

Social isolation and psychological wellbeing: lessons from Covid-19

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ABSTRACT

This study explores the effect of social isolation (SI) on the psychological wellbeing (PWB) of employees due to the imposed distance education during the Covid-19 pandemic lockdown. Drawing on individual psychological resources to improve wellbeing, researchers examine emotional intelligence (EI) as a possible mediator that reduces the effect of social isolation. In this quantitative study, questionnaires were administered to measure SI, EI, and PWB among academic and non-academic staff in Iraqi public universities during the height of the Covid-19 outbreak. The results suggest that EI and SI were strong predictors of PWB. While SI was negatively and significantly related to EI, the presence of emotional intelligence as a mediator reduced the negative effect of isolation on wellbeing. Gender was not found to moderate the mediating effect of EI on the SI-PWB association. These findings support the validity of incorporating EI interventions during pandemic outbreaks that produce distinct effects on the isolation and thus potentially result in improving the wellbeing of employees. Although employees high on EI are viewed less socially isolated and high on wellbeing within literature there is a relative dearth of supporting research that has not examined these inter-relationships during a genuinely imposed lockdown such as the one during the Covid-19 pandemic which provided standardization as to the social isolation context understudied. Another theoretical gap included the psychometric revision of the social isolation scale.

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1. Introduction

The recent and fast spread of the Coronavirus (COVID-19) throughout the world heightens concern for employee wellbeing due to the lockdowns and ensuing isolation. The pandemic infected millions worldwide and left tens of millions of people unemployed (Regencia, 2020; Clarke, 2020). The Coronavirus pandemic has accelerated the rise of distance education out of necessity, raised new issues, and subdued old ones. Traditionally, the purpose of distance education was to open doors to the underserved public but had shifted to attracting the general public in the 1990s to increase accessibility. However, the claim that the spread of online education increases access has not been fulfilled and so educational inequality followed which was in turn addressed by the new web technologies like the massive open online course (MOOC) and open educational resources (OER) initiatives (Lee, 2017). Among the consequences of this new reality is the interaction of work-related demands for working from home and employee characteristics that have immediate research and practical implications (Kramer et al., 2020). Within the ramifications are suitability, selection, training, and performance measurement initiatives that are far-reaching. Therefore, the current study was motivated at looking into the conditions and characteristics of employees in the online higher education context. Some studies have done just that. For instance, Sun et al. (2016) determined in their research that

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effective online instruction needs to have quality course content and delivery, an established learning community, and advanced technological support. However, there seems to be a shortage in research focusing on the ramifications from the accelerated rise in distance education to university employees.

The decision to lockdown by many governments to contain the pandemic spread has raised new social, economic, and health challenges for all sectors in all countries. For universities to continue providing their essential services, this has meant relying heavily on technology and quickly preparing their academic and administrative staff for unprecedented work conditions and experiences from the imposed online education. This changing environment requires learning new ways of doing things and adjusting to the rising and widespread social isolation affliction. Past studies have shown the negative impact of social isolation on various individual and organizational outcomes and on emotional and mental health (Courtin & Knapp 2017; Hossain et al., 2020; Wang et al., 2020). Drawing on individual psychological resources that can boost wellbeing, the current study examines emotional intelligence (EI) as a possible mediator that improves the well-being and so reduces social isolation (Kong et al., 2019; Pradhan et al., 2016). Previous studies found that emotional intelligence is positively associated with wellbeing (Di Fabio and Kenny 2019; Guerra-Bustamante et al., 2019), but its role as a mediator in the association between social isolation (SI) and psychological wellbeing (PWB) has not been explored especially under the current real isolation conditions. The fascination with studying contributors to wellbeing is high because it is believed to be associated with performance (Ayala, et al., 2016; Erdogan, Bauer, Truxillo, & Mansfield, 2012; Halbesleben & Wheeler, 2008; Warr et al., 2018). Hence, the current study explores the conditions of employees in online higher education with the purpose of examining the effect of SI on the PWB of academic and non-academic employees due to the Covid-19 pandemic. There is a plethora of research carried out on social isolation (Bucquet et al., 1990; DiTommaso et al., 2004; Russell, et al., 1978; Ranjan, et al., 2019; Gierveld et al., 2006). Yet, the development of a SI measure in different contexts remains deficient (Eckhard, 2018; Zavaleta, et al., 2017). Many past studies have shown the negative impact of SI on various individual and organizational outcomes including wellbeing (Wayment, et al., 2018; Jackson et al., 2019). For example, Chen and Feeley (2014) stressed that wellbeing as a main outcome of isolation. However, there is a shortage of research exploring the effect of isolation on wellbeing during actual lockdown-imposed isolation.

Furthermore, given the gender differences found in EI, well-being, and isolation, we expect the impact of these variables to lead to a larger change in men's wellbeing than in women (Hong et al., 2009; Malinauskas, 2017; Schutte et al. 2009). Although folks high on EI are viewed less socially isolated and high on wellbeing within literature there is a relative dearth of supporting research that has not examined an employee's wellbeing during a lockdown while exploring gender effects. Based on the above reasoning, this study aspires to achieve the following research objectives:

- 1) To examine the relationship between SI and PWB of employees in universities during the Covid-19 lockdown.
- 2) To determine the mediating effect of EI on the relationship between SI and PWB of employees in universities during the Covid-19 lockdown and whether this mediation varies by gender.

2. Literature Review

The conceptual model in the current study hypothesized relationships between social isolation, emotional intelligence, and psychological wellbeing constructs. This model is underpinned by the "tend and be friend" theory built by Taylor et al. (2000) and the social support theory built by Vaux (1988). Isolation is psychologically toxic and is linked with an increased risk of early mortality (Hawkey, & Cacioppo, 2010). According to the "tend and be friend" theory, humans affiliate with others for protection and comfort in reaction to stress. When people feel a social threat like isolation, physiological changes in the body trigger the need for affiliation. Positive social contacts then reduce stress responses in the body and equilibrium is achieved. These responses seem to be more in females than males and so the proposed model aims to verify this through the moderated mediation proposition. The social support theory explains why the presence of emotional intelligence can inversely mediate and so reduce the effects of social isolation by improving the wellbeing through better understanding, use, and regulation of emotions with the social support derived from immediate family members during a social threat such as during the pandemic lockdown.

Social isolation and psychological wellbeing

"Stable wellbeing exists when individuals have the psychological, social, and physical resources they need to meet a particular psychological, social, and/or physical challenge." (Dodge, 2012, p.230). Understanding the relationship between employees' wellbeing and performance is entrenched in the work of many scholars like Baptiste (2008), Saari et al. (2019), Salehi et al. (2020), and Usman (2017). For instance, Zelenski et al. (2008) found that senior managers' life satisfaction was positively and significantly associated with job performance. Also, Warr et al. (2018) provided a review of research that uncovered a steadily positive link between wellbeing and performance. The importance of PWB motivated the study of viable antecedences like EI and isolation. As the state of being alone and feeling lonely (Liu et al., 2020), SI is proposed as a strong depreciator of PWB. Past studies discovered a negative effect of SI on various individual and organizational outcomes (Chen & Feeley, 2014; Jackson et al., 2019; Orhan, et al., 2016). For instance, Huyghebaert et al. (2019) found that workplace isolation was negatively and significantly related to wellbeing in a sample of 244 nurses. Another example is a study by McLaughlin (2017)

who found that SI had a direct negative effect on organizational commitment, job satisfaction, and advancement opportunities. Moreover, Hossain et al. (2020) reviewed eight articles in hospitals and found that they reported an increase in mental health problems for constituents who endured quarantine or isolation. As a result, it was determined that PWB will be used to examine and externally validate SI. All this evidence inspired the current study to validate a comprehensive SI measure during actual isolation conditions and to verify its relationship with wellbeing. From the above discussion, the hypothesis formulated are:

H₁: SI is negatively related to PWB.

Emotional intelligence and wellbeing

EI might have started as part of non-cognitive intelligence with the introduction of social intelligence by Robert Thorndike in the 1930's (Thorndike and Stein, 1937). EI captures abilities to handle emotional information and is a psychological resource and predictor of positive health outcomes in a variety of settings and has been found to be strongly associated with performance and with physical and psychological health (Ingram et al., 2019; Martins et al., 2010; Zeidner et al., 2012). Prior research has consistently demonstrated that EI is positively associated with improved wellbeing (Di Fabio and Kenny 2019; Guerra-Bustamante et al., 2019; Kong et al., 2019). A meta-analysis paper by Sanchez-Alvarez et al. (2016) provided evidence of a positive significant association between EI and PWB. Similarly, Rey et al. (2019) discovered EI is significantly associated with social support, life satisfaction, and happiness scales in older people. Based on these arguments, the current study sought to propose the following hypothesis:

H₂: EI will be related to PWB.

Isolation and emotional intelligence

People high on EI are most likely less socially isolated and have elevated wellbeing because they have higher social awareness (Bozionelos et al., 2017; Singh and Singh, 2008). In the present research, it is proposed that for employees to maintain PWB under the strain of SI, they must depend heavily on EI. Research in the past highlighted the worth of EI and its possible strong association with SI in different contexts (Adkins, 2004; Udayar et al., 2020). For instance, Wolfe (2019) found a statistically significant inverse relationship between EI and feelings of SI among 143 homeschool students. Given the discussion above, the following hypothesis is put forth:

H₃: SI is negatively related to EI.

The potential mediator: emotional intelligence

Emotionally intelligent people perceive emotions accurately and empathize by listening to themselves and others' needs which lead to positive relationships. EI entails regulating emotions that aid in curbing negative feelings and increases good ones, without limiting or overstating information (Mayer et al. 2002). For these reasons, EI is proposed to reduce SI and increase PWB. Besides, prior research consistently showed a negative association between SI and EI (Adkins, 2004; Wolfe; 2019) and a positive association between EI and wellbeing (Di Fabio & Kenny 2019). Based on the above discussion, the following hypothesis is forwarded:

H₄: EI mediates the effect of SI on PWB.

The gender moderated mediation

Gender is proposed to influence the connections between SI, EI, and PWB for several reasons. Past research found gender differences in EI and PWB and so we expect the impact of SI to lead to a larger change in men's PWB than in women. For example, previous studies found males to have lower EI (Ciarrochi et al., 2001; Schutte et al. 2009) but others found no significant difference (Francis et al., 2018; Wing, Schutte, & Byrne, 2006). A few studies reported higher wellbeing among men (Tesch-Römer et al. 2008, Wang et al., 2019) and that gender differences have an impact on well-being (Malinauskas, 2017). Research by Salguero et al. (2015) also revealed EI accountable for males experiencing unfavorable mental outcomes and at high levels of EI showed poorer health behavior than females with similar EI levels (Malinauskas, et al., 2018). Evidence also indicates that sex discrepancies may occur in the impact of isolation on related factors including wellbeing because females have bigger social networks are involved more in social activities than men (Hong et al., 2009; Kendler et al., 2005). For example, Liu et al (2020) found that isolation predicted depression for both genders, but loneliness was a better predictor of depression for females than males. From the above discussion, the hypothesis formulated is:

H₅: The mediation effect of EI is stronger for men than women.

3. Methodology

In empirical social science research, the most discussed paradigms are positivism and interpretivism. As stated by Creswell and Clark (2007), the positivism paradigm is usually related to the quantitative methodologies and so is the adopted paradigm

in the current study. Positivism uses deductive inquiry and causal theories with statistics that emphasize duplicating studies, which aims to draw generalizable inferences based on empirical exploration and theories (Bryman & Bell, 2007; Deshpande, 1983). In accordance with the quantitative methodology, data were collected from participants using standardized questionnaires to see how it fit the theories, which was in turn used to test hypotheses to support or refute the relationships proposed. Specifically, the current study explained the association between IS, EI, and PWB. Moreover, this study was a survey-based research that studied a sample of the population that is too large to observe directly (Babbie, 2005). As such, careful sampling was used to cover respondents whose characteristics reflect the university academic and administrative staff population. Lastly, this study used primary data and adopted the cross-sectional design, which is appropriate because of the time constraint and lockdown restrictions for an academic research (Sekaran & Bougie, 2010) conducted during the Covid-19 pandemic in Iraq.

Sampling

The sampling process identified the population of interest as the administrative and academic staff in one of the largest public universities in central Iraq. This population needed to represent female and male full-time staff who were required to work from home during the lockdown. After permissions were granted for the data collection, an estimated population of 1473 academic staff and 907 administrative staff were identified. The university directory was used to generate the sampling list. The information might have not been updated but the data availability concern deserved greater priority compared to this shortcoming. The smallest sample for three predictors was verified through a priori G*Power analysis which calculated 119 respondents as sufficient to detect an effect size of .15 with .95 power, at the alpha level of .05 (McCrum-Gardner, 2010).

Finally, the present study employed purposive sampling which used expert judgment to ensure female and academic staff were represented adequately as they pertain to the important factors being researched (Lavrakas, 2008). This method was chosen because it represented a low-cost, convenience, not time-consuming, and ideal for the current exploratory nature of the study. Of the 500 questionnaires distributed to the available staff list, 305 sets were returned, gaining a response rate of 61%. During the preliminary data editing stage, 10 sets of questionnaires that had more than 25% uncompleted items (Sekaran & Bougie, 2010) were removed and those of the “straight lining” cases (Hair et al., 2017, p.58) were eliminated. This left the researchers with 295 usable datasets for analysis.

Respondents' profile

Most of the respondents were male (55.9 percent). In total, 3.1 percent of the respondents were aged above 61 years, 15.9 percent were in the age group between 51-60 years, 31.2 percent were aged between 41 and 50 years, 40 percent were aged from 31 to 40 years, and 9.8 percent were below 30 years old. Regarding academic qualifications, 6.4 percent were high school graduates, 6.4 percent had post-secondary diploma, 8.5 percent had a bachelor's degree, 39.3 percent had a master's degree, and 39.3 percent had a doctoral degree. Concerning occupation, most of the respondents were academic staff (76.6 percent).

Measurement and development of scale

Psychological wellbeing

The psychological well-being measure used in the current study had 5 items adopted from Chen and Feeley (2014). Examples of this self-reported assessment were “In most ways, my life is close to ideal”, “The conditions of my life are excellent”, and “I am satisfied with my life”. A five-point Likert scale was used to assess the items of this construct which had an internal consistency value of 0.779.

Emotional intelligence

The EI scale in the current study is adopted from Wong et al. (2002) which contained 16 items. The scale is centered on four abilities, namely, self-emotion appraisal, others' emotion appraisal, use of emotion, and regulation of emotion. It was effectively used by previous studies like Al Issa et al. (2016), and Kong and Zhao (2019). A five-point Likert scale was used to assess the items of EI which had an internal consistency value of 0.883.

Social isolation

SI is operationalized in the current study as the state of being alone and feeling lonely (Liu et al., 2020). Traditionally, SI refers to the state of limited social connections while loneliness is feelings of distress due to lack of social connections. The merging of the two measures by Zavaleta (2017) and Ranjan (2019) was inspired by the distinct formulation of SI and loneliness (Cacioppo, 2014; Liu et al., 2020). Broadly speaking, the researcher drew on six items from the work of Zavaleta (2017) that measures the state of being alone as included in the external SI dimensions. This dimension expresses social connectivity indicators i.e. social contacts, social support, social network, reciprocity, and volunteering. The ten items included from Ranjan (2019) measure feeling lonely and were included in the internal SI dimension and one item representing trust from Zavaleta

(2017). To merge the internal and external isolation factors, the researcher was guided by the scale development procedures delineated by Churchill (1979) and DeVellis (2016). The first step of the scale development procedure involved explaining and defining what to include and exclude in the construct which was laid out by Ranjan et al. (2019) and Zavaleta et al. (2017) to reach a well articulation of the external and internal dimensions of isolation (Churchill, 1979). The inclusion criteria were then used to pool items as specified by Ranjan et al. (2019) and Zavaleta et al. (2017) into each respective dimension (DeVellis, 2016). The SI measure used 17 indicators, 10 of which were adopted from Ranjan et al. (2019), and 7 items were adapted from Zavaleta et al. (2017). The choice of indicators to include in SI was guided by the logic followed by Zavaleta et al. (2017) who sought to explore different aspects of social ties like personal, family, friendship, and community in addition to diverse domains like trust and informal support. Careful attention was paid to the inclusion of all suggested domains for measuring SI in the external and internal dimensions. A five-point Likert scale was used to assess the items of SI that had an internal consistency value of 0.894. Ranjan et al. (2019) and Zavaleta et al. (2017) had carried out content validity which involved validations of experts and face validity. Regarding the specification of the measurement model, the construct was designed as reflectively measured (Henseler, Ringle, & Sinkovics, 2009). In the following step, a preliminary examination of the items allowed the internal consistency reliability test and item analysis through a pilot test.

For the last two steps, the remaining 295 sets were randomly split into two near-halves sub-samples of 145 and 150 to be used for exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), respectively. The splitting of data was necessary because EFA and CFA should be conducted using different sets of data (DeVellis, 2016; Hair et al., 2010). The latter served the purpose of measurement model, structural model and hypotheses testing. The virtue of using split-half samples randomly divided from the same sampling is that it likely represents the same population and so more likely to be similar than the use of two entirely different samples (DeVellis, 2016). In this way, any special conditions apply to both sets equally. Further, the near split-half sample approach is a recognized practice especially for measures development and validation and a sample can be randomly split unevenly in cases where sample is comparatively small to yield adequately large halves (DeVellis, 2016).

4. Results

For data analysis, SPSS v20 was employed to handle data coding and cleaning, t-test for non-response bias, reliability assessment, missing data and outlier detection, assessment of normality, linearity, multicollinearity, homoscedasticity, and common method variance. The initial analysis showed that correlations were significant between wellbeing, isolation, emotional intelligence. The means and standard deviations for the examined variables were (Mean: 3.32, SD: 0.78) psychological wellbeing, (Mean: 2.31, SD: 0.75) social isolation, and (Mean: 3.81, SD: 0.64) emotional intelligence. To reduce measurement error a pilot test was carried out on a sample of 40, and some adjustments were made on the translations accordingly.

Table 1
Exploratory factor analysis – Social Isolation (n = 145)

Code	Items (16 items $\alpha=0.894$)	Factors	
		1	2
	Factor 1: External social isolation $\alpha=0.734$		
SI1	In the past two weeks, I have not spent time with family.	0.684	
SI2	In the past week, I have not spent time with friends and relatives outside my household.	0.587	
SI3	I do not have anyone with whom I can discuss personal matters.	0.768	
SI4	I do not have relatives or friends whom I can count on to help when in trouble.	0.633	
SI5	I do not go out of my way to help somebody who has been kind to me before.	0.547	
	Factor 2: Internal social isolation $\alpha=0.888$		
S7	I don't feel part of a group of friends		0.406
S8	I don't have any friends to whom I can share my views, but I hope I did		0.510
S9	I do not have any friends who understand me, but I hope I did		0.522
SI0	I feel isolated from other people		0.839
SI1	When with other people, I felt separate from them		0.624
SI2	I feel alone and friendless		0.645
SI3	I feel I am a burden to people		0.527
SI4	I feel lonely		0.579
SI5	I feel there is nobody I am close to		0.598
SI6	I am finding it hard to contact people		0.775
SI7	I don't trust most people		0.500
	Eigenvalue	1.700	6.440
	% of variance	10.003	37.885
	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	0.844	
	Bartlett's Test of Sphericity Approx. Chi-Square	1097.149	
	Df	136	
	Sig.	0.000	

Note: N = 145. Oblimin rotation. Factor loadings higher than .3 shown. The KMO measures the sampling adequacy, which should be greater than .5 for a satisfactory factor analysis to proceed (Hair et al., 2010).

It was important to perform an exploratory factor analysis (EFA) for the heavily revised SI construct since there was a need to confirm the proposed links between the measured variable and the latent variable construct which were not yet known (Byrne, 2010). The Oblimin rotated solution showed the existence of two factors indicating many robust loadings while the other factors scattered with weaker loadings (Hair et al., 2010). Using Catell’s scree test, it was decided to retain two components for further investigation which was reinforced by the parallel analysis (Pallant, 2013). Item 6 was removed because it loaded with component 2 and so the EFA resulted in a two-dimensional SI with 16 indicators for further analysis (Table 1). The analysis of the two factors matched the use of the external and internal SI items as distinct dimensions, as proposed by the scales’ authors (Ranjan et al., 2019; Zavaleta et al., 2017).

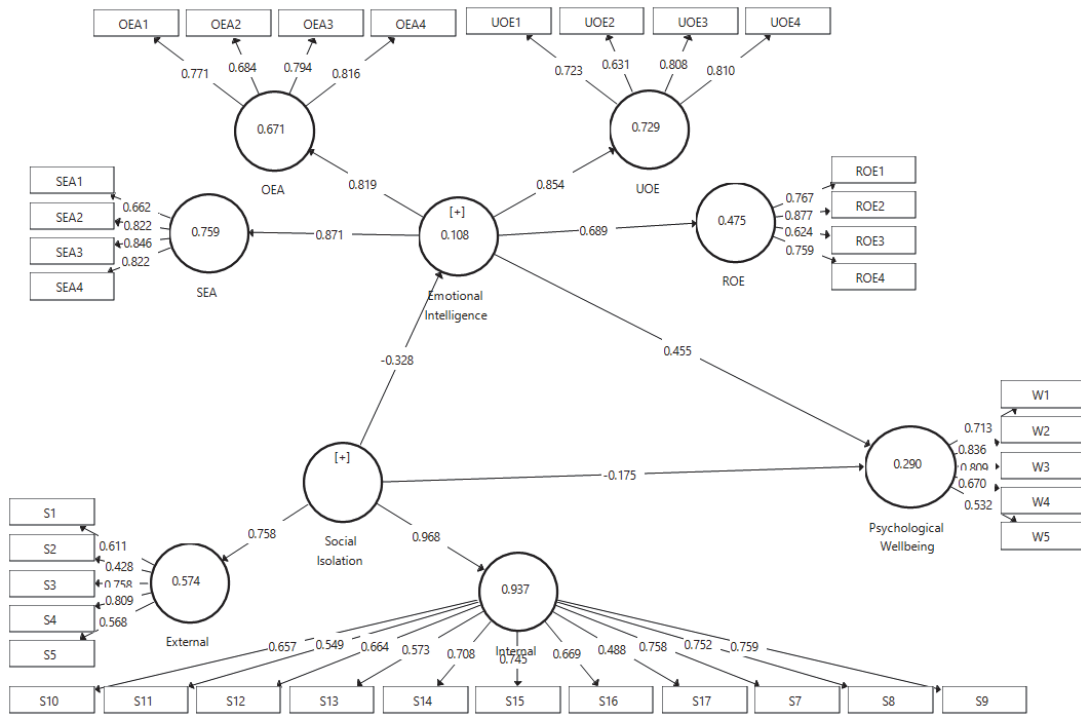


Fig. 1. PLS Measurement model analysis

Having attested the constructs theoretically proposed reflective measurement specification, the PLS-SEM measurement model was constructed for CFA and were examined in terms of reliability and validity. Convergent validity was established via higher AVE but the lower AVE (0.365 for SI, and 0.387 for EI) was tolerated because composite reliability was > .6 (Fornell & Larcker, 1981). Indicators with lower loadings between 0.40 and 0.70 were retained like S2 (outer loading = 0.428), which had the lowest loading, when their removal is not required to increase composite reliability or AVE and when scales are applied in a different context (Hair et al., 2017). Satisfactory composite reliability limits were present with .839 for PWB, .907 for EI, and .897 for SI. Discriminant validity was verified by evaluating the Heterotrait-Monotrait ratio (HTMT) with the highest estimated ratio for all constructs < .85 (Clark and Watson 1995). To assess the structural model, the researchers began by checking for collinearity issues (Hair et al., 2017). VIF for all tested predictor constructs were below the threshold of 5. The significance and relevance of the structural model relationships and hypotheses tests are displayed in Table 2 and Figure 1. Using PLS-SEM for prediction purposes requires a measure of predictive capability. Therefore, the coefficient of determination R² value for wellbeing was 0.305 (0.291 R² Adjusted) and for EI was 0.108 (0.102 R² Adjusted) which are considered substantial and weak, respectively (Cohen, 1988). Next, the effect sizes (f²) for the constructs was assessed as small at 0.12 for EI with SI and 0.03 for PWB with SI, and medium at 0.25 for PWB with EI (Hair, et al., 2017). Then, the predictive relevance Q² was reported at 0.132 (omission distance D=7) for PWB and 0.039 for EI. Finally, as a relative measure of predictive relevance, the effect size q² for PWB were small at 0.006, and 0.093 for SI and EI, respectively (Hair, et al., 2017).

Table 2
Structural estimates

Hypothesis	Standard beta	t-statistics	P Values	Decision
H1. SI → PWB	-0.175	1.778	0.075	Accept
H2. EI → PWB	0.455	5.508	0.000	Accept
H3. SI → EI	-0.328	4.297	0.000	Accept
H4. SI → EI → PWB	-0.149	3.025	0.002	Accept
H5. G * EI → PWB	-0.082	0.297	0.766	Reject

5. Discussion

The current study set out with the aim of assessing the relationship between social isolation and psychological wellbeing of employees in higher education during the Covid-19 pandemic. The first research objective of the paper was met. The parallel first hypothesis revealed a significant and negative association between the constructs as exhibited in Table 2 (standard beta = -0.175, t-statistic = 1.778, $p < .075$). The significance of the result was accepted at the 10 percent level as it is considered exploratory in nature with a heavily revised and merged social isolation construct. As such, the psychologically toxic effects of social isolation were expected to have a negative effect on the wellbeing of university employees as demonstrated by previous studies (Huyghebaert et al., 2019; Jackson et al., 2019).

The second research objective sought to determine the intervening effect of EI on the relationship between SI and PWB of employees in universities during the Covid-19 lockdown and was paralleled by the remaining hypothesis. H_1 stated that EI is significantly associated with PWB was accepted (standard beta = 0.455, t-statistic = 5.508, $p < .000$). Emotional intelligence involves regulating emotions that reduce negative feelings and boosts positive ones. The results are support past findings of positive association between EI and wellbeing (Di Fabio & Kenny 2019; Guerra-Bustamante et al., 2019).

The third hypothesis was also accepted, revealing that SI is negatively associated with EI (standard beta = -0.328, t-statistic = 4.297, $p < .000$). In the present research, it is proposed that for employees to retain psychological wellbeing under the strain of social isolation, they must depend heavily on emotional intelligence. Research in the past emphasized the value of EI and its possible strong relationship with social isolation and found a negative impact of SI on emotional and mental health (Hossain et al., 2020; Wang et al., 2020).

The fourth hypothesis was plausibly supported because EI is a psychological resource and predictor of positive health outcomes and can improve wellbeing and reduce isolation (Kong et al., 2019; Martins et al., 2010; Pradhan et al., 2016). This relationship is considered a competitive partial mediation with EI acting as a suppressor (Hair et al., 2017). This relationship decreases the degree of the overall impact of SI on PWB. The opposite signs of the positive direct effect of EI on wellbeing off sets the negative effects of SI on EI and wellbeing through the intervening effect of EI on the SI-PWB association (standard beta = -0.149, t-statistic = 3.025, $p < .002$), so that the total effect of isolation on wellbeing is relatively small. Competitive mediation proposes that additional mediator(s) may be at play like spirituality, physical activity, strong social bonding with immediate family, and challenging cognitive occupations, i.e. cognitive demands (Aboobaker et al., 2019; Glaser et al., 2015).

The fifth hypothesis stated that the mediation effect of EI will be stronger for men than for women. According to Hair et al. (2017), moderated mediation “occurs when a moderator variable interacts with a mediator variable such that the value of the indirect effect changes depending on the value of the moderator variable”. The type of moderated mediation tested in the current study involved gender as moderator between the mediator EI and the endogenous construct PWB (Hayes, 2015). The fifth hypothesis was rejected (standard beta = -0.082, t-statistic = 0.297, $p < .766$). Also, the higher female response to maintain positive social contacts to reduce stress due to isolation as stated in the “tend and be friend” theory was also not supported. This is surprising granted the gender differences in all constructs found in past research (Hong et al., 2009; Malinauskas, 2017; Schutte et al. 2009). The reason for this might be due to EI levels in the largely academic respondents were closely elevated among genders. Therefore, these EI levels were found to not interact significantly on the SI-PWB mediation for both genders. The negative effects of isolation were not as drastic due to the actual offsetting of social isolation that is possible through immediate and close family ties prevalent in middle eastern cultures. Likewise, a study by Wang et al. (2019) found the associations among EI, humor styles, and well-being to be comparable across gender.

6. Conclusion

The present study fills a gap in the sparse literature that investigates predictors of psychological wellbeing in actual conditions that cause social isolation in university employees during the Covid-19 pandemic. While various antecedents to wellbeing have been studied in various contexts, their inspection with emotional intelligence as a predictor and mediator is unprecedented. The examination of gender as a moderator in this mediation is also unique. Theoretically, the study contributes through the validation of a measure partly adapted from existing measure and another based on an unvalidated conceptual measure examined in a different culture outside of the typical western setting. Practically, decision-makers can take proactive steps to mitigate negative effects of isolation like employee mental health training and support for social isolation, emotional intelligence coaching, and wellbeing surveys, as well as the incorporation of counseling sessions and emotional intelligence for effective leadership training (Zaabi et al., 2017). The study also highlights the importance of affiliation in stressful periods and the capability to call on mental representations of relationships. Folks gain the resources to discover and nurture both emotionally and mentally in settings that guarantee social contact. Furthermore, shifting to the work from home setup entails selecting employees who are more suited for the challenge. Yet, organizations must incorporate training for employees on best practices for remote work, and closer monitoring of the quality and efficiency of those asked to work from home.

A limitation in the current study is the sample size ($n = 295$) and respondents which were drawn from only one region in Iraq. Therefore, caution should be employed when generalizing. Future research can develop the norms for the scale by duplicating the external validation of this newly validated social isolation measure with a larger sample (Churchill, 1979; DeVellis, 2016).

The cross-sectional nature of this research from a single region makes it difficult to generalize the findings. Therefore, future research can include more universities and regions in a longitudinal study. Future research may benefit from exploring and comparing different cultures to verify the difference in socializing between men and women and other variables like spirituality, physical activity, strong social bonding with immediate family, and challenging cognitive occupations.

References

- Aboobaker, N., Edward, M., & Zakkariya, K. A. (2019). Workplace spirituality, employee wellbeing and intention to stay. *International Journal of Educational Management*.
- Adkins, J. H. (2004). Investigating emotional intelligence and social skills in home schooled students (Doctoral dissertation, Western Kentucky University).
- Al Issa, H., & Mahmood, R. (2016). Emotional intelligence and transformational leadership: the moderating effect of organizational culture. *The International Journal of Business and Management*, 4(4), 212-221.
- Ayala, E. E., Omorodion, A. M., Nmecha, D., Winseman, J. S., & Mason, H. R. (2017). What do medical students do for self-care? A student-centered approach to well-being. *Teaching and Learning in Medicine*, 29(3), 237-246.
- Babbie, E. R. (2005). *The basic of social research*. Belmont: Thomson Wadsworth.
- Baptiste, N. R. (2008). Tightening the link between employee wellbeing at work and performance. *Management decision*.
- Bozionelos, N., & Singh, S. K. (2017). The relationship of emotional intelligence with task and contextual performance: More than it meets the linear eye. *Personality and Individual Differences*, 116, 206-211.
- Bryman, A., & Bell, E. (2007). Business research strategies", *Business research methods*. Oxford: Oxford University Press.
- Bucquet, D., Condon, S., & Ritchie, K. (1990). The French version of the Nottingham Health Profile. A comparison of items weights with those of the source version. *Social Science & Medicine*, 30(7), 829-835.
- Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd. ed.). New York: Routledge Taylor & Francis Group.
- Cacioppo, J. T., & Cacioppo, S. (2014). Social relationships and health: The toxic effects of perceived social isolation. *Social and Personality Psychology Compass*, 8(2), 58-72.
- Chen, Y., & Feeley, T. H. (2014). Social support, social strain, loneliness, and well-being among older adults: An analysis of the Health and Retirement Study. *Journal of Social and Personal Relationships*, 31(2), 141-161.
- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16 (1), 64-73.
- Ciarrochi, J., Chan, A. Y., & Bajgar, J. (2001). Measuring emotional intelligence in adolescents. *Personality and individual differences*, 31(7), 1105-1119.
- Clark, L. A., & Watson, D. (1995). Constructing validity: basic issues in objective scale development. *Psychological Assessment*, 7(3), 309-319.
- Clarke, G. (2020, April 8). COVID-19: Impact could cause equivalent of 195 million job losses, says ILO chief || UN News.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*. Mahwah, NJ: Lawrence Erlbaum.
- Courtin, E., & Knapp, M. (2017). Social isolation, loneliness and health in old age: a scoping review. *Health & social care in the community*, 25(3), 799-812.
- Deshpande, R. (1983). Paradigms Lost": On Theory and Method in Research in Marketing. *Journal of Marketing*, 47(4), 101-110.
- DeVellis, R. F. (2016). *Scale development: Theory and applications*. Thousand Oaks, CA: SAGE Publications
- Di Fabio, A., & Kenny, M. E. (2019). Resources for enhancing employee and organizational well-being beyond personality traits: The promise of Emotional Intelligence and Positive Relational Management. *Personality and Individual Differences*, 151, 109278.
- Ditommasso, E., Brannen, C., & Best, L. A. (2004). Measurement and validity characteristics of the short version of the social and emotional loneliness scale for adults. *Educational and Psychological Measurement*, 64(1), 99-119.
- Dodge, R., Daly, A. P., Huyton, J., & Sanders, L. D. (2012). The challenge of defining wellbeing. *International journal of wellbeing*, 2(3).
- Eckhard, J. (2018). Indicators of social isolation: a comparison based on survey data from Germany. *Social Indicators Research*, 139(3), 963-988.
- Erdogan, B., Bauer, T. N., Truxillo, D. M., & Mansfield, L. R. (2012). Whistle while you work: A review of the life satisfaction literature. *Journal of management*, 38(4), 1038-1083.
- Francis, L. J., Payne, V. J., & Emslie, N. J. (2018). The construct validity of the Schutte Emotional Intelligence Scale in light of psychological type theory: a study among Anglican clergy. *Mental Health, Religion & Culture*, 21(9-10), 945-959.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.
- Glaser, J., Seubert, C., Hornung, S., & Herbig, B. (2015). The impact of learning demands, work-related resources, and job stressors on creative performance and health. *Journal of Personnel Psychology*.
- Gierveld, J. D. J., & Tilburg, T. V. (2006). A 6-item scale for overall, emotional, and social loneliness: Confirmatory tests on survey data. *Research on aging*, 28(5), 582-598.

- Guerra-Bustamante, J., León-del-Barco, B., Yuste-Tosina, R., López-Ramos, V.M., Mendo-Lázaro, S. (2019). Emotional Intelligence and Psychological Well-Being in Adolescents. *International Journal of Environment Resources and Public Health*, 16, 1720.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2017). A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- Halbesleben, J. R., & Wheeler, A. R. (2008). The relative roles of engagement and embeddedness in predicting job performance and intention to leave. *Work & Stress*, 22(3), 242-256.
- Hawkey, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of Behavioral Medicine*, 40(2), 218-227.
- Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research*, 50(1), 1-22.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of The Academy of Marketing Science*, 43(1), 115-135.
- Hong, S. I., Hasche, L., & Bowland, S. (2009). Structural relationships between social activities and longitudinal trajectories of depression among older adults. *The Gerontologist*, 49(1), 1-11.
- Hossain, M. M., Sultana, A., & Purohit, N. (2020). Mental health outcomes of quarantine and isolation for infection prevention: A systematic umbrella review of the global evidence. *Available at SSRN 3561265*.
- Huyghebaert, T., Gillet, N., Audusseau, O., & Fouquereau, E. (2019). Perceived career opportunities, commitment to the supervisor, social isolation: Their effects on nurses' well-being and turnover. *Journal of Nursing Management*, 27(1), 207-214.
- Ingram, A., Peake, W. O., Stewart, W., & Watson, W. (2019). Emotional intelligence and venture performance. *Journal of Small Business Management*, 57(3), 780-800.
- Jackson, S. E., Firth, J. A., Firth, J., Veronese, N., Gorely, T., Grabovac, I., ... & Smith, L. (2019). Social isolation and physical activity mediate associations between free bus travel and wellbeing among older adults in England. *Journal of Transport & Health*, 13, 274-284.
- Kendler, K. S., Myers, J., & Prescott, C. A. (2005). Sex differences in the relationship between social support and risk for major depression: a longitudinal study of opposite-sex twin pairs. *American Journal of Psychiatry*, 162(2), 250-256.
- Reckers, P. M., & Stagliano, A. J. (1981). Non-audit services and perceived independence: Some new evidence. *Auditing: A Journal of Practice and Theory*, 1(1), 23-37.
- Kramer, A., & Kramer, K. Z. (2020). The potential impact of the Covid-19 pandemic on occupational status, work from home, and occupational mobility. *Journal of Vocational Behavior*, 119, 103442.
- Lavrakas, P. J. (2008). *Encyclopedia of survey research methods*. Sage Publications.
- Lee, K. (2017). Rethinking the accessibility of online higher education: A historical review. *The Internet and Higher Education*, 33, 15-23.
- Liu, H., Zhang, M., Yang, Q., & Yu, B. (2020). Gender differences in the influence of social isolation and loneliness on depressive symptoms in college students: a longitudinal study. *Social Psychiatry and Psychiatric Epidemiology*, 55(2), 251-257.
- Malinauskas, R., & Malinauskiene, V. (2018). The mediation effect of perceived social support and perceived stress on the relationship between emotional intelligence and psychological wellbeing in male athletes. *Journal of human kinetics*, 65(1), 291-303.
- Malinauskas, R. (2017). Psychological wellbeing and self-esteem in students across the transition between secondary school and university: A longitudinal study. *Psihologija*, 50(1), 21-36.
- Martins, A., Ramalho, N., & Morin, E. (2010). A comprehensive meta-analysis of the relationship between emotional intelligence and health. *Personality and Individual Differences*, 49(6), 554-564.
- Mayer, J.D., & Salovey, P. (1997). What is Emotional Intelligence? In P. Salovey & D. J. Sluyter (Eds.) *Emotional Development and Emotional Intelligence*. New York, NY: Basic Books.
- McCrum-Gardner, E. (2010). Sample size and power calculations made simple. *International Journal of Therapy and Rehabilitation*, 17(1), 10.
- McLaughlin, R. (2017). *Examining isolation and commitment as mechanisms by which remote work influences subsequent individual and organizational outcomes* (Unpublished master dissertation). University of Canterbury.
- Orhan, M. A., Rijsman, J. B., & Van Dijk, G. M. (2016). Invisible, therefore isolated: Comparative effects of team virtuality with task virtuality on workplace isolation and work outcomes. *Revista de Psicología del Trabajo y de las Organizaciones*, 32(2), 109-122.
- Pallant, J. (2013). *SPSS survival manual: A step by step guide to data analysis using SPSS for windows (4th ed.)*. England, UK: McGraw Hill Open University Press.
- Pradhan, R.K., Lalatendu, K.J. and Singh, S.K. (2016). Examining the role of emotional intelligence between organizational learning and adaptive performance in Indian manufacturing industries. *Journal of Workplace Learning*, 29(3), 235-247.
- Ranjan, S., & Yadav, R.S. (2019). Social isolation: development and validation of measures. *Benchmarking: An International Journal*, 26(6), 1905-1920.
- Regencia, T. (2020, May 14). Global coronavirus death toll exceeds 300,000: Live updates.

- Rey, L., Extremera, N., & Sánchez-Álvarez, N. (2019). Clarifying the links between perceived emotional intelligence and well-being in older people: Pathways through perceived social support from family and friends. *Applied Research in Quality of Life*, *14*(1), 221-235.
- Russell, D., Peplau, L. A., & Ferguson, M. L. (1978). Developing a measure of loneliness. *Journal of Personality Assessment*, *42*(3), 290-294.
- Saari, T., Ellonen, N., & Vuorensyrjä, M. (2019). Employee well-being of Finnish criminal investigators – mixed methods approach. *International Journal of Organization Theory & Behavior*, *23*(1), 85-99.
- Salehi, M., Seyyed, F. and Farhangdoust, S. (2020). The impact of personal characteristics, quality of working life and psychological well-being on job burnout among Iranian external auditors. *International Journal of Organization Theory & Behavior*, *23*(3), 189-205.
- Salguero, J. M., Extremera, N., Cabello, R., & Fernández-Berrocal, P. (2015). If you have high emotional intelligence (EI), you must trust in your abilities: The interaction effect of ability EI and perceived EI on depression in women. *Journal of Psychoeducational Assessment*, *33*(1), 46-56.
- Sánchez-Álvarez, N., Extremera, N., & Fernández-Berrocal, P. (2016). The relation between emotional intelligence and subjective well-being: A meta-analytic investigation. *The Journal of Positive Psychology*, *11*(3), 276-285.
- Schutte, N. S., Malouff, J. M., & Bhullar, N. (2009). The assessing emotions scale. In *Assessing emotional intelligence* (pp. 119-134). Springer, Boston, MA.
- Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach*. United Kingdom: John Wiley & Son Ltd.
- Singh, S.K., & Singh, S. (2008). Managing role stress through emotional intelligence: a study of Indian medico professionals. *International Journal of Indian Culture and Business Management*, *1*(4), 377.
- Sun, A., & Chen, X. (2016). Online education and its effective practice: A research review. *Journal of Information Technology Education*, *15*.
- Tabachnick, B.G. & Fidell, L.S. (2007). *Using multivariate statistics* (5th edn). Boston, MA: Pearson Education.
- Taylor, S. E., Klein, L. C., Lewis, B. P., Gruenewald, T. L., Gurung, R. A., & Updegraff, J. A. (2000). Biobehavioral responses to stress in females: tend-and-befriend, not fight-or-flight. *Psychological Review*, *107*(3), 411.
- Tesch-Römer, C., Motel-Klingebiel, A., & Tomasik, M. J. (2008). Gender differences in subjective well-being: Comparing societies with respect to gender equality. *Social Indicators Research*, *85*(2), 329-349.
- Thorndike, R. L., & Stein, S. (1937). An evaluation of the attempts to measure social intelligence. *Psychological Bulletin*, *34*(5), 275.
- Udayar, S., Fiori, M., & Bausseron, E. (2020). Emotional intelligence and performance in a stressful task: The mediating role of self-efficacy. *Personality and Individual Differences*, *156*, 109790.
- Usman, A. (2017). The effect of psychological wellbeing on employee job performance: Comparison between the employees of projectized and non-projectized organizations. *Journal of Entrepreneurship & Organization Management*, *6*(01), 8-12.
- Vaux, A. (1988). *Social support: Theory, research, and intervention*. Praeger publishers.
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., McIntyre, R. S., ... & Ho, C. (2020). A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. *Brain, behavior, and immunity*.
- Wang, M., Zou, H., Zhang, W., & Hou, K. (2019). Emotional intelligence and subjective well-being in Chinese university students: the role of humor styles. *Journal of Happiness Studies*, *20*(4), 1163-1178.
- Warr, P., & Inceoglu, I. (2018). Work orientations, well-being and job content of self-employed and employed professionals. *Work, Employment and Society*, *32*(2), 292-311.
- Wayment, H. A., & Bauer, J. J. (2018). The quiet ego: Motives for self-other balance and growth in relation to well-being. *Journal of Happiness Studies*, *19*(3), 881-896.
- Wing, J. F., Schutte, N. S., & Byrne, B. (2006). The effect of positive writing on emotional intelligence and life satisfaction. *Journal of Clinical Psychology*, *62*(10), 1291-1302.
- Wolfe, D. S. (2019). The Correlation between Trait Emotional Intelligence and Feelings of Social Isolation in Alaskan Home-school Students. Unpublished doctoral dissertation, Lynchburg, VA, Liberty University.
- Wong, C. S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, *13*(3), 243-274.
- Zaabi, H. H. J. A., Singh, S.K., & Ajmal, M.M. (2017). Role of organisational commitment, culture and leadership in managing innovation: a study. *International Journal of Value Chain Management*, *8*(3), 270-284.
- Zavaleta, D., Samuel, K., & Mills, C. T. (2017). Measures of social isolation. *Social Indicators Research*, *131*(1), 367-391.
- Zeidner, M., Matthews, G., & Roberts, R. D. (2012). The emotional intelligence, health, and well-being nexus: What have we learned and what have we missed? *Applied Psychology: Health and Well-Being*, *4*(1), 1-30.
- Zelenski, J. M., Murphy, S. A., & Jenkins, D. A. (2008). The happy-productive worker thesis revisited. *Journal of Happiness studies*, *9*(4), 521-537.

