress and resilience. Findings of this study suggest that extraversion moderates the relationship between SDM and resilience but not the relationship between SDM and stress. Further analysis also revealed significant group differences between the groups gender, sexual orientation, age, EPI and current financial situation, which may have had an influence on the results of this study.

4.1. Extroversions effect upon stress:

Possible moderating effects of extraversion upon the relationship between SDM and stress and resilience were assessed by this study. After correcting for gender, age, sexual orientation, EPI and current financial status, extraversion showed to be a (negative) significant predictor, and SDM an insignificant predictor. A moderation could therefore not take place and the first and second hypotheses could not be supported. The results nevertheless suggest that extraversion is negatively related to stress and indicate that extroversion is associated with lower stress levels. This is in line with previous research on this subject matter that found extroverts less stressed due to their positive appraisal of stressors and their sense of high availability of social support (Frost Ebstrup et al., 2011; Swickert et al., 2002).

A non-significant association between stress and SDM has been found. This does not correspond to the findings of previous literature, where a significant association with stress

regarding the Covid-19 pandemic has been assessed (see Marroquín et al., 2020; Brooks et al., 2020; Park et al., 2020). The non-significance of the results are assumed to be grounded upon the sample and the timing of the study. Previous literature in this area mainly conducted their studies in spring 2020 (see Marroquín et al., 2020; Brooks et al., 2020; Park et al., 2020). Stress levels in these times were significantly increased due to the novelty of the challenges of quarantine, uncertainty of the situation and unexpected unemployment (Xiong et al., 2020). Since then, however, the stress levels have decreased again (Charles et al., 2020). This study has been conducted in November 2020. Thus, a half year after Covid-19 had been declared a pandemic by the WHO (World Health Organization, 2020). The novelty and therefore the uncertainty of the situation has decreased.

As mentioned before, the non-significance of the results are assumed to be partly due to the composition of the sample. With a Manova analysis, our study analysed which population groups were particularly vulnerable against pandemic-related stressors. Participants between the age of 18-38 years, who are transgender, homosexual, bisexual, whose financial situation has worsened due to the pandemic or who estimated the probability to be infected with Covid-19 as high, reported higher stress levels and lower resilience levels than the rest of the sample. These differences are assumed to be grounded upon poorer socio-economic support (for the transgender, homosexual and bisexual population) (Suen et al., 2020; van der Miesen et al., 2020), more caregiving responsibilities (for the 18–38-year-olds) (Xiong et al., 2020) and feelings of hopelessness and helplessness (for those with higher EPIs) (Mukhtar, 2020). Similar results have been achieved in previous studies (Xiong et al., 2020; Mukhtar, 2020). These vulnerable groups however only constituted a small part of the sample. The majority of the sample consisted out of heterosexual (60.9%), binary (92%) and financial stable (78.3%) participants, who only showed a moderate worry of being infected (73.3%). Possible other groups who might have been at risk to experience higher Covid-19 related stress levels, like health care workers (10.4%) (Bohlken et al., 2020), belonging to a risk

group (21.6%) (Shokri et al., 2020) or living with members of a risk group (17.5%) (Hacimusalar et al., 2020), were also barely represented. Additionally, the majority of the sample remained having personal contact to other people outside of their household (80.8%), which goes against our assumption that the accessibility of the social support system of extroverts was inhibited. Thus, since the majority of our sample did not belong to the vulnerable risk groups of the pandemic and continued to have personal social contact with other people, it is to be assumed that this had an effect upon the overall stress levels of the sample.

4.2. Extroversions effect upon resilience:

A possible moderation effect of extraversion upon the relationship between resilience and SDM was assessed. After correcting for gender, sexual orientation, EPI, and financial security, a moderation effect was found. Introversion has been found to influence the relationship between SDM and resilience, extroversion however not. The third hypothesis could thus not be supported. Typically, introverts are observed to have lower resilience scores than extroverts (Campbell-Sills et al., 2006; Swickert et al., 2002). It is assumed that these differences are due to the heightened experience of positive affect of extroverts as well as the heightened sense of availability of social support (Campbell-Sills et al., 2006; Swickert et al., 2002). Nonetheless, this study examined, that while introverts generally have lower resilience levels than extroverts, an increase of resilience as the adherence to SDM increased, could nevertheless be observed. Therefore, the fourth hypothesis is supported. The increase of the resilience scores corresponds with previous literature that found a negative association between SDM and depressive symptoms for introverts (Wijngaards et al., 2020). The precise mechanisms that cause the adaptive dealing of introverts with the SDM, remain unclear and must be further investigated. Possible mechanisms responsible could be that the current way of life suits introverts better than extroverts (Wijngaards et al., 2020). Extroverts have a strong

urge to seek out social engagement, pleasure, and excitement (Wijngaards et al., 2020). The current way of life due to SDM, where big social events and gatherings are prohibited, are more natural for introverts than for extroverts, who have fewer social interactions anyway and are more prone to engage in solitude (Wijngaards et al., 2020; Zelenski et al., 2014; Liu et al., 2021). Another factor that might have an influence on the increase of resilience scores might be that connecting socially with others online and thereby having the ability to choose when to socialize, might be easier for introverts (Wijngaards et al., 2020). Previous studies have shown that introverts feel safer and more protected in an online environment and that they show a preference to communicate online (Whitty et al., 2018). This might have increased their feeling of social connectedness to other people. Online connectedness shows to be negatively associated with depression scores (Challands et al., 2017). The digitalization of social communication since the Covid-19 crisis might thus have enhanced the feeling of social connection of introverts and therefore strengthened their social buffer, which subsequently might have increased their resilience levels (Kikusui et al., 2006).

4.4. Strengths, Limitations and Future Directions:

The strengths of this study are that it was conducted on an international scale. Most participants stem from high-income western countries (97%). Inferences can thus be made for the western world. The study gathered a robust sample of 676 participants. This results in a more precise estimate of effect sizes, and a better generalizability of results (Roessner, 2014).

There are however also important limitations that should be considered when interpreting these results. Firstly, the assumptions of this study are based upon correlational data, which were gathered by self-report. Most participants were highly educated and from a western background. Additionally, this study was conducted at a time where the infection numbers were reduced for several months and at that point have started to rise again. Lockdowns were just established again (Henley, 2020). Study results may thus differ when a

similar study is conducted later. Furthermore, parts of the questionnaires were self-designed or personally translated. Construct validity might thus be compromised. Additionally, the Perceived Stress Scale was used to measure stress and not a questionnaire that was specifically applicable to the stress caused by the pandemic. The participant was asked to fill out the questionnaire, while considering how Covid-19 has affected them in the last months, but there is no guarantee that the participants kept this in mind. Finally, Cohen's Alpha for the Covid-19 SDM adherence questionnaire was on the lower side with .61 (Ursachi et al., 2015).

Future research should focus upon investigating the exact mechanisms that cause the increase of resilience levels in introverts during the Covid-19 crisis, as only assumptions can be made at this point. Furthermore, this study mainly refers to the extraversion population in western high-income countries. Future research should investigate whether similar results are achieved for lower-income countries where introverts do not have the same means of digital communication. Additionally, future studies could investigate whether similar results can be achieved in populations who had to remain in lockdown for a long time. Finally, future research could focus upon improving parts of this study and verify similar results. Future studies could improve this study by conducting this experiment with a Covid-specific stress questionnaire and improving the Cohens reliability for the SDM questionnaires. Future research in this area can lead to a generally better understanding of resilience, enhanced insights of the risk and protective factors in the Covid-19 crisis and an improved understanding of the mechanisms that make introverts typically less resilient. The findings of this study can be used to develop primary and secondary prevention models to increase resilience.

Thus, to conclude: this study demonstrated that introverts experience an increase in their resilience levels as the SDM are more strictly followed. This increase is attributed to the fact that the current way of life caused by the Covid-19 SDM are more natural to introverts

than to extroverts and that introverts benefit more from the online form of communication. Extraversion was found to be no moderator of the relationship between stress and SDM. This is attributed to the timing of the study as well as to the sample itself.

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Appendix A: Example of flyer used for recruitment:

Appendix B: Information sheet:

Information Sheet

Study Title: Investigation of Stress and Resilience Levels during the COVID-19 Pandemic.

Invitation

You are invited to consider taking part in the research study: **'**Investigation of stress and resilience levels during COVID-19 pandemic.'

This project is being undertaken for partial completion of the Master's of Science in Clinical Psychology at Utrecht University, Utrecht, Netherlands. The students are:

- Karimah Halimah Haselhoef at *k.h.haselhoef@students.uu.nl*
- Keith Anthony Judge at *k.a.judge@students.uu.nl*
- Sarah Elise Sabine Schoenmakers at *s.e.s.schoenmakers@students.uu.nl*
- Julius Thomas Habbel at *j.t.habbel@students.uu.nl*
- Sarah Johanna Duda at *s.j.duda@students.uu.nl*

Before you decide whether you wish to take part, it is important for you to understand why this research is being done and what it will involve. Please take time to read this information carefully and discuss it with friends and relatives if you wish. Don't hesitate to contact the researchers if there is anything that seems unclear or if you would like more information.

Purpose of the Research.

The purpose of this research is to investigate if there are any potential differences and relationships within and between stress and resilience. It is a requirement for the partial completion of a Master's of Science degree in Clinical Psychology at Utrecht University, Netherlands.

Do I have to take part?

You are free to decide whether you wish to take part or not. If you do decide to participate, you will be asked to complete a consent form, feel free to take a screenshot of it. You are free to withdraw your data from this study or stop answering questions at any time without giving reasons for doing so and without adverse consequences. How you do this will be explained further down.

If you request the removal of your data after it has been already analysed and computed by the researchers, it will be impossible to remove it.

If I take part, what do I have to do?

You will be asked to read this information sheet, agree to it and answer some questions. The whole survey process is expected to take no more than **20 minutes** of your time. You will not be asked for personalized details like your name, email address, family name, address, bank account information or your full telephone or mobile number. All information you provide **cannot** and **will not** be traced back to you or the device you completed the survey on as all data and information you provide will be anonymous and kept confidential.

What are the possible disadvantages and risks of taking part?

There are no foreseen disadvantages and risks of participating. However, some questions may be distressing or difficult to answer for some participants as they ask to declare your sexuality, health status and ethnicity. When you are finished with answering the questionnaire, many resources and organisations will be provided should you feel the need to follow up with them. There will also be a 'Prefer not to say' option for these answers.

What are the advantages of taking part?

By taking part in this research, you are contributing greatly to the scientific community. Furthermore, if you participate via Utrecht University's SONA system you will receive participation points for your participation in this survey. Additionally, you will also have the option of availing of one free 30-minute meditation and laughter yoga class. This will be elaborated on in the debrief after you finish the questionnaire.

How will information about me be used?

Once the data is collected, it will be stored securely and only accessible on the Utrecht University's servers. The common timeline for data storage in research studies is usually 10 years from completion according to guidelines influenced by the American Psychological Association (APA) as well as the local ethical guidelines from Germany, the Netherlands, and the Republic of Ireland. The data you provide is obligated to be legally secured due to the General Data Protection Regulation (2016) of the European Union regardless of where you are currently residing.

You have control over the data you provide, this means that you are entitled to remove your data from this study if you so wish and you can do this without giving reasons. This can be done by emailing one of the researchers, Keith Anthony Judge at *k.a.judge@students.uu.nl*, or any of the following contacts:

- Supervisor: Dr Esther van Duin at *e.d.a.vanduin@uu.nl*

- Independent Data Protection officer within Utrecht University at *privacy@uu.nl*

As mentioned, you can withdraw your data any time quoting your identification code. This code will be displayed to you once you complete the consent form, you will be promted to record the code. Additionally, the researcher will not change individualistic data upon request.

Who has reviewed the study?

This study has been ethically reviewed, assessed, and approved by the FERB (Faculty Ethics Review Board), along with the supervisor Dr Esther van Duin.

Thank you

Thank you for taking the time to carefully read this information sheet. Please feel free to read over it again if anything feels unclear. Please now proceed to the consent form. If you have any questions regarding the study, feel free to contact the research team at *k.a.judge@students.uu.nl*.

Date

02/11/2020

Researchers

Karimah Halimah Haselhoef
Keith Anthony Judge
Sarah Elise Sabine Schoenmakers
Julius Thomas Habbel
Sarah Johanna Duda

Supervisor

Dr Esther van Duin.

Appendix C: Consent Form

Consent Form

Title of Project: Investigation of Stress and Resilience Levels during the COVID-19 Pandemic

Name of Researchers: Keith A. Judge, Sarah Johanna Duda, Sarah Elise Sabine Schoenmakers, Julius Thomas Habbel, Karimah Halimah Haselhoef.

Supervisor: Dr Esther van Duin

Please read the following statements carefully and then tick the corresponding box to consent and move on to the questionnaire:

- I have read the previous information letter and I am fully informed of the study. []
- I understand that I have had the opportunity to ask questions. []
- I am or are over the age of 18 by the time I start and complete the survey. []
- I understand that I can withdraw my data by email. []
- I understand that my participation is voluntary. []
- I understand that once my data has been analysed and computed, it will be impossible to be deleted. []
- I understand that my data will be analysed only within the EU/EEA. []

Appendix D: Debrief

Debrief

What now?

That's it, you're all done. Thank you. This study was to investigate stress and resilience levels during the COVID-19 pandemic based on several variables.

Your participation remains voluntary and your data will be kept confidential, anonymous, and safe to best of the researchers' ability. Don't hesitate to contact the researchers if you have questions at *k.a.judge@students.uu.nl*. or any of the following contacts:

- Supervisor: Dr Esther van Duin at *e.d.a.vanduin@uu.nl*
- Independent Data Protection officer within Utrecht University at *privacy@uu.nl*

We thank you sincerely for your contributions and understand that some of these questions might have been troubling or difficult to answer. If this is the case, here are some of the many organisations you could get in contact with, should you feel the need to do so.

Ireland

- LGBT Ireland / Helpline **|** Tel: 1890929539 | Email: info@lgbt.ie
- Jigsaw YMH | Tel: +353 1 472 7010 | Email: info@jigsaw.ie
- BeLonGTo | Tel: +353 1 670 6223 | Email: info@belongto.org

Netherlands

- COC Switchboard | Tel: +31 (20) 623 65 65 | Email: info@switchboard.nl
- MIND | https://wijzijnmind.nl | Tel: +31 0900 1450

Germany

- Schwulenberatung Berlin | Tel: +49 (030) 446688-111 | Email: info@schwulenberatungberlin.de

Other EU Countries

- https://ilga-europe.org/mental-health/help

Canada

- Rainbow Services CAMH (*based in Toronto*) | Tel: +1 416 535-8501

United States of America

- The Trevor Project | Tel: 1-866-488-7386 | Visit: thetrevorproject.org

United Kingdom

- MIND | Tel: 0300 123 3393 | Visit: mind.org.uk

Free 30 Minute Mindfulness Mediation and Laughter Yoga Class

As a thank you for participating, you can avail of one free class at one of the provided times at the following link: https://survey.uu.nl/jfe/form/SV_bqqiqqbZ0K0JycJ. More information will be explained there.

Appendix E: Questionnaires English:

Demographics:

1. Please state your age. [*Open ended number box*]

2. From the list below, how would you identify your gender?
    - Male
    - Female
    - Transgender / Gender non-conforming
    - Other
    - Prefer not to say
3. From the list below, how would you identify your ethnicity?
    - Black (*African American, Black African, Black Caribbean, etc.)*
    - White (*Caucasian*).
    - Asian (*Middle Eastern, Eastern Russian, Chinese, Korean, Philippine, etc.)*
    - Mixed Background
    - Other
    - Prefer not to say

If 'other' is selected - open ended box to state their ethnicity.

4. Which country are you currently residing in?
    - The Netherlands
    - Germany
    - Ireland
    - Austria
    - United Kingdom
    - Italy
    - Other

If option `Other` is clicked: open-ended box to state their country.

5. What is the highest degree or level of education you have completed?
    - Primary school
    - High school / Secondary school
    - Post-secondary college / Post-leaving certificate
    - Bachelor's degree
    - Master's degree
    - Apprenticeship
    - Prefer not to say
6. From the list below, how would you identify your sexual orientation?
    - Straight/Heterosexual
    - Homosexual/Gay/Lesbian
    - Bisexual
    - Other
    - Prefer not to say
    -

<u>Resilience (Smith et al., 2008):</u>

Please respond to each item by marking one box per row
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

1. I tend to bounce back quickly after hard times
2. I have a hard time making it through stressful events.
3. It does not take me long to recover from a stressful event.
4. It is hard for me to snap back when something bad happens.
5. I usually come through difficult times with little trouble.
6. I tend to take a long time to get over set-backs in my life.

Perceived stress scale (Cohen, Kamarch & Mermelstein, 1983):

The following questions are concerning the current COVID-19 situation and how it has influenced and is still influencing you.
For each question choose from the following alternatives:
0 = never, 1 = almost never, 2 = sometimes, 3 = fairly often, 4 = very often

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and stressed?
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
5. In the last month, how often have you felt that things were going your way?
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things?
9. In the last month, how often have you been angered because of things that happened that were outside of your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Covid-19 questionnaire:

How much is/did COVID-19 impact your day-to-day life?

1. Not at all
2. A little
3. Much
4. Very Much
5. Extremely
6. Prefer not to say

Which of the following are you experiencing (or did you experience) during COVID-19? (check all that apply)

1. being diagnosed with COVID-19
2. fear of getting COVID-19
3. fear of giving COVID-19 to someone else
4. worrying about friends, family, partners, etc.

To your knowledge, are you or have you been infected with Covid-19?

1. Yes
2. No
3. Don't want to state that

If yes:
Was it:

a. Mild
b. Severe

Was it:

a. Confirmed by a test
b. Not confirmed by a test

Do you know people in your immediate social environment who are or have been infected with Covid-19 (suspected or confirmed)?

1. Yes
2. No
3. Prefer not to say

If yes:

Do you know someone who died from Covid-19?

1. No
2. Yes
3. Prefer not to say

What do you consider to be your own probability of getting infected with Covid-19?
Scale from 1-7 1 = Extremely unlikely 7 = Extremely likely

Do you have risk factors that place you at high risk for contracting COVID-19?

1. Yes
2. No
3. Not sure
4. Don't want to state that

Are you a health care professional?

1. Yes
2. No

Who lives in your household besides yourself?

Choose as many as apply

- I live alone
- I live alone with children under 18
- I live with people in a Covid-19 risk group (people over 65 years and/ or with chronic disease)
- None of the above

Please assess your private financial situation over the past three months

- Improved
- Remains the same
- Worse
- Don't know

During the last seven days, which of the following measures have you taken to prevent infection from Covid-19:

1 – 7 range: 1 = Not at all, 7 = Very much so

1. Frequently washed my hands with soap and water for at least twenty seconds
2. Avoided touching my eyes, nose and mouth with unwashed hands
3. Used disinfectants to clean hands when soap and water were not available
4. Avoided a social event I wanted to attend
5. Stayed at home from work/school
6. Wore a mask in public
7. Ensured physical distancing in public
8. Disinfected surfaces
9. Avoided going out to bars/ restaurants

Appendix E: Questionnaires in Dutch:

Demographics:

1. Wat is uw leeftijd? [*Open ended number box*]

2. Als u kijkt naar de onderstaande lijst, hoe identificeert u uw geslacht?
    - Man
    - Vrouw
    - Transgender / Gender non-conforming
    - Anders
    - Zeg ik liever niet
3. Als u kijkt naar de onderstaande lijst, hoe identificeert u uw etniciteit?
    - Zwart (*Afrikaans Amerikaans, Zwart Afrikaans, Afro-Caraïbisch, etc.)*
    - Blank *(Kaukasisch)*
    - Gemixte achtergrond
    - Aziatisch *(Midden-Oosters, Oost-Russisch, Chinees, Koreans, Filipijns).*
    - Anders

If 'other' is selected – open ended box to state their ethnicity

4. In welk land verblijft u momenteel?
    - Nederland
    - Duitsland
    - Ierland
    - Oostenrijk
    - Verenigd Koninkrijk
    - Verenigde Staten
    - Canada
    - Zuid-Korea
    - Italië
    - Anders

If option `Other` is clicked: (*stating their country*)

5. Wat is uw hoogst afgeronde opleiding?
    - Basisschool
    - Middelbare school
    - MBO
    - HBO / WO Bachelor
    - HBO / WO Master
    - Beroepsopleiding (*Apprenticeship)*
    - Zeg ik liever niet
6. Als u kijkt naar de onderstaande lijst, hoe identificeert u uw seksuele geaardheid?
    - Hetero/Heteroseksueel
    - Homoseksueel/Homo/Lesbienne
    - Biseksueel
    - Anders
    - Zeg ik liever niet

<u>Resilience (Smith et al., 2008).:</u>

1 = helemaal niet mee eens, 2 = niet mee eens, 3 = neutraal, 4 = mee eens, 5 = helemaal mee eens

1. Na een moeilijke periode veer ik meestal gemakkelijk weer terug

2. Ik vind het moeilijk om me door stressvolle gebeurtenissen heen te slaan.
3. Het kost me weinig tijd om te herstellen van een stressvolle gebeurtenis
4. Ik vind het moeilijk om het snel van me af te schudden als er iets ergs is gebeurd.
5. Ik sla me meestal redelijk probleemloos door moeilijke periodes heen
6. Het kost me meestal veel tijd om over tegenslagen in mijn leven heen te komen

Perceived Stress Scale (Cohen, Kamarch & Mermelstein, 1983)

0 = nooit, 1 = bijna nooit, 2 = soms, 3 = vaak, 4 = zeek vaak

1. In de afgelopen maand, hoe vaak was u overstuur vanwege iets dat onverwacht gebeurde?
2. In de afgelopen maand, hoe vaak voelde u dat u niet in staat was controle te hebben over de belangrijke dingen in uw leven
3. In de afgelopen maand, hoe vaak voelde u zich nerveus en "gestrest"?
4. In de afgelopen maand,
hoe vaak voelde u zich zelfverzekerd over uw vermogen om
met persoonlijke problemen om te gaan?
5. In de afgelopen maand, hoe vaak voelde u dat dingen gingen zoals u wilde?
6. In de afgelopen maand, hoe vaak voelde u dat u niet kon omgaan met (of het hoofd kon bieden aan) alle dingen die u moest doen?
7. In de afgelopen maand,
hoe vaak kon u uw irritaties in uw leven onder controle houden?
8. In de afgelopen maand, hoe vaak voelde u dat u greep had op de dingen?
9. In de afgelopen maand, hoe vaak was u
boos omdat dingen buiten uw controle waren?
10. In de afgelopen maand,
hoe vaak voelde u dat moeilijkheden zich zo hoog opeen stapelden dat u ze niet ko n overwinnen?

Covid-19 Questionnaire:

Hoeveel heeft COVID-19 uw dagelijkse leven beïnvloed?

1. Helemaal niet
2. Een beetje
3. Veel
4. Heel veel
5. Extreem
6. Zeg ik liever niet

Welke van de volgende situaties ervaart u (of heeft u ervaren) tijdens COVID-19?
(Vink alles aan wat van toepassing is).

1. Gediagnosticeerd met COVID-19
2. Angst om COVID-19 te krijgen
3. Angst om COVID-19 aan iemand anders te geven.
4. Zorgen maken over vrienden, familie, partners, etc.

Voor zover u weet, bent u besmet (geweest) met COVID-19?

1. Ja
2. Nee
3. Dat wil ik niet zeggen

Zo ja:

Was het:

a. Mild
b. Ernstig

Was het:

a. Bevestigd door een test
b. Niet bevestigd door een test

Kent u iemand in uw directe sociale omgeving die besmet is (geweest) met COVID-19?

1. Ja
2. Nee

Zo ja: Kent u iemand die stierf aan COVID-19

1. Ja
2. Nee

Wat is volgens u uw eigen kans om besmet te raken met COVID-19?

1 = Zeer onwaarschijnlijk – 7 = Zeer waarschijnlijk

Heeft u risicofactoren waardoor u een hoog risico loopt om COVID-19 op te lopen?

1. Ja
2. Nee
3. Ik weet het niet zeker
4. Zeg ik liever niet

Bent u een zorgverlener?

1. Ja
2. Nee

Wie woont er in uw huishoden behalve uzelf? Kies zoveel als van toepassing zijn.

1. Ik woon alleen
2. Ik woon alleen met kinderen onder de 18 jaar
3. Ik woon met mensen in een COVID-19 risicogroep (mensen ouder dan 65 jaar en / of met een chronische ziekte)
4. Geen van bovenstaande

Beoordeel uw financiële privésituatie van de afgelopen drie maanden

1. Verbeterd
2. Blijft hetzelfde
3. Verminderd
4. Weet ik niet

Welke van de volgende maatregelen heeft u in
de afgelopen zeven dagen genomen om infectie door Covid-19 te voorkomen?
1 = Helemaal niet – 7 = Heel erg

1. Regelmatig handen gewassen met water en zeep gedurende minstens twintig seconden.
2. Vermeden om mijn ogen, neus en mond aan te raken met ongewassen handen.
3. Ontsmettingsmiddlen gebruikt om handen te reinigen als water en zeep niet bes chikbaar waren.
4. Sociaal evenement vermeden dat ik wilde bijwonen.
5. Thuis gebleven van werk/school.
6. Masker gedragen in het openbaar.
7. Fysieke astand gehouden in het openbaar.
8. Oppervlakken gedesinfecteerd.
9. Uitgaan naar cafés/restaurants vermeden

Appendix F: Questionnaires in German:

Demographics:

1. Bitte nennen Sie Ihr Alter: [*Open ended number box*]

2. Aus der unteren Liste, wie würden sie ihr Geschlecht identifizieren?
    - Männlich
    - Weiblich
    - Transgender / nicht geschlechtskonform
    - Anderes
    - Ich möchte das nicht angeben
3. Aus der unteren Liste, wie würden sie ihre Ethnie identifizieren?
    - Schwarz (Af*roamerikanisch, Schwarzafrianisch, Schwarz-Karibisch, etc.)*
    - Weiß (*Kaukasisch*)
    - Asiatisch (*Mittlerer Osten, Ostrussland, Chinesisch, Koreanisch, Philippinisch, etc.)*
    - Gemischter Herkunft
    - Andere
    - Ich möchte das nicht angeben

If 'andere' is selected - open ended box to state their enthnicity.

4. In welchem Land leben Sie zurzeit?
    - Die Niederlande
    - Deutschland
    - Irland
    - Östereich
    - Vereinigtes Königreich (UK)
    - Italien
    - Anderes

If option `Other` is clicked: open-ended box to state their country.

5. Was ist die höchste Ausbildungsstufe, die Sie abgeschlossen haben?
    - Grundschule
    - Weiterführende Schule
    - Fachhochschuldiplom
    - Bachelor
    - Master
    - Ausbildung
    - Ich möchte das nicht angeben

6. Aus der unteren Liste, wie würden Sie ihre sexuelle Orientierung identifizieren?
    - Heterosexuell
    - Homosexuell/Schwul/Lesbisch
    - Bisexuell
    - Andere
    - Ich möchte das nicht angeben

Brief Resilience Scale (Smith et al., 2008).:

Bitte beantworten Sie jede Aussage, indem sie eine Box pro Zeile anklicken.
1 = Stimme überhaupt nicht zu, 2 = Stimme eher nicht zu, 3 = Neutral, 4 = Stimme eher zu, 5 = Stimme vollkommen zu

1. BRS1 Ich neige dazu mich nach schwierigen Zeiten schnell zu erholen. 12345
2. BRS2 Es fällt mir schwer, stressige Situationen durchzustehen. 54321
3. BRS3 Ich brauche nicht viel Zeit, um mich von einem stressigen Ereignis zu erholen.12345
4. BRS4 Es fällt mir schwer zur Normalität zurückzukehren, wenn etwas Schlimmes passiert ist. 54321
5. BRS5 Normalerwiese überstehe ich schwierige Zeiten ohne größere Probleme.12345
6. BRS6 Ich brauche tendenziell lange, um über Rückschläge in meinem Leben hinwegzukommen. 54321

Perceived Stress Scale (Cohen, Kamarch & Mermelstein, 1983).

Die folgenden Fragen beziehen sich auf die aktuelle COVID-19-Situation und wie sie Sie beeinflusst hat und immer noch beeinflusst.
Wählen Sie eine der folgenden Alternativen für jede Frage:
0 = Nie 1 = Fast nie 2 = Manchmal 3 =Ziemlich oft 4 = Sehr oft

- _____ l. Wie oft hatten Sie sich im letzten Monat darüber aufgeregt, dass etwas völlig Unerwartetes eingetreten ist?
- _____ 2. Wie oft hatten Sie im letzten Monat das Gefühl, wichtige Dinge in Ihrem Leben nicht beeinflussen können?
- _____ 3. Wie oft hatten Sie sich im letzten Monat nervös und gestresst gefühlt?
- _____ 4. Wie oft hatten Sie im letzten Monat sicher im Umgang mit persönlichen Aufgaben und Problemen gefühlt?
- _____ 5. Wie oft hatten Sie im letzten Monat das Gefühl, dass sich die Dinge nach Ihren Vorstellungen entwickeln?
- _____ 6. Wie oft hatten Sie im letzten Monat das Gefühl, mit all den anstehenden Aufgaben und Problemen nicht richtig umgehen zu können?
- _____ 7. Wie oft hatten Sie im letzten Monat das Gefühl, mit Ärger in Ihrem Leben klar zu kommen?
- _____ 8. Wie oft hatten Sie im letzten Monat das Gefühl, alles im Griff zu haben?
- _____ 9. Wie oft hatten Sie sich im letzten Monat darüber geärgert, wichtige Dinge nicht beeinflussen zu können?
- _____ 10. Wie oft hatten Sie im letzten Monat das Gefühl, dass sich Probleme so aufgestaut haben, dass Sie diese nicht mehr bewältigen können?

Wie sehr ist/hat COVID-19 Ihr tägliches Leben beeinflusst?

1. Überhaupt nicht
2. Ein wenig
3. Viel
4. Sehr viel
5. Äußerst
6. Ich möchte das nicht angeben

Welches der folgenden Ereignisse haben Sie während COVID-19 erlebt (oder erleben Sie)? (alle Zutreffenden ankreuzen)

- mit COVID-19 diagnostiziert werden
- Angst davor, COVID-19 zu bekommen
- Angst davor, jemand anderen mit COVID-19 zu infizieren

- Sorgen um Freunde, Familie, Partner usw.

Sind oder waren Sie Ihres Wissens nach mit Covid-19 infiziert?

1. Ja
2. Nein
3. Ich möchte das nicht angeben

Wenn ja:
War es:

a. Mild
b. Schwer

War es:

a. Bestätigt durch einen Test
b. Nicht durch einen Test bestätigt

Kennen Sie Menschen in Ihrem unmittelbaren sozialen Umfeld, die mit Covid-19 infiziert sind oder waren (vermutet oder bestätigt)?

1. Ja
2. Nein
3. Ich möchte das nicht angeben

Wenn ja:
Kennen Sie jemanden, der an Covid-19 gestorben ist?

1. Nein
2. Ja
3. Ich möchte das nicht angeben

Wie hoch schätzen Sie Ihre eigene Wahrscheinlichkeit ein, sich mit Covid-19 zu infizieren?
Skala von 1-7 1 = extrem unwahrscheinlich 7 = extrem wahrscheinlich

Haben Sie Risikofaktoren, die Sie einem hohen Risiko aussetzen, sich an COVID-19 zu beteiligen?

1. Ja
2. Nein
3. Nicht sicher
4. Ich möchte das nicht angeben

Sind Sie im Gesundheitswesen tätig?

1. Ja
2. Nein

Wer lebt außer Ihnen in Ihrem Haushalt?
Wählen Sie so viele aus, wie zutreffen

- Ich lebe allein
- Ich lebe allein mit Kindern unter 18 Jahren
- Ich lebe mit Menschen in einer Covid-19-Risikogruppe (Menschen über 65 Jahre und/oder mit chronischer Krankheit)
- Keiner der oben genannten

Bitte bewerten Sie Ihre private finanzielle Situation in den letzten drei Monaten

- Verbessert
- Gleichgeblieben
- Verschlechtert
- Weiß ich nicht.

Welche der folgenden Maßnahmen haben Sie in den letzten sieben Tagen ergriffen, um eine Infektion mit Covid-19 zu verhindern?
1-7 Bereich: 1 = Überhaupt nicht, 7 = Sehr stark

- Häufig habe ich meine Hände mindestens zwanzig Sekunden lang mit Wasser und Seife gewaschen

- Ich habe es vermieden, meine Augen, Nase und Mund mit ungewaschenen Händen zu berühren
- Gebrauchte Desinfektionsmittel zur Reinigung der Hände, wenn Seife und Wasser nicht verfügbar waren
- Ich habe eine gesellschaftliche Veranstaltung vermieden, an der ich teilnehmen wollte
- Blieb zu Hause von der Arbeit/Schule
- Trug eine Maske in der Öffentlichkeit
- Hielt den vorgeschriebenen Abstand in der Öffentlichkeit ein
- Desinfizierte Oberflächen
- Vermied es, in Bars/Restaurants zu gehen