

# The Association Between Men's Mental Health During COVID-19 and Deterioration in Economic Status

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## Abstract

This study investigated associations among economic status deterioration, mental health, and gender during the COVID-19 pandemic. A total of 1,807 participants completed an online questionnaire that included demographic variables and questions measuring three mental health variables: psychological distress (as measured by symptoms of depression, anxiety, and stress), adjustment disorder, and emotional eating. Results indicated that women reported higher mental health impairment than men. Men and women whose economic status significantly deteriorated because of the COVID-19 pandemic reported greater mental health impairment than those whose economic status did not significantly deteriorate. However, men whose economic status significantly deteriorated reported high mental health impairment (emotional eating and adjustment difficulties) similar to women in the same situation. This change in men's reporting pattern suggests that the economic impact of COVID-19 severely impacted their mental health and affected how they view their masculinity, which, in turn, further impaired their mental health. As the COVID-19 outbreak has had a significant impact on mental health worldwide, it is important to identify individuals and groups who are at high risk of mental health impairment. The current study demonstrates that men's distress, which is frequently complex to identify, can be detected using standardized measures and analyzing these according to changes in reporting patterns as opposed to simply examining means and frequencies. The results suggest that the COVID-19 crisis may provide an opportunity to understand more about mental health, in particular, that of men.

## Keywords

COVID-19, men's mental health, economic change, psychological distress, emotional eating

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On March 11, 2020, the World Health Organization declared COVID-19 a global health crisis after the pandemic spread from China to other countries around the globe. Along with the increase in infection and mortality rates, the pandemic also caused an economic crisis and recession. Social distancing, self-isolation, and travel restriction policies pursued in most countries led to a reduced workforce across all economic sectors and caused many to lose their jobs (Nicola et al., 2020; Ozili & Arun, 2020). Like many countries, Israel adopted home quarantine as a strategy for coping with the pandemic, asking people to stay at home and maintain social distancing. All educational and public institutions closed as did many businesses and workplaces; employees were asked to work from home, were placed on unpaid leave, or lost their jobs (Ministry of Health, 2020). Since then,

there has been an almost daily increase in the number of job seekers registering with the Employment Service. The number of unemployed persons has exceeded 1 million and accounted for more than 27% of the labor force as of April 21, 2020 (Bank of Israel, 2020).

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Literature has described the association between employment, economic status, and mental health. Studies have suggested that persistent job insecurity or loss of job security is related to adverse psychological conditions, including psychological distress, depressive symptoms, and anxiety symptoms (Burgard et al., 2009; Ferrie et al., 2002; Kim & von dem Knesebeck, 2016; Strazdins et al., 2011). As the COVID-19 pandemic has a unique economic and occupational impact, causing economic status deterioration for many people, much can be learned by examining mental health in this context. This study examined this association, intending to identify populations that are likely to suffer from greater mental health impairment.

As work and career are gender-related, changes in employment and economic status (e.g., economic status deterioration) may have varied effects on men's and women's mental health. This study examined these gender differences in the context of the economic crisis accompanying the COVID-19 pandemic by focusing on men's mental health, a topic that has not received much research attention.

## **Mental Health Impairment During COVID-19**

Studies conducted before the COVID-19 pandemic revealed a wide range of findings on the psychological impact of pandemics (Ho et al., 2020). Regardless of their exposure to a specific disease, people reported experiencing fear and anxiety about falling sick or dying, a sense of helplessness, or a tendency to blame other people who became sick (Hall et al., 2008; Rubin et al., 2010). School and business closures increased the negative emotions experienced by individuals (Van Bortel et al., 2016).

While the current findings on the psychological impact and mental health of the public during the peak of the COVID-19 pandemic are preliminary, several aspects can already be identified. First is the effect of the pandemic outbreak on general mental health. Studies have reported high levels of anxiety (Gambin et al., 2020; González-Sanguino et al., 2020; Wang, Pan, Wan, Tan, Xu, Ho, et al., 2020), depression (Cao et al., 2020; Nguyen et al., 2020), stress (González-Sanguino et al., 2020; Wang, Pan, Wan, Tan, Xu, McIntyre, et al., 2020), stress disorders (Liang et al., 2020), and eating problems (Fernández-Aranda et al., 2020; López-Bueno et al., 2020). Second is the association between economic status deterioration resulting from the pandemic and mental health, where people whose financial situation deteriorated reported impaired mental health (Cao et al., 2020; González-Sanguino et al., 2020). The third aspect concerns gender differences in mental health impairment caused by

COVID-19, with studies identifying that women experience greater impairment than men (González-Sanguino et al., 2020; Wang, Pan, Wan, Tan, Xu, Ho, et al., 2020).

## **Gender Differences in Reports of Mental Health**

The abovementioned findings are not surprising, as they are consistent with studies comparing women's and men's mental health in routine times, without an ongoing crisis. Women tend to report higher levels of anxiety (McLean et al., 2011), depression (Salk et al., 2017), stress (Matud, 2004), adjustment disorder (Lorenz et al., 2019), and eating problems (Hallama et al., 2016) than men. However, data examining specific behaviors related to mental health often imply that men suffer from mental health impairment at least as much as women do (Smith et al., 2018). For example, studies have indicated that although women are diagnosed with depression far more frequently than men (Salk et al., 2017), more men die by suicide, the most feared outcome of depression (Genuchi, 2019; Nadeau et al., 2016).

A common explanation for this is that men have alternative ways of experiencing and expressing their emotional states, which may lead to an underdiagnosis of their distress (Addis, 2008; Martin et al., 2013; Nadeau et al., 2016; Seedat et al., 2009). In other words, while men may have the same rates of anxiety, depression, stress, and emotional eating as women, current diagnostic methods may fail to accurately capture these rates (Call & Shafer, 2018; Cochran & Rabinowitz, 2000; Kilmartin, 2005; Smith et al., 2018). For example, depressed men tend to emotionally suppress their feelings and "mask" depressive symptoms through substance abuse and other externalizing problems. Their externalized behaviors may not be those that are typically assessed in a depression diagnosis (Addis, 2008; Athanasiadis et al., 2018).

Another possible explanation for this is that men, because of gender socialization that often endorses avoiding so-called "feminine" symptoms, may be hesitant to report the emotional symptoms included in the diagnostic questionnaires (Berger et al., 2012; Wong et al., 2017). This could lead to a situation in which men's mental health impairment is underdiagnosed and overlooked.

While some studies have used hypothetical events to explore manifestations of male distress (Nadeau et al., 2016), the current study examined these manifestations by looking at a real, unexpected event that has significant implications: the economic crisis accompanying the COVID-19 pandemic. This crisis has caused significant damage to income, with widespread unemployment and deteriorating economic status affecting both men and women. These changes have the potential to cause significant mental health impairment and may be experienced differently by men and women.

## Economic Status and Men's Mental Health

Studies have demonstrated the profound impact of employment status on men's mental health (Boettcher et al., 2019; Cortès-Franch et al., 2018). Work-related factors, such as unemployment, financial insecurity, poverty, and stressful working conditions, have been associated with men's mental health impairment (Boettcher et al., 2019; Cortès-Franch et al., 2018; Hoy, 2012; Paul & Moser, 2009). For example, Paul and Moser (2009) reported associations between unemployment and a large range of mental health indicators, including mixed symptoms of distress, depression, anxiety, psychosomatic symptoms, subjective well-being, and self-esteem. This association was stronger among men than among women, thus demonstrating the risk unemployment and economic status deterioration poses for men's mental health.

The gender differences in the association between employment status and mental health are also supported by studies on masculine norms and their association with men's mental health. Masculine norms are defined as culturally accepted rules and standards that guide and constrain masculine behaviors (Mahalik et al., 2003; Milner et al., 2018). One powerful masculine norm in industrialized and postindustrialized societies is the breadwinner ideal, according to which men should be the main contributors to the household income (by earning more money or having a career more meaningful to the couple as a unit). In their review on the breadwinner norm, Bridges et al. (2020) attend to the intense pressure to conform to the breadwinner ideal that many men feel and provide evidence for the central role this norm plays in masculine identities.

Masculine norms should be interpreted within a broader theoretical framework that places them as part of the gender contract. They may be understood as a cultural prescription that relates to specific gender arrangements in a given society (Berkovitch & Manor, 2019). In Israel, these gender contracts include the heteronormative family, comprising a man and a woman who conduct themselves according to a gendered division of roles; the man is entrusted with generating income, and, in return, the woman is supposed to provide physical and emotional caregiving services to family members (Berkovitch & Manor, 2019; Sa'ar, 2017). Although this contract coalesced in the 19th century and has undergone various changes in the 20th century, it still shapes, largely, both the arrangements of the labor market and the identity and self-conceptions of individuals. Men's identity still rests, to a great extent, on their breadwinning ability, even when they find it difficult to accomplish this task (Berdahl et al., 2018).

The economic changes due to the COVID-19 pandemic may threaten men's position as breadwinners and, therefore, their masculine identity. Threats to men's masculine identity were determined as being associated with their health. For example, Taylor (2014) reported an association between threats to masculinity and stress as manifested by cortisol response. Studies from Japan, Sweden, and South Korea, which focused on the association between men's mental health and employment changes (e.g., job insecurity), reported that these changes were associated with men's mental health (Kachi et al., 2018; Richter et al., 2014; Yoo et al., 2016). This association was explained by the fact that the occupational changes threatened the breadwinner norm and, therefore, men's masculine identity. Similarly, the economic changes accompanying the COVID-19 pandemic, especially job changes manifested in the deterioration in economic status (e.g., job loss, reduction of working hours, and placement on unpaid leave), can cause job insecurity and can be expected to affect how men view their masculinity, and subsequently, their mental health.

## The Current Study

The current study examined the association between economic status deterioration and men's mental health during the COVID-19 pandemic. Mental health was measured using three variables, each reflecting different aspects and different psychological symptoms: psychological distress (as manifested in symptoms of depression, anxiety, and stress), adjustment difficulties, and emotional eating. These variables are standardized scales often used to indicate mental health both in routine and crisis times, previously used also in pandemics, both COVID-19 and prior to it (Cao et al., 2020; Gambin et al., 2020; González-Sanguino et al., 2020; Liang et al., 2020; López-Bueno et al., 2020). We presented three research hypotheses:

**Hypothesis 1:** There would be a difference between women and men in mental health, with women reporting higher mental health impairment than men.

**Hypothesis 2:** Economic status deterioration would be associated with mental health (e.g., participants whose economic status significantly deteriorated as a result of COVID-19 would report higher mental health impairment).

**Hypothesis 3:** There would be an interaction between gender and economic status deterioration, with a substantial difference in reported mental health between men and women whose economic status did not significantly deteriorate, and a significantly smaller difference between men and women whose economic status significantly deteriorated.

**Table 1.** Demographic Data of the Sample.

Demographic measures	Full sample (N = 1,807)
Age, years (20–75)	40.63 (13.04)
Education, years (8–25)	14.87 (2.60)
Gender	Male—43.88% (n = 793) Female—56.11% (n = 1014)
Place of residence	Urban—72.10% (n = 1303) Rural—27.89% (n = 504)
Work status since COVID-19	Working—72.66% (n = 1313) Not working—27.33% (n = 494)
Change in economic status since COVID-19	Did not change—32.42% (n = 586) Changed moderately—35.80% (n = 647) Deteriorated significantly—31.76% (n = 574)
Parenthood	Yes—70.55% (n = 1,275) No—29.44% (n = 532)
Family status	Single, with a partner—12.67% (n = 229) Single, without a partner—13.44% (n = 243) Married—64.74% (n = 1170) Divorced/Separated/Widower—9.13% (n = 165)
Distress	11.33 (12.38)
Adjustment	8.56 (2.97)
Emotional eating	2.35 (1.03)

Note. Data are presented as mean (SD) for continuous variables, and as percentage (frequency) for categorical variables. COVID-19 = coronavirus disease.

## Method

### Participants

Participants included 1,807 adults recruited online using methods described ahead. Inclusion criteria were age between 18 and 75 years and speaking the language in which the survey was administered (Hebrew or Arabic). No exclusion criterion was applied. More than half (56.1%) of the sample was female. Participants' mean age was 40.63 ( $SD = 13.04$ ) years, with mean years of education of 14.87 ( $SD = 2.60$ ) years. The majority of the participants lived in urban areas (72.1%), were currently employed (72.6%), and 31.7% of the participants' economic status had significantly deteriorated since the beginning of the COVID-19 pandemic. Participants' demographic data are presented in Table 1.

### Procedure

The current study was based on data collected by the authors in a cross-sectional survey conducted in Israel. The survey was designed to assess the public's demographic characteristics and their immediate psychological and behavioral responses during the COVID-19 pandemic via an anonymous online questionnaire using Qualtrics (<https://www.qualtrics.com>). The survey was sent to participants online by iPanel (<https://www.ipanel.co.il>), a large Israeli panel service. The complete study

protocol was approved by the College Institutional Review Board (2020-54 YVC EMEK). Questionnaire completion was voluntary, all study participants provided written consent, and were told that they could stop their participation at any point. Data from participants who completed the survey were excluded from the final analysis if they failed attention checks, completed the measures in less than 10 min, or their responses were implausible (e.g., they chose the same answer throughout the questionnaire). The final analysis included 1,807 participants.

### Measures

**Demographic Questionnaire.** The demographics questionnaire included items on age, years of education, place of residence, work, and economic status since the beginning of the COVID-19 outbreak as well as items on parenthood and family status.

**Economic Status Deterioration.** Participants were asked to answer the following question: "Since the outbreak of COVID-19 and the beginning of the lockdown and quarantine, did your economic status change?" Participants were presented with three possible answers: (A) My economic status did not change; (B) My economic status deteriorated moderately; and (C) My economic status deteriorated significantly.

**Dutch Eating Behavior Questionnaire.** The short version of the Dutch Eating Behavior Questionnaire (DEBQ) emotional eating scale (van Strien et al., 1986; Hebrew version, Samuel & Cohen, 2018) includes 13 items rated on a 5-point Likert-type scale ranging from *never* (1) to *very often* (5). The DEBQ has two subscales that measure eating in response to vague emotions (4 items) and eating in response to clearly labeled emotions (9 items). A total score from the 13 items combines the two dimensions, with higher total scores indicating a greater tendency to engage in emotional eating. In the current study, the internal reliability of this questionnaire (Cronbach's  $\alpha$ ) was .95. As there are no widely accepted norms for the DEBQ, we split the group at the median, which was slightly above 2.

**The Adjustment Disorder—New Module.** The Ultra Brief Adjustment Disorder—New Module (ADNM-4; Einsle et al., 2010; Hebrew version, Ben-Ezra et al., 2018) examines adjustment disorder traits through 4 items with a 4-point Likert-type scale ranging from *never* (1) to *often* (4). The questionnaire reflects two components of adjustment disorder, success in adapting to the stressful event (Items 1 and 3) and failure to adapt (Items 2 and 4). The score was calculated via a 4-item schema (score of 4–16), where a score higher than 8.5 indicates an adjustment difficulty. In the current study, the internal reliability (Cronbach's  $\alpha$ ) was .79.

**Depression, Anxiety, and Stress Scale.** The Depression, Anxiety, and Stress Scale (DASS-21; Lovibond & Lovibond, 1995; Hebrew version, retrieved from DASS21 website—<http://www2.psy.unsw.edu.au/dass/>) includes 21 items for evaluating depression (7 items), anxiety (7 items), stress (7 items), and a total score (21 items). All items use a 4-point Likert-type scale, ranging from *never* (0) to *most of the time* (3). A score above 11 on the depression scale indicates severe depression; a score above 8 on the anxiety scale indicates severe anxiety and a score above 9 on the stress scale indicates moderate or severe stress. In the current study, the internal reliability (Cronbach's  $\alpha$ ) was .97 for the total score, .90 for depression, .85 for anxiety, and .90 for stress.

### Statistical Analysis

Study variables were assessed for normal distribution via skewness and kurtosis. While adjustment and emotional eating did not violate the normality assumption (as skewness and kurtosis were between +2 and -2), the distress variable did. Square root transformation was used to allow parametric testing. Distress is presented with raw means and standard deviations for convenience.

As the study sought to demonstrate that the interaction of gender and economic status deterioration due to

**Table 2.** Pearson Correlations Between the Study's Main Variables.

<i>N</i> = 1,807	Adjustment	Emotional eating
Distress	.596***	.353***
Emotional eating	.297***	—

\*\*\* $p < .001$ .

COVID-19 had a broad effect on various domains of mental health (measured by emotional eating, adjustment, and distress), a multivariate analysis of covariance (MANCOVA) was conducted. MANCOVA allows the examination of the effect of this interaction on a combination of the three variables used for measuring mental health. Age, years of education, place of residence, work status since the beginning of the COVID-19 outbreak, parenthood, and family status were used as covariates. Significant interaction in the MANCOVA was followed by three ANCOVAs, one for each dependent variable, with the same covariates as the MANCOVA. The effect size estimator was partial eta-squared ( $\eta_p^2$ ), and it was reported only for statistically significant comparisons.

## Results

### Cohort Description of the Main Research Variables

More than half of the participants ( $n = 1,058$ , 58.5%) reported increased emotional eating (as defined by a score above 2), and 46.4% ( $n = 840$ ) reported adjustment difficulty implying an adjustment disorder (score higher than 8.5). Of the 1,807 participants, 211 (11.6%) had a severe level of depression (score higher than 11), 216 (11.9%) had a severe level of anxiety (score higher than 8), and 368 (20.3%) had a severe level of stress (score higher than 9).

In the next analysis and hypothesis testing, we used the DASS-21 total score, indicating distress, as a measure of mental health.

### Preliminary Analyses

Pearson's correlation between the study's main variables, that is, distress, adjustment, and emotional eating, is presented in Table 2. All correlations were significant and had a small effect size, except for the correlation between distress and adjustment, which had a medium-to-large effect size.

### Hypotheses Analysis

The first hypothesis surmised that women would report higher mental health impairment than men (Hypothesis 1). There was a main effect for gender in the MANCOVA,

**Table 3.** Main Effects of Gender and Change in Economic Status Since the Beginning of the COVID-19 Pandemic on Mental Health.

	Emotional eating			Adjustment			Distress		
	M (SD)	F	$\eta_p^2$	M (SD)	F	$\eta_p^2$	M (SD)	F	$\eta_p^2$
Gender									
Man	2.20 (0.97)	28.85***	.015	8.08 (2.94)	38.28***	.020	10.18 (11.92)	23.83***	.013
Woman	2.47 (1.07)			8.93 (2.93)			12.23 (12.66)		
Change in economic status since COVID-19									
Economic status did not change	2.28 (1.04)	6.04**	.006	7.59 (2.61)	54.45***	.057	7.78 (9.43)	48.16***	.050
Economic status deteriorated moderately	2.32 (1.00)			8.48 (2.83)			10.63 (11.22)		
Economic status deteriorated significantly	2.47 (1.06)			9.64 (3.10)			15.75 (14.74)		

Note. Degrees of freedom for gender are (1, 1,793) and for change in economic status since COVID-19 are (2, 1,793). Descriptive data for distress, square root transformed in the analysis, are presented here as raw data for clarity. COVID-19 = coronavirus disease 2019.

\*\* $p < .01$ . \*\*\* $p < .001$ .

Pillai's Trace = .029,  $F(3, 1,791) = 17.93, p < .001, \eta_p^2 = .029$ . Table 3 presents the main effects for gender in each of the three mental health measures: women reported higher emotional eating, adjustment difficulties, and distress than men did.

The second hypothesis expected economic status deterioration to be associated with mental health, which would be reflected in a difference between those whose economic status significantly deteriorated because of COVID-19 and those whose economic status did not deteriorate (Hypothesis 2). There was a main effect for economic status deterioration in the MANCOVA, Pillai's Trace = .068,  $F(6, 3,584) = 21.18, p < .001, \eta_p^2 = .034$ . Table 3 presents the main effects for economic status deterioration in each of the mental health measures, suggesting economic status deterioration due to the COVID-19 pandemic to be associated with emotional eating, adjustment difficulties, and distress. Post hoc testing revealed that participants whose economic status significantly deteriorated had significantly higher emotional eating scores as well as adjustment difficulties and distress scores than participants whose economic status moderately deteriorated or did not deteriorate at all (all pairwise comparisons are  $p < .001$ ).

The third hypothesis predicted an interaction between gender and economic status deterioration such that there would be a substantial difference in reported mental health between men and women whose economic status did not significantly deteriorate (i.e., whose economic status moderately deteriorated or did not deteriorate at all). This difference would be substantially smaller between men and women whose economic status significantly deteriorated (Hypothesis 3).

The interaction effects are presented in Table 4. There was an interaction effect for gender and economic status deterioration in the MANCOVA, Pillai's Trace = .009,

$F(6, 3,584) = 2.88, p = .008, \eta_p^2 = .004$ . Therefore, we proceeded with a separate analysis for each measure.

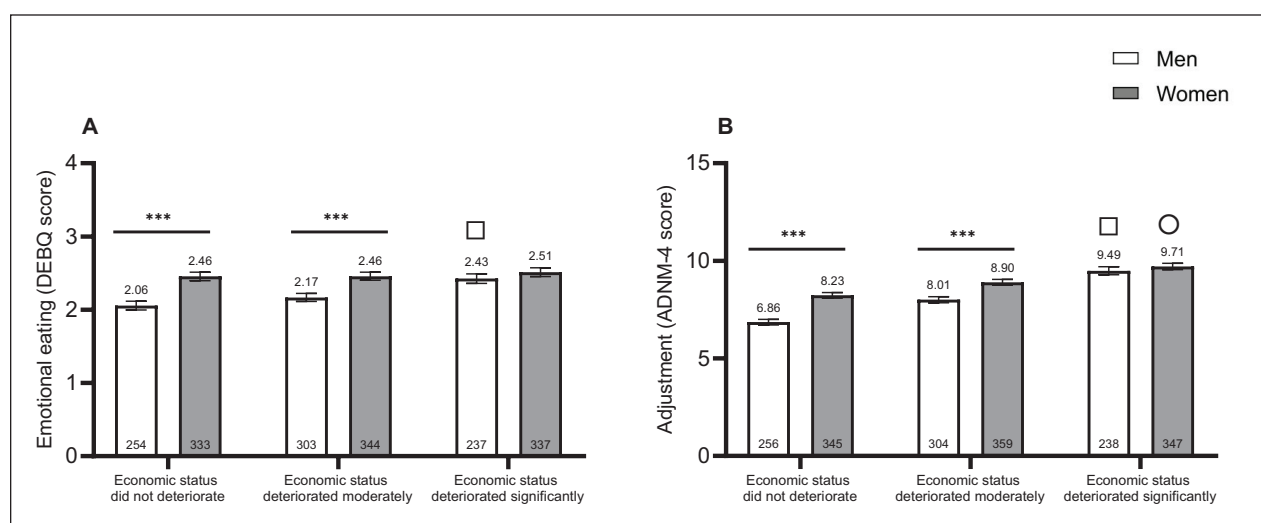
An interaction between gender and economic status deterioration since the outbreak of COVID-19 was found for emotional eating,  $F(2, 1,793) = 3.69, p = .024, \eta_p^2 = .004$ , with men whose economic status significantly deteriorated showing a higher emotional eating score than men whose economic status moderately deteriorated or did not deteriorate at all,  $F(2, 782) = 8.53, p < .001, \eta_p^2 = .021$ ; both pairwise comparisons are  $p < .01$ . This was not the case for women,  $F(2, 1,003) = 0.38, p = .680$ . Women were found to have a higher emotional eating score than men when economic status did not deteriorate at all,  $F(1, 576) = 20.96, p < .001, \eta_p^2 = .035$ , and when it was moderately deteriorated,  $F(1, 637) = 14.60, p < .001, \eta_p^2 = .022$ . However, no difference was found between men and women when economic status significantly deteriorated,  $F(1, 564) = 1.39, p = .238$ . See Figure 1A.

A significant interaction between gender and economic status deterioration since the COVID-19 outbreak was found for adjustment difficulties,  $F(2, 1,793) = 5.70, p = .003, \eta_p^2 = .006$ . Men whose economic status significantly deteriorated had higher adjustment difficulties than all other groups,  $F(2, 782) = 39.41, p < .001, \eta_p^2 = .091$ ; all pairwise comparisons are  $p < .001$ . The same, but to a lesser extent, was also true for women,  $F(2, 1,003) = 16.43, p < .001, \eta_p^2 = .031$ ; all pairwise comparisons are  $p < .01$ . Women had higher adjustment difficulties than men when economic status did not deteriorate at all,  $F(1, 576) = 35.26, p < .001, \eta_p^2 = .057$ , and when economic status moderately deteriorated,  $F(1, 637) = 18.10, p < .001, \eta_p^2 = .027$ . However, no difference was found between men and women when economic status significantly deteriorated,  $F(1, 564) = 0.75, p = .385$ . See Figure 1B.

**Table 4.** Interaction Between Gender and Change in Economic Status for Each of the Mental Health Variables.

		Change in economic status since COVID-19			F(2, 1,793)	$\eta_p^2$
		Economic status did not change, M (SD)	Economic status deteriorated moderately, M (SD)	Economic status deteriorated significantly, M (SD)		
Emotional Eating	Man	2.05 (0.96)	2.16 (0.93)	2.42 (1.00)	3.69*	.004
	Woman	2.45 (1.06)	2.45 (1.04)	2.51 (1.10)		
Adjustment	Man	6.85 (2.33)	8.00 (2.75)	9.49 (3.15)	5.70**	.006
	Woman	8.15 (2.67)	8.90 (2.84)	9.75 (3.06)		
Distress	Man	6.35 (8.30)	9.94 (11.29)	14.58 (14.31)	1.01	.001
	Woman	8.86 (10.08)	11.23 (11.14)	16.57 (15.01)		

Note. Descriptive data for distress, square root transformed in the analysis, are presented here as raw data for clarity. \* $p < .05$ . \*\* $p < .01$ .



**Figure 1.** Interactions Between Gender and Change in Economic Status Since COVID-19 Outbreak for Study Variables  
 Note. COVID-19 = coronavirus disease 2019. (A) Men had a lower emotional eating mean score than women when economic status changed moderately or not at all, but not when it deteriorated significantly. (B) Men had a lower adjustment difficulty mean score than women when economic status changed moderately or not at all, but not when it deteriorated significantly. \*\*\* $p < .001$ . □ indicates that a group is statistically different from all other men groups;  $p < .05$ . ○ indicates that a group is statistically different from all other women's groups;  $p < .05$ .

No interaction between gender and economic status deterioration due to the COVID-19 pandemic was found for distress,  $F(2, 1,793) = 1.01, p = .361$ .

### Discussion

The COVID-19 outbreak has had an impact on all areas of life the world over. Along with increased infection and mortality rates, the pandemic has also had a significant impact on general mental health. In line with existing research on mental health impairment related to COVID-19 (Cao et al., 2020; Fernández-Aranda et al., 2020; Gambin et al., 2020; González-Sanguino et al., 2020; Wang, Pan, Wan, Tan, Xu, McIntyre, et al., 2020), more than half of the current study's participants were found to have severe mental health

impairment (emotional eating, adjustment disorder, or distress). The goal of this study was to examine the association between economic status deterioration and men's mental health during the COVID-19 pandemic.

According to Hypothesis 1, women were expected to report higher mental health impairment than men. This was supported by the various measures of mental health: psychological distress, adjustment difficulties, and emotional eating. These findings are consistent with those of previous studies conducted in the context of the COVID-19 pandemic (González-Sanguino et al., 2020; Wang, Pan, Wan, Tan, Xu, McIntyre, et al., 2020) and earlier research indicating that women report higher levels of mental health problems compared with men (McLean et al., 2011; Salk et al., 2017).

Hypothesis 2, which predicted that economic status deterioration would be associated with mental health, was supported by the finding that people whose economic status significantly deteriorated due to COVID-19 reported higher mental health impairment than people whose economic status moderately deteriorated or did not deteriorate at all. This finding is consistent with previous studies reporting the effects of economic status on mental health (Cao et al., 2020; González-Sanguino et al., 2020).

In line with these hypotheses, it could be implied that both men and women suffer from mental health impairment associated with COVID-19-related economic status deterioration and that women suffer more than men do. The finding of Hypothesis 3 reveals a more complex situation. According to this hypothesis, an interaction between gender and economic status deterioration was expected. This hypothesis was supported by our findings in two of the three measures of mental health—emotional eating and adjustment difficulties—where substantial differences were found between men and women whose economic status either moderately deteriorated or did not deteriorate at all due to COVID-19. However, no differences were found between men and women whose economic status had significantly deteriorated. Mental health impairments reported by men were as high as those of women whose economic status had significantly deteriorated, which indicates a significant change in men's reporting patterns. The intensity of their mental health impairment might have been overlooked if the comparison was only done with other men and not with women's reports; however, by comparing men's responses to women's, the declining effect sizes are more noticeable, thus emphasizing the severity of these men's mental health impairment.

This finding suggests that men's mental health has been severely harmed by COVID-19. A possible explanation for this is that the economic status deterioration (caused by loss of jobs due to closure of business and workplaces, unexpected placement on unpaid leave for an unknown period, and changes in working hours and conditions) caused uncertainty, which contributed to job insecurity. Studies have reported an association between job insecurity and psychological distress (Kachi et al., 2018; Richter et al., 2014; Yoo et al., 2016). These studies have also identified that men experienced severe psychological distress due to job insecurity, which was explained in terms of masculine norms, and, more specifically, the breadwinner ideal, according to which men should be the main contributors to the household income (Bridges et al., 2020). The changes in employment and economic status due to the COVID-19 pandemic can threaten men's masculine identity, which affects their mental health.

Psychological distress (as measured by the DASS-21) was the only measure in which interaction was not found.

In other words, regardless of the economic status deterioration, there was a significant difference between men's and women's reports of distress. This finding can be explained by the literature on the underdiagnosis of men's distress, which has argued that many standardized self-report measures are not sensitive to men's expressions of distress (e.g., depression), and men are, therefore, found to have less mental health impairment than women (Addis, 2008; Nadeau et al., 2016; Smith et al., 2018). This disparity may result from men's failure to recognize and disclose their symptoms or men expressing their distress through different, more externalized symptoms (such as somatic pain, stress, substance abuse, and others; Cochran & Rabinowitz, 2000; Smith et al., 2018). It may also be a result of men's gender socialization and masculine gender norms (Addis, 2008).

The current study's findings, which facilitated the diagnosis of impaired mental health in men, demonstrate the importance of using various scales. The decision to use three standardized scales, each examining different aspects of mental health and other symptoms of mental impairment, proved satisfactory.

### *Limitations and Future Directions*

This study has several limitations. First, it used a cross-sectional design, which, although sufficient for collecting data during real-time crisis events, presents the mental health of the participants at the time of data collection (approximately 2 months after the start of the pandemic restrictions on the Israeli public). This research method does not provide information on the participants' mental health development over time (e.g., their mental health before the onset of the pandemic or changes over time). As mental health is not static and changes over time, future researchers would be advised to continue monitoring it. For example, it is possible that as the crisis continues, people's mental health will further deteriorate (as the situation worsens or through cumulative distress); alternatively, some may develop resilience over time. These changes could be explored in a longitudinal study.

A second limitation is that the study uses the concept of "masculine norms" to explain the findings; however, this does not directly measure participants' masculine norms as a research variable. This is because the study data are part of a comprehensive study designed to map the mental state of Israeli society following the pandemic and provide data to decision makers in real-time. The comprehensive study's main purpose was to identify the populations at high risk for mental health impairment so that they could be addressed. Standardized mental health scales were used yet the survey was designed to be as short as possible to allow many data points to be collected from diverse populations. When analyzing the data, we



identified that the best way to explain the findings and identify the men's high impairment was to look at the data from a gender perspective, referring to the possible impact of the crisis on masculine norms. This allowed us to identify the specific group among men that is at increased risk. The findings underscore the importance of measuring masculine norms in future studies aimed at identifying men's mental health.

A third limitation is that this study did not address diversity among male participants. Men from different locations in the social structure, such as different race/ethnicity, nativity status, and social class, may experience COVID-19 and its economic effects differently, and their mental health could vary accordingly. Future studies could investigate whether circumstances and social locations act as risk factors or protective and resilience factors (Griffith et al., 2011; Smith et al., 2018).

## Conclusion

The COVID-19 pandemic is a major crisis event that is likely to have long-term effects on the mental health of the public. Consequently, health organizations worldwide are trying to diagnose populations who are at risk of mental health impairment as a result of the pandemic. Determining a specific group's risk of mental health impairment is complex, particularly because some diagnostic measures, although standardized and frequently used, are known to be biased, especially regarding men. Some theoreticians have recommended changing these diagnostic tools, but this process may take time to implement. Meanwhile, the current study demonstrates that men's distress can be identified using these measures and analyzing them according to changes in reporting patterns and not just through means and frequencies.

The COVID-19 pandemic crisis may provide an opportunity to learn and understand more about mental health, specifically men's mental health. Because the pandemic is an overwhelming, ongoing, and long-lasting global crisis, much can be learned about its various effects on different populations over time—knowledge that can later be generalized to other times and situations.

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## References

- Addis, M. E. (2008). Gender and depression in men. *Clinical Psychology: Science and Practice*, 15(3), 153–168. <https://doi.org/10.1111/j.1468-2850.2008.00125.x>
- Athanasiadis, C., Gough, B., & Robertson, S. (2018). What do counsellors need to know about male depression?\*. *British Journal of Guidance & Counselling*, 46(5), 596–604. <https://doi.org/10.1080/03069885.2017.1346232>
- Bank of Israel. (2020). *Bank of Israel research department analysis: The unemployment rate and its definition during the corona period*. <https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/27-4-2020.aspx>
- Ben-Ezra, M., Mahat-Shamir, M., Lorenz, L., Lavenda, L., & Maercker, A. (2018). Screening of adjustment disorder: Scale based on the ICD-11 and the adjustment disorder new module. *Journal of Psychiatric Research*, 103, 91–96. <https://doi.org/10.1016/j.jpsychires.2018.05.011>
- Berdahl, J. L., Cooper, M., Glick, P., Livingston, R. W., & Williams, J. C. (2018). Work as a masculinity contest. *Journal of Social Issues*, 74(3), 422–448. <https://doi.org/10.1111/josi.12289>
- Berger, J. L., Addis, M. E., Reilly, E. D., Syzdek, M. R., & Green, J. D. (2012). Effects of gender, diagnostic labels, and causal theories on willingness to report symptoms of depression. *Journal of Social and Clinical Psychology*, 31(5), 439–457. <https://doi.org/10.1521/jscp.2012.31.5.439>
- Berkovitch, N., & Manor, S. (2019). Narratives of Israeli women in retirement: Rewriting the gender contract. *Sex Roles*, 80(3–4), 200–217. <https://doi.org/10.1007/s11199-018-0918-4>
- Boettcher, N., Mitchell, J., Lashewicz, B., Jones, E., Wang, J. L., Gundu, S., Marchand, A., Michalak, E., & Lam, R. (2019). Men's work-related stress and mental health: Illustrating the workings of masculine role norms. *American Journal of Men's Health*, 13(2), 1–10. <https://doi.org/10.1177/1557988319838416>
- Bridges, T., Taylor, C. J., & Robinson, S. (2020). Connections between masculinity, work, and career reproduce gender inequality. In K. Aavik, C. Bland, J. Hoegaerts, & J. Salminen (Eds.), *Men, masculinities and the modern career* (pp. 193–216). de Gruyter.
- Burgard, S. A., Brand, J. E., & House, J. S. (2009). Perceived job insecurity and worker health in the United States. *Social Science & Medicine*, 69(5), 777–785. <https://doi.org/10.1016/j.socscimed.2009.06.029>
- Call, J. B., & Shafer, K. (2018). Gendered manifestations of depression and help seeking among men. *American Journal of Men's Health*, 12(1), 41–51. <https://doi.org/10.1177/1557988315623993>
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19

- epidemic on college students in China. *Psychiatry Research*, 287, 112934. <https://doi.org/10.1016/j.psychres.2020.112934>
- Cochran, S. V., & Rabinowitz, F. E. (2000). *Men and depression: Clinical and empirical perspectives*. Academic Press.
- Cortès-Franch, I., Escribà-Agüir, V., Benach, J., & Artazcoz, L. (2018). Employment stability and mental health in Spain: Towards understanding the influence of gender and partner/marital Status. *BMC Public Health*, 18, Article 425. <https://doi.org/10.1186/s12889-018-5282-3>
- Einsle, F., Köllner, V., Dannemann, S., & Maercker, A. (2010). Development and validation of a self-report for the assessment of adjustment disorders. *Psychology, Health & Medicine*, 15(5), 584–595. <https://doi.org/10.1080/13548506.2010.487107>
- Fernández-Aranda, F., Casas, M., Claes, L., Bryan, D. C., Favaro, A., Granero, R., Gudiol, C., Jiménez-Murcia, S., Karwautz, A., Le Grange, D., Menchón, J. M., Tchanturia, K., & Treasure, J. (2020). COVID-19 and implications for eating disorders. *European Eating Disorders Review*, 28(3), 239–245. <https://doi.org/10.1002/erv.2738>
- Ferrie, J. E., Shipley, M. J., Stansfeld, S. A., & Marmot, M. J. (2002). Effects of chronic job insecurity and change in job security on self reported health, minor psychiatric morbidity, physiological measures, and health related behaviours in British civil servants: The Whitehall II study. *Journal of Epidemiology and Community Health*, 56(6), 450–454. <https://doi.org/10.1136/jech.56.6.450>
- Gambin, M., Sękowski, M., Woźniak-Prus, M., & Wnuk, A. (2020). *Generalized anxiety and depressive symptoms in various age groups during the COVID-19 lockdown. Specific predictors and differences in symptoms severity* (Harvard Dataverse V1). <https://doi.org/10.7910/DVN/0NP102>
- Genuchi, M. C. (2019). The role of masculinity and depressive symptoms in predicting suicidal ideation in homeless men. *Archives of Suicide Research*, 23(2), 289–311. <https://doi.org/10.1080/13811118.2018.1428705>
- González-Sanguino, C., Ausín, B., Castellanos, M. A., Saiz, J., López-Gómez, A., Ugidos, A., & Muñoz, M. (2020). Mental health consequences during the initial stage of the 2020 coronavirus pandemic (COVID-19) in Spain. *Brain, Behavior, and Immunity*, 87, 172–176. <https://doi.org/10.1016/j.bbi.2020.05.040>
- Griffith, D. M., Metz, J. M., & Gunter, K. B. (2011). Considering intersections of race and gender in interventions that address US men's health disparities. *Public Health*, 125(7), 417–423. <https://doi.org/10.1016/j.puhe.2011.04.014>
- Hall, R. C. W., Hall, R. C. W., & Chapman, M. J. (2008). The 1995 Kikwit Ebola outbreak: Lessons hospitals and physicians can apply to future viral epidemics. *General Hospital Psychiatry*, 30(5), 446–452. <https://doi.org/10.1016/j.genhosppsych.2008.05.003>
- Hallama, J., Boswella, R. G., Devito, E. E., & Kobera, H. (2016). Gender-related differences in food craving and obesity. *Yale Journal of Biology and Medicine*, 89(2), 161–173.
- Ho, C. S., Chee, C. Y., & Ho, R. C. (2020). Mental health strategies to combat the psychological impact of COVID-19 beyond paranoia and panic. *Annals of the Academy of Medicine, Singapore*, 49(3), 155–160. <http://dx.doi.org/10.47102/annals-acadmedsg.2020043>
- Hoy, S. (2012). Beyond men behaving badly: A meta-ethnography of men's perspectives on psychological distress and help seeking. *International Journal of Men's Health*, 11(3), 202–226. <https://doi.org/10.3149/jmh.1103.202>
- Kachi, Y., Hashimoto, H., & Eguchi, H. (2018). Gender differences in the effects of job insecurity on psychological distress in Japanese workers: A population-based panel study. *International Archives of Occupational and Environmental Health*, 91(8), 991–999. <https://doi.org/10.1007/s00420-018-1338-z>
- Kilmartin, C. (2005). Depression in men: Communication, diagnosis and therapy. *The Journal of Men's Health & Gender*, 2(1), 95–99. <https://doi.org/10.1016/j.jmhg.2004.10.010>
- Kim, T. J., & von dem Knesebeck, O. (2016). Perceived job insecurity, unemployment and depressive symptoms: A systematic review and meta-analysis of prospective observational studies. *International Archives of Occupational and Environmental Health*, 89(4), 561–573. <https://doi.org/10.1007/s00420-015-1107-1>
- Liang, L., Ren, H., Cao, R., Hu, Y., Qin, Z., Li, C., & Mei, S. (2020). The effect of COVID-19 on youth mental health. *Psychiatric Quarterly*, 91(3), 841–852. <https://doi.org/10.1007/s11126-020-09744-3>
- López-Bueno, R., Calatayud, J., Casaña, J., Casajús, J. A., Smith, L., Tully, M. A., Andersen, L. L., & López-Sánchez, G. F. (2020). COVID-19 confinement and health risk behaviors in Spain. *Frontiers in Psychology*, 11, Article 1426. <https://doi.org/10.3389/fpsyg.2020.01426>
- Lorenz, L., Makowski, L., & Maercker, A. (2019). The Zurich adjustment disorder study: Diagnostics and risk factors of ICD-11 adjustment disorder following involuntary job loss. *Rassegna di Psicologia*, 36(2), 73–86. <https://doi.org/10.4458/2337-06>
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33(3), 335–343. [https://doi.org/10.1016/0005-7967\(94\)00075-U](https://doi.org/10.1016/0005-7967(94)00075-U)
- Mahalik, J. R., Locke, B. D., Ludlow, L. H., Diemer, M. A., Scott, R. P. J., Gottfried, M., & Freitas, G. (2003). Development of the Conformity to Masculine Norms Inventory. *Psychology of Men & Masculinity*, 4(1), 3–25. <https://doi.org/10.1037/1524-9220.4.1.3>
- Martin, L. A., Neighbors, H. W., & Griffith, D. M. (2013). The experience of symptoms of depression in men vs women: Analysis of the national comorbidity survey replication. *JAMA Psychiatry*, 70(10), 1100–1106. <https://doi.org/10.1001/jamapsychiatry.2013.1985>
- Matud, M. P. (2004). Gender differences in stress and coping styles. *Personality and Individual Differences*, 37(7), 1401–1415. <https://doi.org/10.1016/j.paid.2004.01.010>
- McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender differences in anxiety disorders: Prevalence, course of illness, comorbidity and burden of illness. *Journal of Psychiatric Research*, 45(8), 1027–1035. <https://doi.org/10.1016/j.jpsychires.2011.03.006>

- Milner, A., Kavanagh, A., King, T., & Currier, D. (2018). The influence of masculine norms and occupational factors on mental health: Evidence from the baseline of the Australian longitudinal study on male health. *American Journal of Men's Health, 12*(4), 696–705. <https://doi.org/10.1177/1557988317752607>
- Ministry of Health. (2020). *The Ministry of Health for fighting the COVID-19 outbreak*. <https://govextra.gov.il/ministry-of-health/corona/corona-virus-en/>
- Nadeau, M. M., Balsan, M. J., & Rochlen, A. B. (2016). Men's depression: Endorsed experiences and expressions. *Psychology of Men & Masculinity, 17*(4), 328–335. <https://doi.org/10.1037/men0000027>
- Nguyen, H. C., Nguyen, M. H., Do, B. N., Tran, C. Q., Nguyen, T. T. P., Pham, K. M., Pham, L. V., Tran, K. V., Duong, T. T., Tran, T. V., Duong, T. H., Nguyen, T. T., Nguyen, Q. H., Hoang, T. M., Nguyen, K. T., Pham, T. T. M., Yang, S.-H., Chao, J. C.-J., & Duong, T. V. (2020). People with suspected COVID-19 symptoms were more likely depressed and had lower health-related quality of life: The potential benefit of health literacy. *Journal of Clinical Medicine, 9*(4), 965. <https://doi.org/10.3390/jcm9040965>
- Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M., & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery, 78*, 185–193. <https://doi.org/10.1016/j.ijssu.2020.04.018>
- Ozili, P. K., & Arun, T. (2020). *Spillover of COVID-19: Impact on the global economy*. <https://doi.org/10.2139/ssrn.3562570>
- Paul, K. I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior, 74*(3), 264–282. <https://doi.org/10.1016/j.jvb.2009.01.001>
- Richter, A., Näswall, K., Bernhard-Oettel, C., & Sverke, M. (2014). Job insecurity and well-being: The moderating role of job dependence. *European Journal of Work and Organizational Psychology, 23*(6), 816–829. <https://doi.org/10.1080/1359432X.2013.805881>
- Rubin, G. J., Potts, H. W. W., & Michie, S. (2010). The impact of communications about swine flu (influenza A H1N1v) on public responses to the outbreak: Results from 36 national telephone surveys in the UK. *Health Technology Assessment, 14*(34), 183–266. <https://doi.org/10.3310/hta14340-03>
- Sa'ar, A. (2017). The gender contract under neoliberalism: Palestinian-Israeli women's labor force participation. *Feminist Economics, 23*(1), 54–76. <https://doi.org/10.1080/13545701.2016.1190028>
- Salk, R. H., Hyde, J. S., & Abramson, L. Y. (2017). Gender differences in depression in representative national samples: Meta-analyses of diagnoses and symptoms. *Psychological Bulletin, 143*(8), 783–822. <https://doi.org/10.1037/bul0000102>
- Samuel, L., & Cohen, M. (2018). Expressive suppression and emotional eating in older and younger adults: An exploratory study. *Archives of Gerontology and Geriatrics, 78*, 127–131. <https://doi.org/10.1016/j.archger.2018.06.012>
- Seedat, S., Scott, K. M., Angermeyer, M. C., Berglund, P., Bromet, E. J., Brugha, T. S., Demyttenaere, K., de Girolamo, G., Haro, J. M., Jin, R., Karam, E. G., Kovess-Masfety, V., Levinson, D., Medina Mora, M. E., Ono, Y., Ormel, J., Pennell, B. E., Posada-Villa, J., Sampson, N. A., & Kessler, R. C. (2009). Cross-national associations between gender and mental disorders in the World Health Organization World Mental Health Surveys. *Archives of General Psychiatry, 66*(7), 785–795. <https://doi.org/10.1001/archgenpsychiatry.2009.36>
- Smith, D. T., Mouzon, D. M., & Elliott, M. (2018). Reviewing the assumptions about men's mental health: An exploration of the gender binary. *American Journal of Men's Health, 12*(1), 78–89. <https://doi.org/10.1177/1557988316630953>
- Strazdins, L., D'Souza, R. M., Clements, M., Broom, D. H., Rodgers, B., & Berry, H. L. (2011). Could better jobs improve mental health? A prospective study of change in work conditions and mental health in mid-aged adults. *Journal of Epidemiology and Community Health, 65*(6), 529–534. <https://doi.org/10.1136/jech.2009.093732>
- Taylor, C. J. (2014). Physiological stress response to loss of social influence and threats to masculinity. *Social Science & Medicine, 103*, 51–59. <https://doi.org/10.1016/j.socscimed.2013.07.036>
- Van Bortel, T., Basnayake, A., Wurie, F., Jambai, M., Koroma, A. S., Muana, A. T., Hann, K., Eaton, J., Martin, S., & Nellums, L. B. (2016). Psychosocial effects of an Ebola outbreak at individual, community and international levels. *Bulletin of the World Health Organization, 94*(3), 210–214. <https://doi.org/10.2471/BLT.15.158543>
- van Strien, T., Frijters, J. E. R., Bergers, G. P. A., & Defares, P. B. (1986). The Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior. *International Journal of Eating Disorders, 5*(2), 295–315. [https://doi.org/10.1002/1098-108X\(198602\)5:2<295::AID-EAT2260050209>3.0.CO;2-T](https://doi.org/10.1002/1098-108X(198602)5:2<295::AID-EAT2260050209>3.0.CO;2-T)
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 Coronavirus Disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health, 17*(5), 1729. <https://doi.org/10.3390/ijerph17051729>
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., McIntyre, R. S., Choo, F. N., Tran, B., Ho, R., Sharma, V. K., & Ho, C. (2020). A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. *Brain, Behavior, and Immunity, 87*, 40–48. <https://doi.org/10.1016/j.bbi.2020.04.028>
- Wong, J. Y., Ho, M.-H. R., Wang, S.-Y., & Miller, I. S. K. (2017). Meta-analyses of the relationship between conformity to masculine norms and mental health-related outcomes. *Journal of Counseling Psychology, 64*(1), 80–93. <https://doi.org/10.1037/cou0000176>
- Yoo, K.-B., Park, E.-C., Jang, S.-Y., Kwon, J. A., Kim, S. J., Cho, K.-H., Choi, J.-W., Kim, J.-H., & Park, S. (2016). Association between employment status change and depression in Korean adults. *BMJ Open, 6*(3), e0008570. <https://doi.org/10.1136/bmjopen-2015-008570>