The relationship between alcohol consumption and well-being during the Corona pandemic

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Abstract

Background and Aim: Low mental well-being and high alcohol consumption are both major public health concerns and are negatively related to each-other. The current Corona (COVID-19) pandemic showed to have negative influences on well-being and also had an impact on alcohol. This raised the question if the additional consequences on individuals' lives due to the pandemic could influence the relationship between mental well-being and alcohol consumption. Therefore, the goal of this study was firstly, to investigate whether alcohol consumption increases or decreases during the pandemic. Secondly, if high alcohol consumption before the pandemic is related to lower well-being during the Corona pandemic. Thirdly, this research investigated whether low well-being during the pandemic is related to more alcohol consumption.

Method: This research used a longitudinal design with a sample of (N=486) from the Dutch LISS panel. The Mental Health Continuum Short Form (MHC-SF), three questions related to alcohol consumption, and questions regarding the demographics of the participants were used for this study. A Wilcoxon signed rank test was done to observe if there were changes in alcohol consumption from 2019 to 2020. Two cross tabulations also showed the changes in alcohol consumption from 2019 to 2020. Furthermore, a correlational analysis was conducted to investigate how alcohol consumption and well-being were related to each other.

Results: The findings showed that there are no average changes in alcohol consumption, during the pandemic however individual people drank more or less in 2020. Furthermore, no significant relation was found between well-being and alcohol consumption.

Conclusion: The present study results represent how the relationship between alcohol and well-being during the pandemic is between the general population in the Netherlands. Most

previous studies solely assessed the relationship between alcohol consumption and well-being on individuals with alcohol problems or people with mental health issues.The results of this study provide new and unexpected insights into this topic that could be essential for future research. The demographic variable age showed to be a construct that could be focused on in future research as different research reported that alcohol consumption and well-being to be related to age.

Introduction

The covid-19 pandemic has had a major effect on different aspects of people's lives. The discussion around the consequences of the Corona outbreak has not only involved physical health, but mental health issues as well (Ivbijaro et al., 2020). The need for lockdowns and self-isolation during this pandemic forced changes to work and daily life routines, as well as raising health and financial worries, which are often the cause of decreased well-being (Ivbijaro et al., 2020; Cornwell and Laumann, 2015; Santini et al., 2020, Taha et al., 2014; Wheaton et al., 2012).

Mental well-being can be best described as a multidimensional phenomenon as it includes different perspectives, dimensions and definitions (Ryan & Deci, 2001). The term "mental well-being" includes the mental state of an individual and the awareness of one's own abilities , one's emotions and the capability to deal with day-to-day stressors, the ability to work productively and one's contribution to society (WHO, 2004). More specifically, two distinct perspectives define mental well-being: firstly, the hedonic perspective which focuses mostly on pleasant emotions and secondly, the eudaimonic perspective which focuses on good functioning in one's individual and social life (Ryan & Deci, 2001). The hedonic and the eudaimonic perspectives together can define mental well-being as the presence of emotional, psychological, and social well-being (Keyes, 2002).

The hedonic perspective reflects emotional well-being and involves for example an interest in life, happiness and satisfaction. The eudaimonic perspective includes psychological well-being and involves for instance liking most parts of one's personality and being good at

coping with daily life responsibilities (Keyes, 2002). Social well-being reflects another part of the eudaimonic perspective and includes for example, social contribution, feeling part of a community (social integration), thinking that society is becoming a better place for all people (social actualization) and that the way society works makes sense to them (social coherence and social acceptance) (Keyes, 2002).

Research on mental well- being has often investigated its relationship to alcohol consumption. Studies have demonstrated that one way in which people deal with low mental well-being is by drinking alcohol which is called "emotion coping" (Hutchinson, Patock-Peckham, Cheong, & Nagoshi, 1998). For instance, a study revealed that individuals who experienced increased levels of stress and engaged in high levels of problematic emotion coping indicated the highest alcohol consumption (Veenstra et al., 2007). Moreover, different studies have reported that the use of emotion-focused coping strategies is predictive of increased drinking behaviour in both clinical and general population samples (Hasking & Oei, 2007; Johnson and Pandina 2000).

Drinking alcohol is a common social activity and people often drink to celebrate or to relax (Ritchie & Roser, 2018). A lot of individuals tend to feel relaxed when drinking socially because alcohol affects brain function and can change moods or behaviours (Moss, & Albery, 2009; Ritchie & Roser, 2018). Regular consumption of alcohol at social functions could increase the tolerance and desire to drink more (Moss, & Albery, 2009; Ritchie & Roser, 2018; Williams, 1966). People who consume too much alcohol over a long period, no matter whether it is socially or not, develop health-related problems, alcohol use disorder or alcohol addiction (Holahan et. al. 2001; Ritchie & Roser, 2018). Individuals with alcohol dependence can't go through the day

without alcohol and can't control their consumption (Beseler et al., 2008; Doyle, Donovan, & Simpson, 2011; Holahan, Moos, Holahan, Cronkite, & Randall, 2003). Furthermore, alcohol consumption is responsible for increased illness and death worldwide and is linked to long-term health and social consequences. For instance, worldwide 3.3 million deaths yearly are caused by harmful usage of alcohol (WHO, 2018), and there is evidence that undesirable life events can lead to higher alcohol consumption (Reczek et al., 2016).

Moreover, research has also found low mental well-being to be a factor that can lead to higher alcohol consumption (Bell & Britton, 2014; Holahan et. al. 2001) One study for example revealed that poor mental well-being was associated with higher alcohol consumption (Bell & Britton, 2014). This study showed that participants who had low mental well-being heightened their levels of drinking. The individuals in the study who had good mental well-being but drank more showed a decrease in their alcohol consumption and their well-being remained almost the same.

On the other side, research has also shown how increased alcohol consumption leads to poor mental well-being (Jacob et al., 2021). One study found that problematic drinking can lead to lower eudaimonic and hedonic well-being. A study from an English sample that also investigated the relationship between alcohol and well-being found similar results: abstainers and heavy drinkers were more prone to have low well-being (Lang, Wallace, Huppert & Melzer, 2007). Between the people that used alcohol as a coping mechanism those who had a problematic alcohol consumption were more likely to have low well-being compared to people that drink normal levels of alcohol. In the UK adult population, there is an association between

poor mental well-being and harmful drinking. On the contrary, moderate drinking showed no association to low mental well-being in this study (Mäkelä, Raitasalo, & Wahlbeck, 2015).

Although previous studies found different associations between well-being and alcohol consumption, there is only limited research on this relation taking into account the current Corona pandemic. The pandemic had negative consequences on people's lives and their mental health. For instance, the lockdowns and quarantine regulations enacted to reduce the risk to get infected or infect others are related to lower mental well-being, higher psychological and emotional distress, depression and anxiety (Brooks et al., 2020). Additionally, people report increased feelings of loneliness, fear and frustration (Brooks et al., 2020).

Research showed that since the pandemic started, mental well-being decreased (Ivbijaro et al., 2020). For instance, one study that reported lower mental well-being during the pandemic showed that the prevalence of low mental health was 36.8% (Jacob et al.,2021) which was higher compared to before the pandemic which was nearly 25% (Mind, 2020) . The negative impact on well-being since the pandemic could be especially observed in people with mental health problems. It was suggested that this decrease in mental well-being during a crisis like the Corona pandemic may come from the concern of contracting the disease oneself or infecting family and friends (Evans et al.,2021).

As with mental well-being, the impacts of the pandemic can be noticed through alcohol consumption. Results from several studies that reported on alcohol consumption since the pandemic differed. For instance, two studies reported a decrease in alcohol consumption for all their participants since the pandemic started (Panagiotidis, 2020; Callinan et al., 2021). On the contrary, one study from the UK found that during the COVID-19 lockdown one in six people

consumed more alcohol than before. Another study of 1491 Australian adults also showed an increased alcohol consumption, and that this was related to lower mental well-being as well (Stanton et al., 2020). Lastly, a study from Poland showed that people also can go in both directions: they can increase or decrease their alcohol consumption. This study reported that more than 30% changed their drinking behaviours as a result of the pandemic, with 16% drinking less and 14% drinking more (Chodkiewicz, Talarowska, Miniszewska, Nawrocka & Bilinski, 2020).

The main aim of this research will be to investigate the relationship between mental well-being and alcohol consumption and synthesize these concepts in the context of the Corona pandemic. Previous research mostly focused on this relationship by assessing individuals with low mental well-being and problematic drinking patterns. This study, however, will focus on the general dutch population, to highlight the wider implication to public health. Moreover, the present research has a longitudinal nature which allows to make causal inferences. The findings of this research will help understand the possible long term psychological impacts of the pandemic.

Taking in consideration previous research it could be assumed that the measures to combat the pandemic are posing a risk on individual well-being, and that alcohol consumption will increase as a consequence. It could also be assumed that alcohol consumption patterns prior to the pandemic will determine the well-being of the individuals in this research. Therefore, this study will focus on the following research questions:

1.Does alcohol consumption change during the Corona pandemic?

Hypothesis: There will be changes in alcohol consumption during the pandemic compared to before the pandemic

2.To what extent is more alcohol consumption before the pandemic related to well-being during the Corona pandemic?

Hypothesis: More alcohol consumption before the pandemic is related to lower mental well-being during the pandemic.

3. To what extent is lower well-being during the pandemic related to more alcohol consumption?

Hypothesis: Lower well-being at the start of the pandemic is related to more alcohol consumption later on in the pandemic.

Methods

Design

The data in this study were collected through the LISS panel (Longitudinal Internet Studies for the Social sciences; http://www.lissdata.nl) located in the Netherlands. The LISS panel includes the Dutch adult population (18 years or older) with 5,000 households and nearly 7,500 individuals that are living in the Netherlands. The panel is based on a true probability sample and participants fill out online questionnaires about different topics every month.

For this research, the health module of the LISS panel was used, which focuses on health, health perception and health-related to the job situation. More specifically wave 12 was used and the time frame for the data collection was from 4.11.2019 till 31.12.2019. Wave 13 was also used and the time frame for the data collection was from 2.11.2020 till 29.12.2020. Furthermore, in May 2020 well-being was measured in a separate module. Only questions related to alcohol

consumption and well-being from the health module were used for the current study. Respondents who could not take part digitally were provided with the necessary equipment to have access to the Internet and additionally were trained to use it.

Participants

The total sample that filled out all the questionnaires from the relevant modules included 2724 participants of which 47.9% (N = 1305) were men and 52.1% (N = 1419) were women. The mean age in that total sample was 48.15 with a standard deviation of 19.24 and the age ranged from 18 to 95 years. From the total sample, 1083 (39.8%) finished tertiary education. For the current study, only those individuals were included who completed the questions used in this study. The total number of participants after deleting the missing cases were 468. From the 468 participants, the mean age was 50.54 with a standard deviation of 18.33 and the age ranged from 18 to 90 years. In this sample, 50.2%(N=235) individuals were men and 49.8%(N=233) women. Furthermore, regarding the educational level 13 (2.8%) of the participants have a primary education, 79 (16.9%) finished a pre-vocational secondary education, 104 (22.2%) completed vocational training, 192 (31.1%) finished tertiary education (university diploma), 51 (10.9%) have a middle bar school diploma and 20 (4.3%) did something else. Comparing the participant's characteristics from the original sample and the sample used for this study it can be seen that they are similar which prevent selection effects.

Instruments

Measurement: Mental well-being

The Mental Health Continuum Short Form (MHC-SF) was used for measuring well-being and was developed by Corey L. Keyes (2002). It consists of 14 questions that are categorized in three dimensions: emotional well-being, social well-being and psychological well-being. Emotional well-being was assessed by the first three items of the scale. For example, one question is: how often during the past month have you felt Satisfied with life. The next five items of the scale measure psychological well-being and to give an example one question is: how often during the last month have you felt that you contributed something important to society. The last six items in the scale focus on psychological well-being for instance: how often during the last month you felt that you liked most parts of your personality. The response options for this scale ranged from 0 =(never); 1= (once or twice per month; 2= (about once a week) 3= (About two or three times a week) 4= (Almost every day) 5= (every day). The mean of all items was computed to measure the overall well-being score. The mean scores of the subscales (emotional, social and psychological well-being) of well-being were also measured. The reliability of the scale in this sample showed an excellent internal consistency with a Cronbach's α .90.

Measurement: alcohol consumption

Alcohol consumption was measured by three questions which were derived from a larger questionnaire in the LISS panel regarding mental health:

1.” How often did you have a drink containing alcohol over the last 12 months ?” with the response options: 1(almost every day), 2(five or six days per week), 3 (three or four days per week), 4 (once or twice a week), 5(once or twice a month), 6(once every two months), 7(once or twice a year), 8 (not at all over the last 12 months)

2.” Did you have a drink containing alcohol during the last seven days?” with the response option yes or no

3.On how many of the past seven days did you have a drink containing alcohol with the response options 1 to 7 for each weekday. The second question was integrated into the third one, therefore, participants, who indicated that they did not drink over the last seven days, were assigned a 0 on question three. Both questions regarding alcohol consumption that are mentioned above were treated as distinct variables. Therefore, there were two alcohol variables for the year 2019 and the same two variables for 2020.

Data analysis

The already given data sets were downloaded and the statistical program SPSS was used to analyse the data. Firstly, a Kolmogorov-Smirnov test was conducted to check if the variables were normally distributed by checking for all the normality requirements. Secondly, to answer the first research question a Wilcoxon signed-rank test was conducted. Furthermore, two cross-tabulations were made to be able to compare and measure changes in alcohol consumption during the years 2019 and 2020. For the second and the third research question, a Spearman correlation analyses between the independent variable alcohol consumption in 2019 and the dependent variable well-being during corona were calculated and between well-being as the

independent variable and alcohol consumption during the year 2020 as the dependent variable. Furthermore, the correlation analyses were also conducted with the subscales of well-being and alcohol consumption to assess how they are associated with each other.

Results

Table 1.

Descriptives of well-being variable and weekly alcohol consumption (N = 486*)*

Variables	2019 M(SD)	2020 M(SD)
Drinking behaviour during the last week	1.77 (2.20)	1.75 (2.17)
Drinking behaviour during the last year (1=almost every day, 8= not at all)	4.71 (2.10)	4.77 (2.16)
Total well-being		2.9 (0.89)
Emotional well-being		3.6 (0.95)
Social well-being		2.3 (1.07)
Psychological well-being		3.08 (1.02)

A Kolmogorov-Smirnov test revealed that total well-being was not normally distributed (d (468)=.055, p=.002). The two variables for alcohol as well showed to be not normally distributed: Alcohol during the last year 2019 (d (468)=0.122 p=0.00), alcohol last year 2020 d(468)=0.14 p=0.00 ; alcohol during the last week 2019 (d(468)=0.23 p=0.00); alcohol last week 2020 (d(468)=2.22 p=0.00). This was confirmed by plotting the residuals of a regression analysis with alcohol consumption per week in 2019 as independent and total well-being as dependent variable (see Appendix Figure 2).

For the first research question the Wilcoxon rank sign test showed that there are no significant differences in alcohol consumption between 2019 and 2020, neither regarding yearly (Z=1.21 p=0.22) nor weekly alcohol consumption (Z= -0.30 p=0.76). This can also be seen in the cross tabulation table 2. for the variable alcohol consumption during the last year. Only a few people significantly changed their drinking behaviour from 2019 to 2020. The changes go in both directions and they are rather small. Overall, the majority shows the same drinking pattern before and during the pandemic.

Table 2.
Cross tabulation alcohol consumption during the last year for 2019 and 2020 (N = 486*)*

Alcohol consumption during the last year 2019 (columns) and 2020 (rows)	Almost every day	Five or six days per week	Three or four days per week	Once or twice per week	Once or twice a month	Once every two month	Once or twice a year	Not at all over the last 12 months	Total

Almost every day	32	8	3	1	0	0	1	1	46
Five or six days per week	6	15	6	0	1	0	0	0	28
Three or four days per week	3	5	21	12	0	0	0	0	41
Once or twice per week	3	1	8	78	23	4	4	0	121
Once or twice a month	0	0	1	18	41	7	1	3	71
Once every two month	1	0	0	2	8	16	9	1	37
Once or twice a year	0	0	0	2	7	11	22	3	45
Not at all over the last 12 months	1	0	2	0	5	5	7	59	79
Total	46	29	41	113	85	43	44	67	468

Table 3.

Cross tabulation alcohol consumption during the last week for 2019 and 2020 (N = 486*)*

		Alcohol consumption last week 2020								
Alcohol consumption last week 2019		0	1	2	3	4	5	6	7	Total
	0	161	20	13	1	5	1	0	2	203
	1	24	26	12	3	2	0	3	1	68
	2	10	23	16	10	4	1	3	1	68
	3	6	1	13	17	7	1	1	2	50
	4	1	0	1	3	4	2	1	0	12
	5	3	0	0	1	3	6	3	2	18
	6	0	0	1	2	1	4	3	4	15
	7	1	1	2	3	0	2	4	21	34
	Total	206	71	58	40	26	17	17	33	468

For the second and third research question a Spearman correlation was computed as the normality assumption was violated. The analysis showed that no significant association between alcohol consumption and well-being could be found which is as well shown in table 3. The correlation analysis showed that there are no significant correlations between the variables and that is why no additional regression analysis was conducted.

Table 4.

Correlations of well-being and alcohol consumption 2019 and 2020 (N = 486*)*

	Last Year alcohol consumption 2019	Last Week alcohol consumption 2019	Last Year alcohol consumption 2020	Last week Alcohol consumption 2020	Total Well-being	Emotional Well-being	Social Well-being	Psychological Well-being
Last Year alcohol consumption 2019		-.83**	.86**	-.77**	-.00	.03	.01	.00
Alcohol consumption Last Week 2019			-.75**	.73**	.02	-.02	.02	.02
Last Year Alcohol consumption 2020				-.82**	-.01	.042	-.01	-.01
Last Week Alcohol consumption 2020					.02	-.04	.02	.03
Total Well-Being						.69**	.88**	.92**
Emotional Well-Being							.46**	.57**

Social Well-being	.68**

*Notes: **. Correlation is significant at the 0.01 level*

Discussion

The goal of this study was to investigate the relationship between alcohol and well-being during times of Corona. Previous research showed that low well-being and high alcohol consumption both have negative consequences on people's lives and health. Moreover, studies revealed that high alcohol and low well-being are negatively related to each other. The current Corona pandemic showed to additionally contribute to lower well-being of individuals. Therefore, it was important to focus on the relationship between alcohol and well-being to understand if the pandemic had an additional negative influence on that relation.

For the first research question, it was expected that alcohol consumption changes during the pandemic to before the pandemic which could not be supported by the results. This finding is contradictory to previous research who either found that alcohol consumption increased or decreased. Data from different countries showed increases(Jacob et al., 2021; Stanton et al.,2020) or decreases in alcohol consumption during the pandemic (Callinan et al., 2021; Panagiotidis, 2020; Rodriguez et al., 2020). In the present study no significant changes could be observed when comparing pre-pandemic consumption to consumption in the year 2020. There are several possible explanations for how the current finding could be understood.

Firstly, most of the findings from previous studies reported increases or decreases in alcohol consumption among young people (Chodkiewicz, Talarowska, Miniszewska, Nawrocka & Bilinski, 2020; Callinan et al., 2021). The current study's mean age is 50 which includes mostly older adults. Therefore, a possible factor that could have influenced the finding is the age of the sample. For instance, a study showed age-dependent changes in alcohol consumption between younger and older adults, where especially the younger ones showed changes whereas older adults showed either no changes or only small differences in their alcohol consumption to before the pandemic (Steffen, Schlichtiger, Huber, & Brunner, 2021).

Secondly, research on changes in alcohol is from different countries and literature reported large differences in alcohol consumption across countries (Ritchie & Roser, 2018). Statistics showed that alcohol consumption in the Netherlands ranked lower than other countries in Europe. The average consumption in the Netherlands in 2018 was 8.16 per year compared to the country Latvia who had the highest consumption with 12.6 litres per year. (OECD, 2021).

For the second hypothesis, it was expected that higher alcohol consumption before the pandemic is related to lower well-being during the Corona pandemic which could not be supported by the results. The third hypothesis expected that lower well-being at the start of the pandemic is related to more alcohol consumption later on in the pandemic which could also not be supported. These findings were unexpected as previous research showed that alcohol consumption can influence well-being and also the other way around (Veenstra et. al, 2007; Mäkelä, Raitasalo & Wahlbeck, 2015). However, most previous research focused on individuals with high and hazardous drinking whereas the current sample recruited from the general population (Veenstra et. al, 2007; Mäkelä, Raitasalo & Wahlbeck, 2015). According to the

National Institute of Alcohol and Alcoholism (2020), seven or more drinks are considered problematic. In this sample, the majority showed non-problematic drinking patterns with for example two or three drinks in a week. Moderate levels of alcohol did not show to lead to less well-being in previous research (Mäkelä, Raitasalo, & Wahlbeck, 2015. Moreover, previous research found that moderate levels of alcohol can lead to better well-being (Lang, Wallace, Huppert & Melzer, 2007). Additionally, physiologic and self-reported measures revealed that drinking moderate amounts of alcohol can decrease stress and increase happiness (Baum-Baicker, 1985).

Furthermore, most previous research found associations between low well-being and increased alcohol consumption. The well-being scores in this sample are moderate. Comparing the total well-being score from this study with a mean of 2.9 during the pandemic with well-being scores from two other studies before the pandemic with the mean scores 3.36 and 3.98 it can be seen that the total well-being score in this study decreased compared to the ones before the pandemic (Lamers et al.,2011; Luijten, Kuppens, van de Bongardt, & Nieboer, 2019). Nevertheless, in general, the well-being scores in the present study are not particularly low and therefore it could explain why no change in drinking could have been observed.
Additionally, research showed differences in well-being between younger and older adults (Smith et al., 2020). For instance, one study reported that younger age was related to lower well-being during the pandemic. The study showed that individuals with young age had the lowest mental well-being levels and suggested that the current pandemic disproportionally influences young individuals (Smith et al., 2020). These findings indicate that when analysing mental well-being in the pandemic, age can be a determining factor. If the mean age of this

sample would have been younger and their well-being therefore lower it could have changed the results as especially lower well-being and high alcohol consumption showed to be related in previous research. These findings together could partly explain why the second and third hypotheses could not be supported.

Strengths and Limitations

A major strength of the present research is that it is one of the first studies investigating the association between alcohol consumption and mental well-being during the corona pandemic. Previous studies focused mostly on people with mental health problems or hazardous alcohol consumption and did not consider the pandemic (Smith et al., 2020; Appleton, James, & Larsen, 2018). Another strength is the longitudinal design from the LISS panel which makes it possible to assess different time points with the same participants. Most studies only focus on a specific time point and therefore do not provide causality. Furthermore, even though only 468 participants were included from the original sample with 2724 individuals, the sample composition in the study provided a good representative sample of the Dutch population including an almost equal gender distribution, different educational levels and ages.

This research also has to be considered in light of its limitations. Firstly, self-reported responses about alcohol consumption could be biased as research showed that for specific and sensitive topics people give responses they consider more desirable. Furthermore, people intentionally or unintentionally over- or underestimate their consumption (Ekholm, 2004; Del Boca, Darkes, & McRee, 2016). The participants in this study could indicate for example lower consumption of alcohol to give a socially more desirable answer this could have affected the

results as especially high alcohol consumption is often associated with lower well-being. However, there is also evidence that self-reported measures are a valid method to assess alcohol consumption (Simons, Wills, Emery & Marks, 2015). A second limitation could be that the questions regarding alcohol focused more on the frequency of consumption and not on the exact liters and volume. That's why it could be difficult to detect problematic drinking patterns; for example, daily alcohol consumption does not necessarily reflect risky alcohol use (Hayek et al.,2017). For the future, it would be reasonable to also include questions regarding alcohol that ask for specific amounts to be able to say more about the alcohol consumption patterns.

Future Research and implications

Besides its limitations, the present study gives ground for further research to better understand the relationship between alcohol and well-being during the pandemic. Therefore, possible implications are that different factors influence the relationship between alcohol and well-being such as coping mechanisms, age, or stress. Future research should integrate these variables into the analysis, for instance, as moderators. Age showed to play an important role as it influenced well-being and also alcohol consumption in prior research (Smith et al., 2020). Moreover, the present study was conducted at an early stage of the Corona pandemic. It would be important to check whether anything would change after measuring the relationship at a later time point during the pandemic: after a prolonged period of time in the pandemic, people would be subjected to further stressful events and the effects on mental well-being might be different to the beginning of the outbreak. Additionally, this study only focused on the Dutch population, however, earlier research showed that alcohol consumption varies across countries. Therefore, it

would be interesting to do comparative research to check how the relationship changes in different populations.

Conclusion

In conclusion, the present study revealed that there is no change in alcohol consumption during the Corona pandemic compared to before. Furthermore, there is no association between alcohol consumption and well-being during the pandemic in the dutch population. This study was unique as it is the first to investigate this relationship in the context of the unforeseeable circumstances of the Corona pandemic. Therefore the present research offers new insights into the way the events of the outbreak impact psychological well being and are related to alcohol consumption, matters that have not yet been fully researched.

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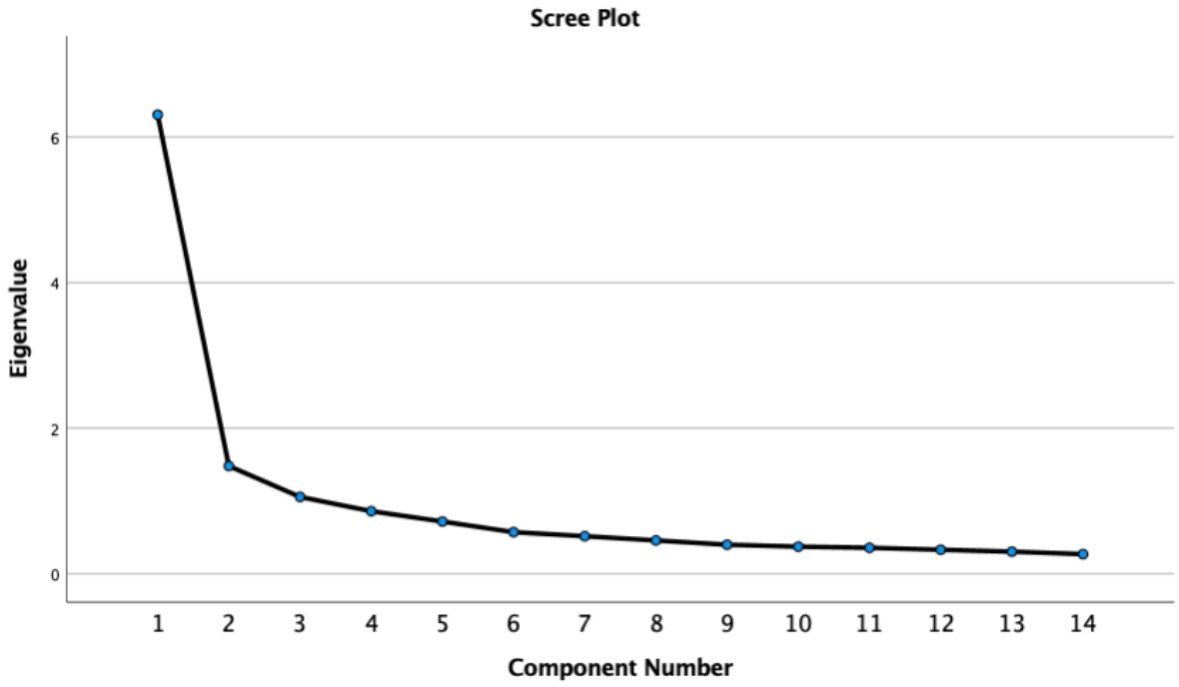
Appendices

Appendix A -Figure 1

Figure 1



Appendix B -Figure 2 .
Figure 2