



MASTER THESIS

**The quality of partner
relationships and its impact on
well-being during the Covid-19
pandemic**

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Abstract

Well-being became highly important recently since the outbreak of the virus COVID-19. Sub-dimensions of this concept include emotional, social, and psychological well-being. The corona situation comes along with many negative effects and restrictions that affect the overall level of well-being for a majority of people. This study investigated partner relation characteristics as relationship quality, satisfaction, duration, age, and gender prior to the outbreak with regard to mental well-being during the outbreak.

From a large pool of the Dutch population, a good representative sample was selected. Several models of the LISS Data Archive from different measurement points were combined and examined. Those included questionnaires about the level of mental well-being, partner relationships, and overall health during the pandemic.

The most important findings of this study revealed that relationship duration, satisfaction, age, and gender were associated to well-being in times of corona. A higher age was related to lower well-being scores, and male participants were more satisfied with their relationships than females. A higher relationship duration and satisfaction prior to the outbreak was beneficial in terms of higher well-being scores during the outbreak. The perceived quality of a relationship prior to the pandemic did not influence the level of well-being during times of corona.

Partner relations are still an undiscovered topic with regard to mental well-being, especially in times of corona. This study is a first step towards understanding its relations and characteristics that are important in the field of positive psychology.

The quality of partner relationships and its impact on well-being during the Covid-19 pandemic

Introduction

COVID-19

The recent spread of the virus COVID-19 (2019-nCoV) called for an international health emergency that comes along with significant psychological effects (Huan, Ding, & Ying, 2020; Wang & Zhang, 2020). The World Health Organization (WHO) announced a fast-paced spread of the virus and readjusted regulations were introduced aiming to reduce the overall health burden (World Health Organization, 2020). Quarantines, working and schooling from home, social contact restrictions to only separate households or meeting one to two people belong to the regulations. This reflects a limitation of personal freedom and can be identified as a source of frustration for many people and their social relations (Tisdell et al., 2020). The corona situation itself in combination with its restrictions leads to psychological discomfort within humans that consequently has an

effect on well-being. This occurs through changes in attitude, behaviors, and perceptions (Büssing et al., 2020). As a result of the virus and its restriction policies, people feel left alone in an unknown situation. At the same time, there is a higher demand for adaptive strategies in order to successfully face daily challenges (Karin et al., 2020; Jungmann & Witthöft, 2020). The Covid-19 pandemic calls for reconsideration or structural change in partner relations (Devine & Wright et al., 2020). There is further research needed within this specific area of partner relationships. Therefore, the current study investigates how characteristics of partner relations are related to well-being in times of corona since they are differentially affected by the pandemic.

Mental well-being can be defined in various ways. It is a term often found in the rising field of positive psychology (Gable & Haidt, 2005). According to Keyes model of mental health (Keyes, 2002) mental well-being includes three components that comprise emotional, psychological, and social well-being (Keyes 2002; Keyes 2005). Emotional well-being implies positive emotions and life satisfaction, whereas psychological well-being implies positive individual functioning. Social well-being implies positive social functioning with sub-categories as social coherence, acceptance, actualization, and social integration (Jovanović, 2015).

Mental well-being equals the individual's personal evaluation of their quality of life. It can be categorized into two streams of research (Keyes, Myers, & Kendler, 2010). Within stream one, the hedonic perspective (emotional), well-being is about feeling good and experiencing happiness. Stream two, the so-called hedonic perspective (social and psychological) equalizes well-being with human potential that provides that someone is able to function well in life (Keyes, Myers, & Kendler, 2010). As a related concept, mental health implies positive well-being and the ability of coping with stressors in life, realizing one's own potential, and being able to contribute productively to a community (World Health Organization, 2004). In conclusion, this means that mental well-being is essential in many parts of life and highly important for humans to live a happy and fulfilling life.

Partner relations reflect important, committed, and intimate relationships in human contexts. Previous research about partner relationships focussed on factors that examine foundations of safety that help relationships to thrive. There are physical, commitment, emotional, and community components that are relevant for partner relations to add constructive value to individual lives and increase mental well-being (Pieh et al., 2020).

Furthermore, individual partner choices are determined by many factors such as psychological and socioeconomic characteristics or levels of physical attractiveness (Štěřbová, Tureček, & Kleisner, 2019). In an additional study, it was investigated that there are three key aspects beneficial for helping couples wanting to protect their relationships; decision-making, equal task division, and making it safe to connect (Pieh et al., 2020). Moreover, healthy relationships are designed to provide comfort, safety, and security for all parties involved, which is beneficial with regard to well-being (Pietromonaco & Overall, 2020).

Research has shown that a factor in favor of a healthy relationship is sharing a living space (Greenberg & Neustaedter, 2013). A longer relationship duration and time of living together in the same accommodation is related to better or worse well-being scores later in life, depending on the evaluation of the partnership (Vanhoutte, Wahrendorf, & Nazroo, 2017). It was mentioned that shared living spaces give couples room for emotional intimacy, staying connected, and being able to share information as quickly as possible (Greenberg & Neustaedter, 2013). Intimate partnerships and living together, especially within marriage, were shown to be beneficial in terms of higher well-being scores (Eckermann, 2015). It was furthermore investigated that sharing a home with a partner can be beneficial in terms of safety, health, and economic vitality (Hamilton-Baillie, 2008). Being physically present with an intimate partner can be beneficial with regard to well-being (Daniela et al., 2020).

A high level of relationship stability, trust, and security is often achieved over a growing amount of time and therefore often more prone in elderly individuals and couples. Accordingly, relationship satisfaction is particularly strong in longstanding spousal relationships (Braun et al., 2018). The length of a relationship was found to be a key moderator in the evaluation of partner commitment and relationship satisfaction. Individuals in long term relationships are often more securely attached to their partners and the probability of anxious or avoidant attachment decreases with longer time together (Hadden, Smith, & Webster, 2014). Research has shown that secure adult attachment comes with longer relationship duration in partner relations and plays a highly important role with regard to well-being (Davis, Morris, & Drake, 2016).

The perceived quality of a relationship can be divided into two sub-categories. On the one hand, the quality of a relationship is evaluated by less difference of opinions. In a study that investigated long-term partners, it was found that partners who share similarities and opinions are generally more pleased with their relations (Acitelli, Kenny, & Weiner, 2001). Having similar ideas, especially regarding the future, can be beneficial in terms of the perceived quality of relationship and also with regard to mental well-being (Acitelli, Kenny, & Weiner, 2001).

On the other hand, an equal division of labor and work at home is essential for a higher perceived quality of relationship. When there is an imbalance between managing domestic tasks at home and leaving one partner with more work leads to frustration, which negatively affects the relationship and well-being (Blackman & Murphy, 2012).

Factors that contribute to relationship satisfaction are similarities amongst couples and an understanding of the partner's future ideas and marital wishes (Acitelli, Kenny, & Weiner, 2001). Since the need for belonging is a basic human desire, a higher perceived relationship satisfaction is stated to be beneficial for an individual's level of mental well-being (Mellor et al., 2008) Additionally, a general level of compassion towards the partner and an understanding that is exceptional with view to the romantic partner are found to be beneficial in terms of relationship satisfaction. It was also stated that the importance for satisfaction is especially present in sharing similar values (Acitelli, Kenny, & Weiner, 2001).

Further characteristics such as gender and age play a role in the perceived quality of partner relations. They serve as additional characteristics within the model, but are highly important since they can confound the association between relationship characteristics and well-being (Büssing et al., 2020). Regarding gender, both partners being equally involved in a relationship [like sharing tasks at home] was found to be an important factor for satisfaction, since it creates an eye level that is generally important for well-being (Fisher et al., 2020). Furthermore, it was found that relationship satisfaction can have different points of focus when comparing males to females. A study about young adults investigated that for females, a high commitment rate is an important well-being predictor whereas for men intimacy and passion is more important than commitment (Andrade et al., 2015). However, there are a lot of discussions ongoing about the exacerbated gender inequalities as leaving women with more domestic labor given the Covid situation (Collins et al., 2021).

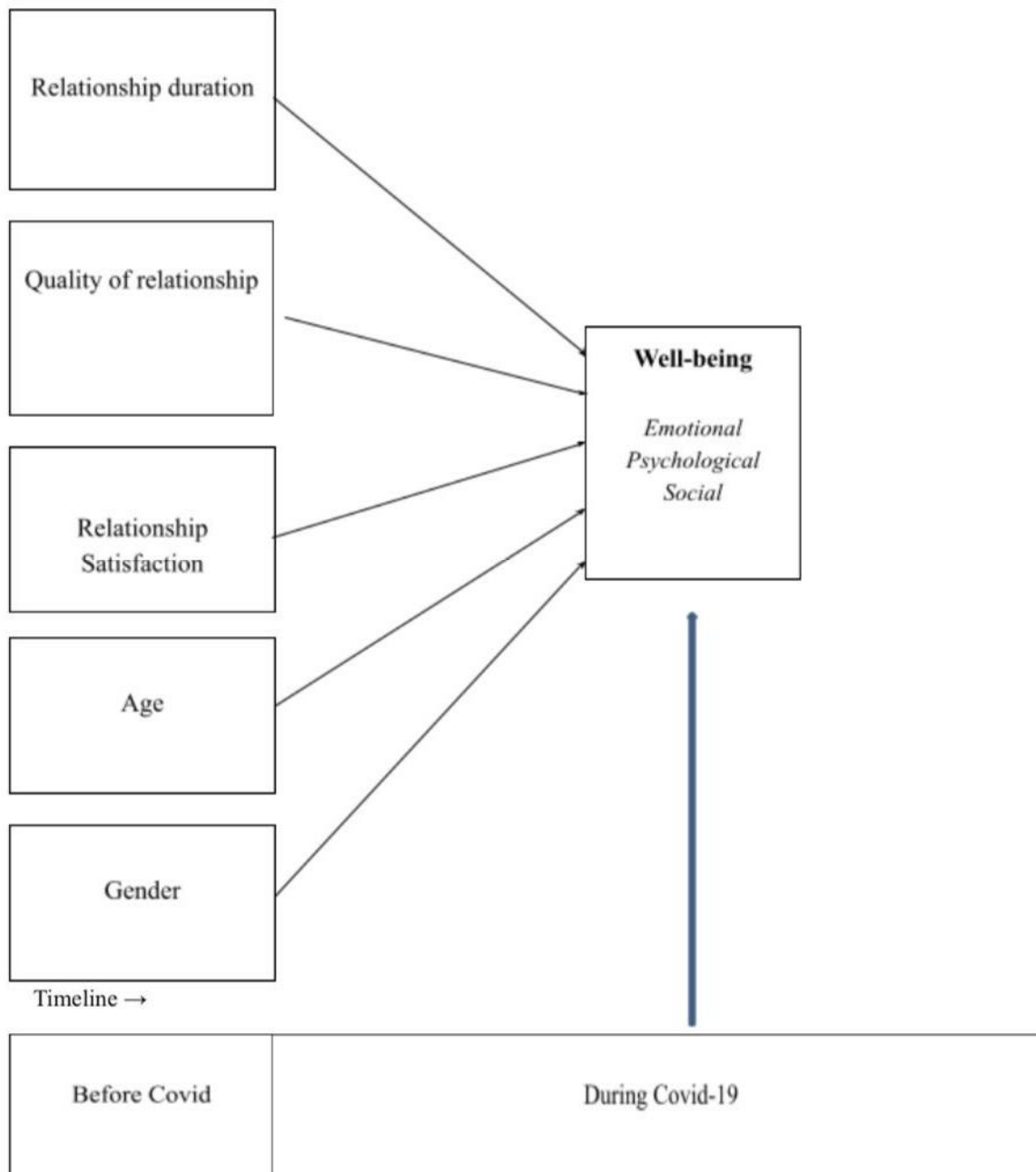
As a final concept, age can serve as a confounding variable on the perceived quality of a relationship and affect mental well-being. An interesting study by Birditt & Antonucci (2007), which examined patterns of multiple relationships and well-being, found that relations differed in quality by age (Birditt & Antonucci, 2007). Within this study, it was mentioned that older participants were more prone to experience a higher quality of relationship and general satisfaction compared to younger participants. The sample consisted of an age range from 22 to 79 years. It was also found that sharing a living space is beneficial in social participation and well-being with regard to age and relationship duration (Tomaszewski, 2013). In addition to this, further studies tested relationship qualities over lifespans and concluded that age plays a significant role in the perceived quality of partner relations, leading to a higher perceived relationship quality in older adults (Birditt, Jackey, & Antonucci, 2009; Antonucci et al., 2010). Altogether, relationships can have a long-term positive effect on well-being under the circumstance that there is constructive problem management and sufficient communication, which are often more prone to be the case in elderly partner relations (Braun et al., 2018).

A recent study by Pieh, O'Rourke, Budimir, and Probst (2020) investigated that during times of corona there was an increase in psychopathological symptoms such as depression. Factors like this can have strong effects on well-being and partner relations (Riggle, Rostosky, & Horne, 2010). The quality of romantic relations was an essential factor and contributor to well-being. To say this in other words, having a partner and evaluating the relationship as highly qualitative, and adding value to one's own life is important with regard to well-being. Sharing opinions that are in line with

each other and conflict resolution with romantic partners in terms of finding constructive solution to problems was found to be highly beneficial with regard to well-being (Yarnell & Neff, 2013). So is an adequate division of labor to be beneficial for a healthy relationship, especially in uncertain times such as the corona situation (Lavee & Katz, 2002). Concerning this, humans strive for positive social connections that contribute to their overall well-being and mental health (Umberson, Crosnoe, & Reczek, 2010; Jovanović, 2015). With regard to the pandemic and adjusted regulations that affect social connections, the perceived level of well-being could be at risk.

Figure 2

Conceptual Model with the influence of COVID-19.



The current study

This study will contribute to the field of psychology in order to identify relations between concepts that are associated with mental well-being and partner relations (Figure 2). The idea

is to create a broader understanding of how characteristics of PRs are related to well-being in times of corona.

This research includes some unique characteristics that elucidate some strengths. There is a strong representative sample in which participants were randomly selected. It is a good representation of the Dutch population. Furthermore, the longitudinal nature of the sample data gives insights into several moments in time of measurement. This is especially important for comparisons prior to and during the coronavirus. This is a unique factor of this study and might be missing in previous studies. Lastly, this study includes all three dimensions of mental well-being combined as emotional, psychological, and social well-being. Many previous studies only focus on the concept of well-being itself and not particularly examine its distinct dimensions.

With all this being said, the overall research question derived for this study is: ‘How are characteristics of partner relations, age, and gender related to well-being before and during times of Corona?’. Specifically, several hypotheses are derived from this.

Hypothesis 1: A better perceived quality of relationship before corona predicts better mental well-being during times of corona.

Hypothesis 2: Longer relationships are related to fewer differences in opinion about conflict resolution.

Hypothesis 3: A higher perceived relationship satisfaction before corona predicts better mental well-being during times of corona.

Hypothesis 4: A higher age is related to better mental well-being during times of corona.

Hypothesis 5: The gender of an individual predicts better mental well-being scores during times of corona.

Method

Design and Procedure

In this study, multiple data sets of the LISS-panel of CentERdata are used. The LISS-panel (Longitudinal Internet Studies for the Social Sciences) is the principal component of the MESS project (Measurement and Experimentation in Social Sciences). Participants were recruited through a random sample drawn from the population registers, in collaboration with Statistics Netherlands (Centraal Bureau voor de Statistiek, CBS). The multiple data sets were extracted from different modules that have different data collection timing. The main study was merged into one large file with its subcategories from modules as 'Health', 'Mental Health Continuum Short Form (MHC-SF)', and 'Family & Household'. In terms of ethical consideration, the questionnaires of the LISS data panel informed the participants prior to the study that their information is going to be stored and made available for research purposes. Researchers had to log into the LISS data archive and activate an account in order to get permitted access. With about 5,000 households comprising about 7,500 Dutch-speaking non-institutionalized individuals, the sample of the LISS panel is substantial. Panel members answer internet-based questionnaires on a monthly basis. People without computers or the internet were provided with these. Questions about well-being and mental health were presented to one person per household.

Participants

Overall, 312 participants were identified that took part in all three relevant surveys and simultaneously reported being in a relationship. From a total sample of 1200 participants, 888 participants had to be excluded beforehand because they took part in only one or two of the three required modules. Only participants that were identified in all three surveys were included. The nationality of the participants in the LISS panel for these modules combined was Dutch.

The final dataset consisted of 312 participants. All participants reported being currently in a relationship, which was the main inclusion criteria. Furthermore, all the participants reported living together with a partner. There are more men in the sample than females, and the majority of participants were living together. An overview of the demographic characteristics can be found in table 1.

The average age of participants was 55 years, in which the age range was 66. On average, participants reported living together for 28 years,

in which participants were living for a minimum of 2 years and a maximum of 64 years together. The majority of participants reported being moderately to highly satisfied with their relationships. On the MHC-SF scale, the mean score was moderate. The perceived health during corona was moderately to high. An overview of the descriptive statistics can be found in table 2.

Table 1

Demographic Characteristics of Respondents (N= 312)

Variables	Frequency	%
Gender	312	100.0
Female	142	45.5
Male	170	54.5
Marital Status	312	100.0
Married	244	78.2
Not Married	68	21.8

Table 2

Descriptive Statistics of Variables

Variable	N	Minimum	Maximum	Mean	SD
Gender	312	1.00	2.00	1.46	0.49
Age	312	19.00	85.00	54.75	16.43
Health during Corona	312	2.17	5.50	4.51	0.68
Marital Status	312	68	244	0.78	0.71

In order to check for a possible selection effect, the mean and standard deviations of the participants included were compared to those that were excluded. The group statistics of N=1200 were compared. The number 1200 resulted from participants that met the requirements for this study, from which 888 had to be excluded because they did only participate in one or two modules out of three. As seen in Table 3, the means and standard deviations [M; SD] and group statistics do not differ extensively. Therefore, the final sample of 312 participants represents a satisfactory sample selection for this study.

Table 3

Group Statistics of excluded and included participants of the final sample

Selection Bias	N	Mean	SD
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Duration	Living Together	Present in Sample	312	28.21	17.56
		Not Present In Sample	888	28.08	16.57
Relationship Satisfaction		Present in Sample	312	17.84	9.68
		Not Present In Sample	888	18.30	9.29
Relationship Quality_Difference of opinion		Present in Sample	312	1.34	.49
		Not Present In Sample	888	1.32	.46
Relationship Quality_Division of labor		Present in Sample	312	2.91	.80
		Not Present In Sample	888	2.82	.82

Mental health during Corona	Present in Sample	312	4.51	.68
	Not present in Sample	888	4.91	.88
Gender	Present in Sample	312	1.46	.49
	Not present in Sample	888	1.85	.71

Materials

Demographics

Demographic characteristics were categorized into gender [male/female], age, marital status, and health during corona [4 Variables].

Duration of living together

This part of the survey measured the 312 included survey participants' duration of living together with their partners and how they experienced this. It was further investigated through questions about the relationship duration in years and months. Questions that measured the relationship duration of participants can be found in the module 'Family & Household'. [3 items, e.g.: 'How long have you been in your current relationship?- years', 'When did you start living together with your partner?', 'In which year did you marry?']. Participants that were not married mentioned this in the answering categories, and only their living duration was investigated. The scale consisted of three items that were merged into one variable with a Cronbach's alpha value of $\alpha = .94$ which is excellent.

Relationship quality

This part of the study was extracted from the modules 'Family & Household' and 'Health'. It was measured through a survey focusing on relationship history and division of tasks within relationships. A 10 point Likert scale ranging from 'strongly disagree' to 'strongly agree' [e.g. items as 'Difference of Opinion_Money Expenditure', 'Difference of Opinion_Household work', 'Division of Household work_Financial Administration', 'Division of Household work_Grocery Shopping']. Finally, the relevant items were divided into two different categories. Category one describes the quality of a relationship in terms of differences of opinion between two partners. Category two describes the quality of a relationship in terms of [household] task division and division of labor. The Cronbach's alpha value for difference of opinion included four items $\alpha = .70$ (acceptable). The Cronbach's alpha value for division of labor after deleting two items was four items $\alpha = .63$ which is questionable in reliability.

Relationship Satisfaction

This information belongs to the module 'Family & Household' in the LISS panel and focuses on labor divisions within relationships, relationship history, and personal consumption expenditure. Items that seemed relevant for this study were merged into a separate scale that asked for answering statements such as 'If I do not have a partner, my life would be more difficult', or 'My partner often makes me happy'. The scale consisted of 7 items and after deleting 2 items in order to improve its previously poor reliability, a value for Cronbach's alpha was $\alpha = .70$ which is acceptable.

Well-being (MHC-SF)

The *Mental Health Continuum Short Form* (MHC-SF; Keyes 2006; Keyes et al., 2008) is a 14 item self-reporting questionnaire about the assessment of mental health. It corresponds to the subcategories of emotional, social, and psychological well-being. For this research, the MHC-SF with original items and revised response format was chosen. The MHC-SF is a reliable and valid measurement instrument that measures mental well-being. The short form is prone to have high internal and moderate test-retest reliability. Example items for the three subscales are 'In the past month, how often did you feel: ...satisfied with life?; ... that you belong to a community (like a social group, neighborhood)?'. Positive mental health is a distinct indicator of mental well-being that is reliably assessed through the MHC-SF. The overall MHC-SF survey consisted of 14 items and the value for Cronbach's alpha was $\alpha = .78$, which reflects an acceptable reliability. The three sub-dimensions together reflect Cronbach's alpha value of $\alpha = .79$ (acceptable). Emotional well-being consisted of 3 items and had a Cronbach's alpha of $\alpha = .89$ (good), social well-being included 5 items and a Cronbach's alpha of $\alpha = .78$ (acceptable), and psychological well-being comprised 6 items and a Cronbach's alpha value of $\alpha = .85$ (good).

Health & Corona

This module extracts data about the individual's perception of health during the COVID-19 pandemic. It serves as a scale variable that takes into account the effects of the corona pandemic. Data was extracted from the 13th wave of the LISS panel, which began on 02-11-2020 and ended on 19-12-2020, which was partially during the Dutch lockdown period. Next to coronavirus related questions, it also comprises items that measure the subjective estimate of health [items as e.g. 'Is your health poorer or better compared to last year?'; 'To what extent did your physical or emotional

problems hinder your social activities in the past month?']. The items were related to two different scales, the first scale was about 'how I felt over the past year' and included 3 items with a Cronbach's alpha value of $\alpha = .78$ which is good. The second scale was the 'how I feel during the pandemic' scale that comprised 3 items about how individuals perceived the burden of the virus. This scale had a Cronbach's alpha value of $\alpha = .82$ which is good in reliability.

Data analysis

The data obtained from the questionnaires were analyzed using the program IBM SPSS statistics 25. At first, bivariate correlations for each variable with mental well-being were conducted. This was measured through the Pearson Correlation and was calculated using SPSS. With view on hypothesis one 'A better perceived quality of relationship before corona predicts better mental well-being during times of corona' the quality of relationships was run amongst well-being in times of corona. For hypothesis two 'Longer relationships are related to fewer differences of opinion', the duration of the relationship was run amongst the quality of relationships in terms of differences of opinion. For hypothesis three, the relationship satisfaction was run amongst mental well-being and for hypothesis four, age with mental well-being. Lastly, gender was correlated with mental well-being in order to test hypothesis five and whether male participants had a higher well-being score compared to females.

In addition, a multivariate regression analysis with all independent variables [partner relation characteristics, age, and gender] together was run amongst well-being as the dependent variable. A stepwise inclusion of variables was conducted, in which first the general basic characteristics of age and gender were added. Next, more informative relationship characteristics such as the duration of living together, relationship satisfaction and relationship quality were included. The model with the most expressive findings and results was then chosen. This measurement was essential in terms of controlling for the other independent variables.

Results

Descriptive Statistics

The mean and standard deviations of each sub-category of the Mental Health continuum short form were analyzed in order to see any important effects or differences between psychological, emotional, and social well-being. The descriptive statistics about each sub-category and the partner relation characteristics can be found in Table 4. Participants scored moderately high on all three subscales. Psychological well-being during times of corona had the highest mean score ($M= 2.88$; $SD= .75$), followed by emotional well-being ($M= 2.73$; $SD= .73$), and lastly social well-being ($M= 2.09$; $SD= .43$). The variable with the lowest minimum score was the psychological well-being scale, with a minimum of 0 (min. = .00). On the relationship characteristic variables, participants scored moderately on the quality of relationship. The mean score on the variable relationship satisfaction was high. The mean score of living together was on average about 28 years.

Table 4

Descriptive Statistics of the MHC-SF dimensions

	N	Minimum	Mean	Std. Deviation
Emotional well-being	312	1.33	2.73	.73
Social well-being	312	.40	2.09	.43

Psychological well-being	312	.00	2.88	.75
Relationship Duration	312	2,00	28.2	17.5
Relationship Quality_opinion	312	,00	1,34	.49
Relationship Quality_division	312	.50	2.87	.78
Relationship Satisfaction	312	3.00	8.32	1.41

Correlations

An overview of the relevant variables and correlations can be found in Table 5. Within the well-being dimensions, there was the strongest significant negative correlation between the psychological and social sub-dimensions ($-.628$, $p= 0.01$), which means that a low psychological well-being score is associated with lower social well-being scores. In terms of relationship characteristics and well-being, a higher perceived health during corona was associated with higher well-being scores ($.416$, $p= 0.01$). Furthermore, relationship satisfaction was significantly associated with higher well-being scores ($.195$, $p= 0.01$). The Quality of Relationships in terms of division of labor was positively related to well-being ($.042$) and the Quality of Relationships in terms of differences of opinions ($.023$) as well. However, both results show insignificant positive correlations. The living duration was associated with slightly lower well-being scores ($-.068$) which indicates that sharing a place to live as a couple does not affect mental well-being positively. This result was insignificant as well.

The variable age correlates significantly negatively with all well-being variables and its sub-dimensions, which implies that a higher age is related to lower scores in well-being during times of corona. However, age was significantly positively correlated to the perceived health during corona (.217, $p=0.01$), which means that the higher the participants' age was, the higher they scored on the perceived health scores during times of corona. Age and living duration had a strong positive correlation (.859, $p=0.01$) which implies that a higher age is related to a longer duration of living together with a partner. Age and relationship quality in terms of differences of opinion had a significant negative correlation (-.308, $p=0.01$), which implies that older couples share fewer differences in opinions and more similarities. A significant negative correlation had age with the overall level of well-being (-.147, $p=0.01$), which means that a higher age predicted lower well-being scores.

Gender had a moderate negative correlation with Relationship Quality in terms of division of labor (-.447, $p=0.01$), which could imply that women are indeed more occupied with tasks and labor at home. With regard to hypothesis one 'A better perceived quality of relationships before corona predicts better mental well-being during times of corona', the well-being scores in the correlation analysis are compared to the two relationship quality variables. Well-being and Relationship Quality in terms of division of labor (.042) and Quality in terms of difference of opinions (.023) did both not show significant results. Since the results show positive correlations, it suggests that the hypothesis could be true. However, with regard to the insignificance of the results hypothesis one can be rejected. There is not enough evidence that a better perceived quality of a relationship before corona predicts better mental well-being during times of corona. Relationship satisfaction had a negative correlation with relationship quality in terms of differences of opinion (-.201, $p=0.01$), which means that couples were more satisfied with their relations when they shared similar opinions. Furthermore, relationship satisfaction and living duration were positively correlated to the perceived health during corona (.266, $p=0.01$; .192, $p=0.91$) which means that a higher perceived level of relationship satisfaction predicted the perceived level of health during corona. Health during corona was positively correlated to the overall level of mental well-being (.416, $p=0.01$), which means that a higher perceived level of health during corona predicted a higher score of mental well-being during times of corona.

Table 5

Pearson's Correlation Coefficients (N= 312)

	1	2	3	4	5	6	7	8	9	10	11
Well-being	1	,794**	,836**	,922**	-,147**	-,048	,416**	,042	,023	,195**	-,068
Emotional		1	,485*	,670**	-,077	-,056	,471**	,016	-,114*	,307**	-,025
Social			1	-,628**	-,083	-,062	,261**	,065	,082	,116**	-,002
Psychological				1	-,190**	-,017	,375**	,026	,045	,134**	-,124**
Age					1	-,184**	,217**	,101	-,308**	,079	,859**
Gender						1	-,103	-,447**	-,037	-,007	-,108
Health corona							1	,067	-,231**	,266**	,192**
Quality division of labor								1	,000	,008	,094

Quality difference of opinion	1	-,201**	-,250**
Satisfaction		1	,040
Living duration			1

** Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Multivariate Regression Analysis

A multivariate analysis was conducted in line with the other four hypotheses. Since the variable correlations were given in table 5, it was tested in what way they all together have an effect on the overall level of well-being. Several models were identified, in which model four contains the variables that best explain well-being (Table 6). The models were specified through a stepwise inclusion of variables in order to check if there are sets of independent variables on the well-being variable. Model four reflected age, gender, duration of living together and relationship satisfaction as independent variables and well-being as the dependent variable (constant). This model reflected the most significant relationships and was therefore included. In summary, the duration of living together ($\beta = .263$ $t(2.455)$, $p > .015$) and relationship satisfaction ($\beta = .216$ $t(3.945)$, $p > .000$) positively impact well-being while accounting for all other variables. This goes in line with hypothesis two 'Longer relationships are related to fewer differences in opinions about conflict resolution', and hypothesis three 'A higher perceived relationship satisfaction before corona predicts better mental well-being during times of corona'. The results suggest that both hypotheses can therefore be approved. Furthermore, age negatively impacts well-being ($\beta = -.408$ $t(-3.748)$, $p > .000$). This is not in line with hypothesis four 'A higher age is related to better mental well-being scores

during times of corona' and therefore this hypothesis can be rejected. In context, this means that younger participants in the survey showed higher well-being scores compared to older ones with regard to relationship characteristics associated with well-being. This result also goes in line with the previous suggestion of rejecting hypothesis four, which informs about age in relation to well-being scores.

With regard to hypothesis five 'The gender of an individual predicts better mental well-being scores during times of corona', there are no significant differences between men and women in terms of relationship satisfaction. Gender and relationship quality appear to have no significant impact on mental well-being while controlling for other independent variables within the model. This result goes in line with the findings from the multivariate analysis ($\beta = -.093$ $t(-1.675)$, $p < .095$). However, men reported higher scores of relationship quality in terms of division of labor ($M = 3.13$; $SD = .67$) compared to females in times of corona ($M = 2.48$; $SD = .73$). This means that being male was associated with higher well-being scores during times of corona with regard to relationship satisfaction. An overview of the different scores between males and females on relationship satisfaction, relationship quality (difference of opinion), and relationship quality (division of labor) can be found in the appendix (Appendix 1).

Table 6

Overview of Multivariate Analysis with Focus on Model 4

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
1 (Constant)	.490	.195		2.508	.013
Age	-.009	.003	-.147	-2.618	.009

2	(Constant)	.764	.281		2.725	.007
	Age	-.010	.003	-.161	-2.828	.005
	Gender	-.156	.114	-.078	-1.362	.174
3	(Constant)	1.495	.435		3.434	.001
	Age	-.022	.007	-.370	-3.333	.001
	Gender	-.181	.114	-.090	-1.584	.114
	Z-score: Duration Living Together	.240	.110	.240	2.185	.030
4	(Constant)	1.630	.427		3.821	.000
	Age	-.025	.007	-.408	-3.748	.000
	Gender	-.187	.112	-.093	-1.675	.095
	Z-score: Duration Living Together	.263	.107	.263	2.455	.015
	Z-score: Relationship Satisfaction	.216	.055	.216	3.945	.000
5	(Constant)	1.594	.448		3.560	.000
	Age	-.025	.007	-.405	-3.636	.000
	Gender	-.169	.126	-.084	-1.347	.179
	Z-score: Duration Living Together	.261	.108	.261	2.418	.016

Z-score: Relationship Satisfaction	.217	.056	.217	3.877	.000
Z-score: Relationship Quality_Difference of opinion	.005	.059	.005	.077	.939
Z-score: Relationship Quality_Division of labor	.019	.061	.019	.310	.757

a. Dependent Variable: Z-score: Well-being

Discussion

Well-being is an essential factor for living a fulfilling life and plays an important role in times of corona. With regard to this study, the overall research question ‘How are characteristics of partner relations, age, and gender related to well-being in times of corona?’ was designed in order to gather insights to this undiscovered but prevailing topic. The implementation of several characteristics into one model had the aim to discover its relations with respect to a timeline that measured before and during the COVID-19 pandemic. The best conclusion could be derived from the correlational and multivariate regression analysis results. The most important findings of this study revealed that several relationship characteristics before and during times of corona can be associated with the overall level of mental well-being. Those include the duration of a relationship,

relationship satisfaction, age and to some degree the gender of an individual. The results have indicated that couples in long term relationships had fewer differences of opinions about problem resolution and therefore a higher level of well-being.

In general, a higher relationship satisfaction prior to the pandemic was associated with higher satisfaction levels during the pandemic and well-being during times of corona. Although there were no significant differences between gender and other relationship characteristics, men showed to be more satisfied within their relationship during the pandemic compared to females, which is an indicator of higher well-being scores in the long term. Furthermore, in this study, it was revealed that a higher perceived relationship quality before the pandemic did not indicate higher levels of mental well-being during the pandemic. There was not such connection found as expected in the beginning. During the further procedure of this study, it was discovered that age is associated with mental well-being scores during times of corona. However, opposing to the expectation that older adults are more satisfied in their relationships and therefore have higher well-being scores, it was actually the younger participants that scored higher on the well-being scale. With regard to the study construct, two out of the five hypotheses had to be rejected, and three hypotheses could be confirmed. Relationship duration, satisfaction, and age are related to well-being in times of corona. Gender differences were not significant within this study, but it was discovered that men reported higher levels of relationship satisfaction in comparison to females during the pandemic.

With regard to the mental well-being subscales, the majority of participants scored the highest on the psychological well-being subscale. This means, in context, that the majority of participants still felt psychologically healthy and functioned effectively in a way which contributed positively to their well-being. This finding can be associated with partner relationships and that most of the time in this study, participants took benefit from their partner connections. Overall, the perceived quality of a relationship prior to the pandemic is not related to higher well-being scores during the pandemic. This might be one of the reasons why participants reported relatively high psychological well-being scores before and during the outbreak. Those are the most important findings of this study that were discovered.

Findings of other studies that measured similar characteristics and constructs in relation to corona are discussed now. One recent study indicated that about 34 percent of participants reported changes in their quality of relationship due to the coronavirus (Luetke et al., 2020). This is already a high number, however, looking at it from a greater perspective it is still lower than what was expected for this study. Further, studies that

measured pre- and post-COVID-19 well-being in relationships have indicated that relationship problems and vulnerability are very much dependent on the individual's resilience to stressors like the pandemic (Karantzas et al., 2020). It was found that higher perceived relationship satisfaction before corona predicts better mental well-being during times of corona (Baumeister & Leary, 2017; Roberson et al., 2018).

As already debated in other research, romantic relationships can play a key role in personal progress and serve as a source for increasing or diminishing well-being (Gómez-López, Viejo, & Ortega-Ruiz, 2019). The association of age and well-being was already studied frequently in other research that revealed several opposing outcomes. It was mentioned that there was a greater negative impact on older adults when they experienced stressors (such as COVID-19 regulations) than younger adults with regard to well-being (Büssing et al., 2020). However, studies also implemented the opposing fact that the coronavirus was more stressful for younger adults which increased the suicidal rates and general lower well-being, as for example in a recent study from the UK (O'Connor et al., 2021). In addition to that, some studies investigated gender differences during lockdowns. It was mentioned that specifically in egalitarian relationships, women apparently happened to be more responsible for the work at home and around the house (Hank & Steinback, 2021). In the long run, this would lead to less relationship quality for women during lockdowns when being compared to men.

In addition to that, many studies showed that on the sub-scales of well-being during the pandemic, social well-being had the lowest scores. This reflects the usual pattern of outcomes also prior to the pandemic, in which social well-being shows frequently the lowest scores (Lamers et al., 2011). Because humans strive for being part of a community, the lowest score on social well-being during times of corona is an important factor. These findings are also in line with other research, it was already known that the pandemic has its effects on emotional, social, and psychological well-being. In a recent study from Eidman et al. (2020), this was measured, and it was examined that people who were able to talk openly about their emotions and kept contact during the pandemic with their loved ones [virtually], did not experience too much of a burden. However, in general, the pandemic affected those dimensions which caused significant alterations in their levels of overall well-being (Eidman et al., 2020). Many scientific papers and articles also showed that the Covid situation had its main effect on social well-being, since people reported higher levels of loneliness and hopelessness about the future (Visser & Law-van Wyk, 2021).

This study is different from other studies that measured similar constructs in a way that it combines several characteristics in one coherent way. The uniqueness is expressed through a concept in which relationship characteristics are put together in contrast to mental wellbeing with all its subscales and measured with respect in terms of time before and during the outbreak of COVID-19. Furthermore, with the hierarchical analysis, it was possible to gather results of relations while controlling for other independent variables of the designed model. Other studies often put their focus only on one facet of partner relationships, or measured only when the pandemic was already present. This study with its huge data set at different measurement points could therefore combine much information which was usually studied only separately before. This is one reason why this study revealed similarities in some aspects, such as about age differences with regard to well-being or relationship perceptions when comparing men to women. On the other side, it also critically disputes conclusions of other studies that measured only one aspect at a time. Since there is still sparse information about measuring relationship characteristics in general and especially in such a combination, the developed model of this study might be a starting point for future research in this field.

Limitations and Future Implications

There were several limitations to this research that need to be considered. First, this was a good representation of the Dutch population, but by far not a culturally diverse sample. It is unclear whether the same results appear across different cultures or at a different measuring point in time. It could be that there are differences, especially regarding individualistic cultures or collectivistic cultures, and possible gender differences. A different measuring time might also be associated with different outcomes, since the coronavirus restrictions were varying. It must be critically considered that the sample only reflected a small group of the Dutch population. Furthermore, it was possible to measure the quality of relationships, but the questionnaires could be improved in terms of internal consistency. To determine if the conceptual model is relatable to a wider variety of populations and cultural groups, additional research and study replications are needed. Data from the LISS panel was tried to be only taken from the most recent years and months, which was a burden for this study because there were many more modules that could have been useful for this research focussing on partner relations. Therefore, only the most recent data was used.

With regard to the future, it would be beneficial to execute this research also in other cultures and countries and compare those outcomes with each other. There are many outcomes between countries in terms of COVID-19, and it would be interesting to see in what way this applies to other countries as well. Relationships differ amongst cultures and countries, the Netherlands reflect a more individualistic culture. It might be interesting to see whether collectivistic cultures find different relationship characteristics and values with regard to well-being. Furthermore, in order to make the model stronger, a new scale or questionnaire could be developed that includes all relevant aspects of well-being and partner relationships. For this study, data had to be collected which was available in the LISS panel at that very moment. Since this platform collects data systematically, a repetition of this same study can also be recommended since there was more information to come which was not available at that moment. With regard to clinical practice, it might be useful to replicate this study in a more experimental way with participants in order to truly observe relationship characteristics with regard to mental well-being. This could happen through experiments in which partners are given exercises to practice on and see in what way their overall level of well-being can be increased. Overall, this was a first good step towards a way of studying this relevant topic. Further research in this field is warranted to endorse its importance and might lead to new ideas and findings in the field of positive psychology.

Conclusion

The aim of this study was to gain insights into partner relations and the level of well-being in times of corona. Some information that was already known could be confirmed with this study, as the relationship of age or gender with regard to well-being in partner relationships. Relationship satisfaction, duration, age, and gender were associated with well-being in times of corona, whereas relationship quality was not. These were the relations that were found and that helps in this way to gain more insights into the concept of well-being during times of corona. Relationships in

times of corona can be beneficial with regard to well-being, but at the same time also serve as a risk factor for diminishing well-being. There is a substantial research gap about this topic in general and especially in terms of the influence of COVID-19. Nevertheless, this research showed a model that might be a first step towards discovering these relations effectively and hopefully serve as insights for improving well-being in times of corona. Future studies on well-being should take into account the importance of partner relationships and explore further. Exercises and experiments in the clinical setting could benefit couples to increase their level of mental well-being also during times of corona. This would lead to a future in which individuals are better able to adjust to their external stressors as a global pandemic and an improved way of increasing mental well-being.

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Appendix 1

Table 7

Gender differences of the Variables Relationship Quality and Satisfaction

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Relationship Satisfaction	Male	170	8.32	1.39	.10
	Female	142	8.30	1.43	.12
Relationship Quality_Difference of opinion	Male	170	1.36	.50	.03
	Female	142	1.32	.47	.04
	Male	170	3.18	.67	.05

Relationship Quality_Division of labor	Female	142	2.48	.73	.06
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