COVID-19 PANDEMIC: INFLUENCE OF RELATIONSHIP STATUS ON ANXIETY AND DEPRESSION IN ADULTHOOD POPULATION OF NORTH MACEDONIA

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ABSTRACT

he aim of this study was to assess the associations between relationship status and mental well-being during this time when the world is facing with the greatest bio-psycho-social threat known as coronavirus COVID-19 pandemic. Regarding the mental health we have taken two mental issues which have shown to be most common as consequences of the impact of the safety measures and social distance limitations we have been obliged to respect in order to prevent further spread of the infectious disease, which are: depression and anxiety.

Another purpose of our research is to identify whether age stage and gender, moderated these associations. We wanted to understand and examine the impact of relationship status on levels of anxiety, and depression during the coronavirus (COVID-19) pandemic to identify relationship status groups, divided by their age groups and gender, who are at greater risk of mental health difficulties.

Relationship status during the COVID-19 pandemic has an influence on the mental health of individuals. Our findings highlight relationship groups at risk of mental health problems during the pandemic and for whom treatments and mitigation should be targeted.

Compared to marriage, being engaged or being divorced/widowed were associated with depressive and anxious symptoms at men and women. Early adult males have shown greater levels of depression than all other age stages in adulthood, even exceeding females in all categories as well. Men are more depressed than women in all age stages of adulthood when compared. While late adult woman are the most anxious between the groups and when compared to men as well.

Key words: relationship status, depression, anxiety, mental health, COVID-19.

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Declaration of interest: The authors reported no conflict of interest related to this article.

INTRODUCTION

Marital status and an intimate relationship are of vital importance regarding mental well-being and they have to be considered as one of the most important aspects of our lives. People, who are more connected to their family members, relatives, friends, colleagues etc., are happier, physically healthier and live longer, with fewer mental health problems than people who are less well connected.[1]

Being happily married or in a stable relationship impacts positively on mental health. Many studies have focused specifically on marriage, which has been found to be associated with better mental well-being compared to other relationship statuses (e.g., Bulloch et al., 2017; LaPierre, 2009; Wadsworth, 2016). However, cohabitation and intimate relationships are perceived to produce similar benefits in some studies, as studies have suggested that these relationship statuses are associated with better mental well-being relatively the same way as marriage (Musick & Bumpass, 2012; Rapp and Stauder, 2020, Zella, 2017). Research that have been conducted in this dimension, have found that high marital quality is associated with lower stress and less depression. However, single people have better mental health outcomes than people who are unhappily married (Teo et al.,2016).

Other associated recent studies that have been realized in Ireland and USA have found that negative social interactions and relationships, especially with partners/spouses, increase the risk of depression, anxiety and suicidal ideation, while positive interactions reduce the risk of these issues.[2]

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[1] Edwards,J., Goldie,I., Breedvelt, J, Elliot, I., et al. (2016). Relationships in the 21st century: the forgotten foundation of mental health and wellbeing, *Mental Health Foundation,* Retrieved from https://www.mentalhealth.org.uk/sites/default/files/Relationships-in-21st-century-forgotten-foundation-mental-health-wellbeing-full-may-2016.pdf

[2] T eo, A.R., Choi, H.J., & Valenstein, M. (2013). Social Relationships and Depression: Ten-Year Follow-Up from a Nationally Representative Study. PLOS One, 8(4). Retrieved from journals.plos.org/plosone/article?id=10.1371/journal.pone.0062396 [Accessed 26/08/16].

The better mental well-being of those in marriage or in intimate relationship have been suggested to be due to the fact that these provide more social support, financial support, and purpose of life (Soulsby and Bennett, 2015, Umberson et al., 2013).[3]

Since we are living in not so common and normal conditions during the pandemics; having in consideration that the quality of life and the romantic relationship among couples everywhere around the globe, have been challenged and changed we have been doubting if the above mentioned studies are valid and accurate anymore. Latest studies have shown a turn in the relationship matters among the married, the engaged, those who are dating vs. the single ones, and the widowers status individuals. For instance, married couples who during the pandemic have been working from home are those who in the related studies have shown greater levels of boredom, are those who are more concerned about infecting the other members of the family, especially those with children are worried about children's school performance, responding to children's school duties and homework with much more dedication that it was needed before the pandemic, having to divide the home rooms for working purposes etc., have only induced boredom, fights, conflicts of interest inside their homes which would only increase unhappiness, anxiety, even depression.

The pandemic influenced on people's employee status, which further affected family incomes which also impacted on the limitation on family supplies of essential goods, and all these consequences induce frustration and anger (Miles, 2015; Brooks *et al.* 2020), and in some circumstances, result in the stigmatization of affected individuals.

Also, by putting cohabiting individuals (partners, roommates and relative families) in unusually close proximity for a long time in a closed unit, may even worsen existing tensions in relationships. On the other hand, for single individuals, the social distance and isolation during the pandemic may reduce access to previous supports, which may in turn increase their anxiety, even depression levels.

This study therefore aimed to understand the changes in the relationship status and their mental health during these challenged times we are living in.

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[3] Grundstrom, J., Konntinen, H., Berg, N.,Kiviruusu, O. (2021). Associations between relationship status and mental well-being in different life phases from young to middle adulthood. Elsevier, https://doi.org/10.1016/j.ssmph.2021.100774

1.2. Present study

Our aim was to examine the association between relationship status and mental well-being at different age groups in adulthood, and whether these associations change during the life course for men and women.

This perspective is important as it can provide systematic knowledge of how diverse meanings and expectations of an intimate relationship at different ages turn into variation in how relationship status and mental well-being are linked with each other during the life course.

In short, in this study we aimed to answer two research questions: 1) How is relationship status (i.e. marriage, engagement, single, divorced/widowed) associated with depressive symptoms and anxiety symptoms; 2)Does this relationship changes at three different age stages during the life course in women and men?

Based on previous research, we expected that the associations between relationship statuses and mental well-being are different at different ages during the life course. However, since previous studies have come to mixed results, we have set many hypotheses that follow our beliefs not reliant on those studies. For example, opposite findings have been obtained on whether being single is more strongly associated with depression in young adulthood or later in life. Based on the literature, we also expect that there are gender differences in these associations, especially that the positive association between marriage and mental well-being is more pronounced among men. Regarding the moderating role of relationship quality, we expected that among those with better relationship quality any ill effects of other relationship statuses compared to marrage on mental well-being are smaller or non-existent.

2.METHODS

2.1 Study purposes

The main aim of this study is to examine the association between relationship status and mental well-being at different age groups in adulthood, and whether these associations change during the life course for men and women.

2.2 Measure

2.2.1 Relationship status

Information on relationship status was obtained through a question about marital status, which had five possible categories: unmarried, engagement, married, divorced and widowed.

2.2.2 Mental Health

Aspects of mental well-being were studied using two variables: depressive symptoms and anxiety symptoms.

Mental health, respectively anxiety and depression were assessed through the following questionnaires: Coronavirus Pandemic Anxiety Scale created by dr. Alan Bernardo which contains 15 items, while depression was tested through the Patient Health Questionnaire -9 which contains 9 items. All items offer a 4 point Likert scale .

2.2.3 Gender and adulthood stage

Gender and adulthood stage were assessed through two items about gender identity (male/female) and age which are divided in three categories, early, middle and late adulthood age stage.

2.3 Participants

The respondents were invited personally via a message, asked to willingly fulfill and share the survey link with their contacts through social media. The identity of the respondent was completely anonymous. We decided to add the Respondent Anonymity Assurance in the welcoming message, because we believe that this principle not only protects the identity of the participants but also help us gather more honest opinions or answers, without worrying about the repercussions. We had a total of 900 respondents, the majority of them from Western part of North Macedonia.

2.3 Statistical analyses

Data analyses are processed with psychometric and statistical procedures.

For data analysis, we have been using the statistical software (Statistical Package for Social Sciences) version 20.0 which facilitated the process of organizing data into table's graphicones and charts for the sake of better visualization of the results and their interpretation.

3. Results

On this part of the research paper we will be presenting the results which we have come to explore regarding the relationship status, adulthood stages, gender and the main variables that refer to the mental health: depression and anxiety.

Table 1
Depression and anxiety levels regarding relationship status

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PHQ_sum	Between Groups	1421.448	3	473.816	9.221	.000
	Within Groups	46038.592	896	51.382		
	Total	47460.040	899			
CPAS_sum	Between Groups	746.786	3	248.929	1.983	.115
	Within Groups	112494.974	896	125.552		
	Total	113241.760	899			

According to the data presented at table 1. we come to an understanding that respondents depressive means among the relationship statuses they hold, are statistically significant ($\rho=0.00<0.05$). On the descriptive data we were able to find out that engaged participants have shown greater levels of the exhibition of depressive symptoms (M=19.38), followed by the divorced and the widowed (M=19.29), leaving behind the single participants (M=18.43) and the married ones who are less depressed (M=16.19).

According to data presented at table 1. we come to a finding that the anxiety means among the respondents relationship status is not supported by the evidences, (ρ=0.115>0.05) therefore we accept null hypothesis, that there is no significant difference among the means. On detailed descriptive frequencies we were able to find that divorced and widowed people are mostly more anxious (M=36.24), followed by the engaged (M=31.03), leaving on the third place the single ones (M=30.33) and the last are the married ones which show lower levels of anxiety (M=29.83).

According to our findings we were able to come to conclusion that engaged females tend to express significantly higher levels of depressive symptoms in comparison to all other categories (M= 20.85), followed by the divorced or widowed women (M=20.00). Surprisingly bachelor or single ladies are highly more depressed than married ladies (M= 19.47 > M=17.23). At the table below we have applied the ANOVA test in order to confirm whether these differences among these means are statistically significant, and looking at the p-value we confirm that there is strong evidence that supports our hypothesis. The ρ value is (ρ=0.001) which is lower than the significance level of 0.05, meaning that we reject null hypothesis.

Table2

Relationship status regarding depression and anxiety levels on female participants

Anova

		Sum of Squares	df	Mean Square	F	Sig.
PHQ_sum	Between Groups	934.725	3	311.575	5.721	.001
	Within Groups	29736.309	546	54.462		
	Total	30671.035	549			
CPAS_sum	Between Groups	519.184	3	173.061	1.334	.262
	Within Groups	70807.451	546	129.684		
	Total	71326.635	549			

a. Gender = Female

We didn't find any statistical support ($\rho=0.262>0.05$) that would help us distinguish the female's relationship statuses as factors for the anxiety levels, therefore we accept null hypothesis, but we can add that if we had to rank them from the highest mean to the lowest achieved means in anxiety levels, that would look like this: Divorced/Widowed (M=36.57), followed by the engaged female participants (M=33.70), single ladies whom have achieved a mean close to the married ones (M=31.83; M=31.44).

Results, of the presence of anxiety and depression on men on the other hand, have shown that engaged males experience more depressive symptoms than men in all other relationship status categories (M=17.36), and with great advance on the means of anxiety are divorced and widowed men (M=34.67) leaving way behind the married, engaged and single men. In both mental health disorders there weren't found statistically significant differences, therefore we must accept null hypothesis for depression among men ($\rho=0.153>0.05$) as well as for anxiety among them ($\rho=0.597>0.05$).

Table3

Relationship status regarding depression and anxiety levels on male participants

ANOVA[a]

		Sum of Squares	df	Mean Square	F	Sig.
PHQ_sum	Between Groups	223.791	3	74.597	1.770	.153
	Within Groups	14581.777	346	42.144		
	Total	14805.569	349			
CPAS_sum	Between Groups	205.447	3	68.482	.629	.597
	Within Groups	37697.813	346	108.953		
	Total	37903.260	349			

a. Gender = Male

A MANOVA test was also conducted for this purpose and we were able to understand that there was a significant difference between males and females when considered jointly on the variables depression and anxiety, Wilk's Λ=0.001<0.05, F(6.18)=6.73, ρ=0.001, partial η^2=0.22.

Table 4
Manova test for relationship status jointly on depression and anxiety levels

Multivariate Tests[a]

Effect		Value	F	Hyp df	Error df	Sig.	Partial η2
Intercept	Pillai's Trace	.678	940.568[b]	2.000	895.000	.000	.678
	Wilks' Lambda	.322	940.568[b]	2.000	895.000	.000	.678
	Hotelling's Trace	2.102	940.568[b]	2.000	895.000	.000	.678
	Roy's Largest Root	2.102	940.568[b]	2.000	895.000	.000	.678
Relation Status	Pillai's Trace	.044	6.701	6.000	1792.000	.000	.022
	Wilks' Lambda	.956	6.735[b]	6.000	1790.000	.000	.022
	Hotelling's Trace	.045	6.769	6.000	1788.000	.000	.022
	Roy's Largest Root	.040	11.832[c]	3.000	896.000	.000	.038

a. Design: Intercept + RelationStatus

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

There was a significant difference between respondent's age groups, divided in early, middle and late adulthood when considered jointly on the variables of depression and anxiety, Wilk's Λ=0.98, F(4.17)=3.40,ρ=0.01, partial η2=0.01. A separate ANOVA was conducted for each dependent variable, each evaluated at an alpha level of 0.025. There was not a significance level among adulthood stages for depression

$F(2.89)=2.40, \rho=0.09$, partial $\eta 2=0.01.$, nor for anxiety $F(2.89)=0.60$, $\rho=0.55$, partial $\eta 2=0.001$.

Table 5

MANOVA test for adulthood stages regarding depression and anxiety

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial η2
Corrected Model	PHQ_sum	252.995[a]	2	126.497	2.404	.091	.005
	CPAS_sum	152.301[b]	2	76.151	.604	.547	.001
Intercept	PHQ_sum	20158.147	1	20158.147	383.033	.000	.299
	CPAS_sum	74931.661	1	74931.661	594.341	.000	.399
AgeG	PHQ_sum	252.995	2	126.497	2.404	.091	.005
	CPAS_sum	152.301	2	76.151	.604	.547	.001
Error	PHQ_sum	47207.045	897	52.628			
	CPAS_sum	113089.459	897	126.075			
Total	PHQ_sum	316406.000	900				
	CPAS_sum	935528.000	900				
Corrected Total	PHQ_sum	47460.040	899				
	CPAS_sum	113241.760	899				

a. R Squared = .005 (Adjusted R Squared = .003)

b. R Squared = .001 (Adjusted R Squared = -.001)

Figure 1.

Adulthood stage and gender differences regarding depression levels
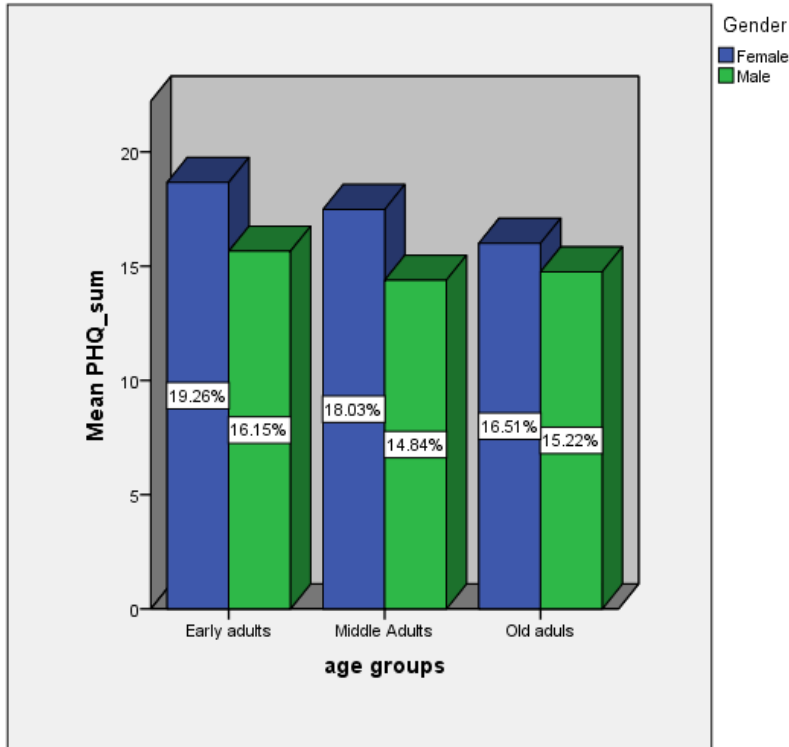
Looking at the data percentage on the figure1. we can see that male experience greater levels of depression, and especially those that are on early adulthood represented by %=19.26, while females achieve %=16.15 on that life stage. 18 % of Male at middle age adulthood experience depressive symptoms, while 14.84% female experience the same. On the last category of adulthood stage, which is the late adulthood – old male do experience more depression levels than old female's, exceeding them for 1.29%.

The statistical difference among these means between age and gender differences and the main variables representing the mental health-depression and anxiety, do not exist and on all comparisons we are obliged to accept the null hypothesis. Depression alpha value for females between and within age groups is $\rho=0.33>0.05$; and for male's is $\rho=3.82>0.05$. Anxiety alpha value for females between and within age groups is $\rho=0.98>0.05$; while for males is $\rho=0.13>0.05$.

Table 6
ANOVA test for gender and age stage differences regarding depression and anxiety

			Sum of Squares	Df	Mean Square	F	Sig.
Gender							
Female	PHQ_sum	Between Groups	125.536	2	62.768	1.124	.326
		Within Groups	30545.498	547	55.842		
		Total	30671.035	549			
	CPAS_sum	Between Groups	3.312	2	1.656	.013	.987
		Within Groups	71323.322	547	130.390		
		Total	71326.635	549			
Male	PHQ_sum	Between Groups	81.904	2	40.952	.965	.382
		Within Groups	14723.664	347	42.431		
		Total	14805.569	349			
	CPAS_sum	Between Groups	443.543	2	221.771	2.054	.130
		Within Groups	37459.717	347	107.953		
		Total	37903.260	349			

(Table header: ANOVA)

On the graph below we come to controversial findings in comparison to those referring to depression levels (see figure 1). These data show us that female on late adulthood are more anxious than all other respondents in younger life stages (%=19.64). middle adult females are the next scoring with higher levels of anxiety (%=15.16) , leaving behind the youngsters

(%14.46). While on male, the anxiety is shown to be mostly experienced by the middle agers (%17.04), leaving behind old aged male (%=16.78) and youngsters (%=16.93).

Figure 2.

Adulthood stages and gender differences regarding anxiety levels
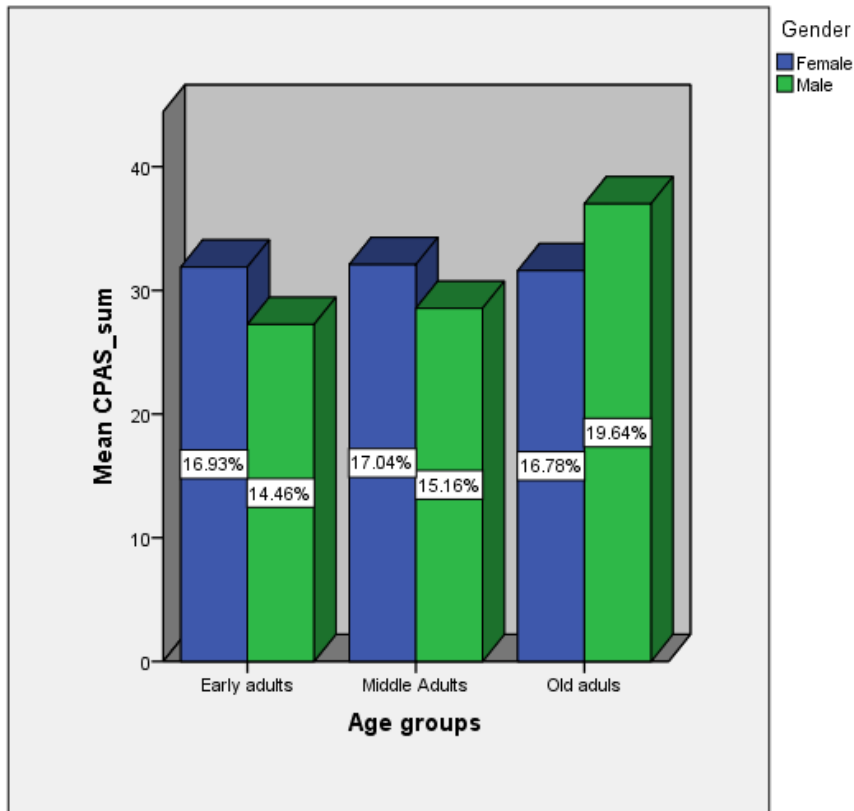
And the last but not the least results that we have come to discover through the implementation of MANOVA test, show us that divorced middle aged respondents suffer more from depressive symptoms (M=20.00) than single, engaged and married people, followed by the engaged in early adult age (M=19.39), later on by single ones at early age of adulthood (M=18.50) and the last are the married ones at early age of adulthood (M=16.35). As for anxiety levels regarding the relationship status plus age stages of life, we came to the next results: the old divorced/widowed participants have achieved the highest mean on anxiety (M=43.00), than late adulthood agers that are married take the second place on the anxiety assessment, followed by the early adulthood agers that own the

relationship status as engaged (M=31.02) and the last from the single's category are the middle agers who are still bachelor (M=30.91. The least depressed of all age stages and relationship statuses are the old married people and the less anxious are early adulthood agers who are also married.

4. CONCLUSION

Through the implementation of this research study we were able to come to the following conclusions:

We were able to prove that engaged people have been suffering more from depressive symptoms during the pandemics, followed by the divorced and widowed individuals. While married people have shown lowest points on experiencing this disorder. Anxiety too is mostly detected among divorced/widowed and engaged persons in comparison to single and married one's. Therefore we came to un understanding that being divorced/widowed and engaged are found to be risk factors for depressive and anxiety symptoms.

When looking closely on gender differences regarding relationship status diversity and depression levels, we found out that engaged females show greater levels of depression that all other categories, the same goes for the male population as well, while widowed and divorced tend to exhibit severe anxiety symptoms.

With regard to depressive symptoms, the results were clear that male youngsters (on early adulthood stage) were highly more depressed than middle and late adult agers plus they even exceeded the females on all age stages. Indeed we have been able to prove that male's at all age stages experience higher level of depression than females.

Regarding females age stages and depressive levels we discovered that early adult agers are more depressed than middle and late female agers. While late adult female agers have shown to be the most anxious on all age categories including the comparison with males as well.

Divorced middle-aged participants are the most depressed among the population, while the least depressed were found out to be the late adulthood agers who are married. On the other hand, the most anxious have proven to be the divorced/widowed participants while the least are the early adulthood agers who are married. Taken together married people are more free of depressive symptoms and anxiety in all comparisons and test on this research study, while the most victims of this mental disorders are the engaged, divorced/widowed people.

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