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Emotional and Social Loneliness as Differential Predictors of Positive Mental Health and Well-Being During Lockdown in Pakistan

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Abstract

The COVID-19 lockdown created conditions of restricted social contact, but different forms of loneliness may not have had equivalent implications for well-being. This study examined emotional and social loneliness as differential predictors of subjective well-being and positive mental health during the COVID-19 lockdown in Pakistan. Archival lockdown-period survey data were analyzed from 413 adults aged 18–80 years (M = 28.11, SD = 8.40). Participants completed the 6-item De Jong Gierveld Loneliness Scale, the WHO-5 Well-Being Index, and a modified dichotomous version of the Mental Health Continuum–Short Form assessing endorsed indicators of emotional, social, and psychological well-being. Pearson correlations and hierarchical regression analyses were conducted, controlling for age, gender, self-rated health, family structure, self-isolation, social distancing, and going out during lockdown. Emotional loneliness was consistently and negatively associated with WHO-5 well-being and all positive mental health indicators. In controlled models, emotional loneliness significantly predicted lower WHO-5 well-being, emotional well-being, social well-being, psychological well-being, and total positive mental health. Social loneliness did not significantly predict WHO-5 well-being after covariates were controlled, but showed small positive associations with modified MHC-SF indicators after emotional loneliness was included. A supplementary robustness check showed that total loneliness significantly predicted lower WHO-5 well-being and MHC total scores, but explained less variance than the dimensional model. Findings support the value of distinguishing emotional and social loneliness during lockdown. Emotional loneliness appeared to be the more consistent loneliness-related correlate of reduced positive mental health, whereas social loneliness showed weaker and context-dependent associations. Results should be interpreted cautiously due to the cross-sectional design and modified MHC-SF response format.

Keywords: Emotional loneliness; social loneliness; positive mental health; well-being; COVID-19 lockdown; Pakistan

Introduction

The COVID-19 pandemic significantly altered usual social interaction by affecting social settings, mobility, and in-person contact (Bu et al., 2020; Buecker & Horstmann, 2021; Groarke et al., 2020). These limitations posed important questions regarding loneliness and well-being but there was evidence that loneliness throughout the pandemic was not a uniform experience. There was evidence that loneliness varied across individuals and contexts and that vulnerability was associated with age, gender, lower socioeconomic position, living arrangements, lacked social support, and had pre-existing mental health problems (Bu et al., 2020; Buecker & Horstmann, 2021; Caro et al., 2022; Groarke et al., 2020). Loneliness as a result of lockdown is thus not a direct or uniform outcome, but rather a psychological experience that is differentiated.

Loneliness is often described as perceived discrepancy between desired and actual social relationships, or as a subjective perception that actual social relationships fall short of desired relationships (Perlman & Peplau, 1981; Hawkley & Cacioppo, 2010). This definition is further differentiated from the objective social isolation, because individuals may feel lonely despite having social contact, or can be emotionally connected, despite reduced contact (Buecker & Horstmann, 2021; Gubler et al., 2021). This distinction became particularly salient during lockdown, when in-person interactions were limited, but where some aspects of connection persisted in households and through family interaction and/or digital communication (Li et al., 2021; Macdonald & Hülür, 2021; Shah et al., 2020). The psychological consequences of lockdown, however, may not be fully replaced by these forms of contact, indicating that the nature and quality of the available relational connection may shape the psychological implications of lockdown (Li et al., 2021; Macdonald & Hülür, 2021).

One major problem with some pandemic loneliness studies is that they treat loneliness as a single global construct. Theoretical and measurement literature distinguishes emotional loneliness from social loneliness (de Jong Gierveld & van Tilburg, 2006; Weiss, 1973). Emotional loneliness is the perceived absence of close, intimate or emotionally fulfilling attachment, while social loneliness is the sense of lacking social integration, companionship, or network belonging (de Jong Gierveld & van Tilburg, 2006; Landmann & Rohmann, 2022; Weiss, 1973). This distinction is important because different relational needs can be impacted by lockdown in different ways. Restrictions on social contact may restrict broader social interaction, but the psychological impact of the restriction might vary in accordance with whether or not emotionally close and supportive relationships are possible (Lampraki et al., 2022; Landmann & Rohmann, 2022; Macdonald & Hülür, 2021).

Recent COVID-19 research has supported the value of considering the loneliness dimensions separately. Lampraki et al. (2022) also revealed an increase in emotional loneliness over time during the pandemic, while social loneliness was comparatively stable, noting that loss of confidant relationships was associated with emotional loneliness, whereas overall decreases in interaction and practical support were associated with social loneliness. Poštuvan et al. (2024) similarly reported significant changes in emotional loneliness, but not social loneliness. In the physical distancing era, loneliness dimensions might "drift apart", as Landmann and Rohmann (2022) argued, with emotional, social, and physical loneliness showing distinct associations with stress and well-being differently. These results indicate that emotional and social loneliness do not equally predict psychological functioning in the context of social restriction.

This distinction is especially relevant if they are viewed from a positive mental health perspective. Numerous studies have investigated the psychological outcomes during the pandemic, such as distress, depression, anxiety or psychiatric symptoms (Buecker & Horstmann, 2021; Kohls et al., 2021). But positive mental health is not only about the absence of symptoms; it is about having emotional, social, and psychological well-being (Keyes, 2009). Positive mental health is viewed as emotional, social and psychological well-being (the Mental Health Continuum–Short Form; Keyes, 2009), and positive subjective well-being is measured by positive mood, vitality and interest in daily life (WHO-5 Well-Being Index; Topp et al., 2015). Examining loneliness in relation to these indicators offers a complementary perspective to distress-focused studies and clarifies how different forms of loneliness relate to positive psychological functioning.

Evidence from the pandemic period generally links loneliness with poorer well-being, although the strength and pattern of associations vary across samples, measures, and study designs (Buecker & Horstmann, 2021; Castelletti et al., 2024; Stieger et al., 2021). For example, Tuason et al. (2021) found that emotional and social loneliness were significant predictors of psychological well-being during the initial lockdown in the United States. However, the relative importance of emotional and social loneliness may differ across cultural and household contexts. In Pakistan's family-oriented social context, household structure, family relationships, and interpersonal obligations may shape how social restriction is experienced (Hussein, 2022; Khan et al., 2021). Broader social restrictions may be partly

buffered by household or family-based contact, but the presence of social contact may not necessarily prevent emotional loneliness if close attachment needs remain unmet (de Jong Gierveld & van Tilburg, 2006; Lampraki et al., 2022; Weiss, 1973).

Existing research from Pakistan indicates that well-being was an important concern during the pandemic. Khan et al. (2021) found that poor well-being during COVID-19 was associated with demographic, health-related, and coping-related factors in the Pakistani population. However, limited evidence has examined whether emotional and social loneliness show differential associations with positive mental health and well-being in Pakistani lockdown-period data. This gap is important because a global loneliness score may obscure distinct patterns of association between specific loneliness dimensions and psychological functioning.

The present study addressed this gap using archival lockdown-period data from Pakistan. It examined emotional and social loneliness as distinct predictors of WHO-5 well-being and modified indicators of positive mental health from the Mental Health Continuum–Short Form. Guided by multidimensional loneliness theory and the positive mental health framework, the study tested three hypotheses. First, emotional loneliness would be negatively associated with WHO-5 well-being and positive mental health indicators. Second, social loneliness would show weaker or more variable associations with well-being and positive mental health than emotional loneliness. Third, emotional and social loneliness would explain additional variance in well-being and positive mental health after controlling for demographic and lockdown-related variables.

Method

Research Design

The present study used a quantitative, cross-sectional design based on archival lockdown-period survey data collected in Pakistan during the COVID-19 pandemic. The study examined whether emotional loneliness and social loneliness were differentially associated with subjective well-being and positive mental health during a period of restricted social contact. Because all variables were measured at a single time point, the findings were interpreted as associations and statistical prediction rather than causal effects.

Participants

A total of 413 participants were included in the final sample. Participants ranged in age from 18 to 80 years (M = 28.11, SD = 8.40). The sample included 185 males (44.8%) and 228 females (55.2%). Regarding family structure, 200 participants (48.4%) belonged to a joint family system, while 213 participants (51.6%) belonged to a nuclear family system. 191 participants reported self-isolation during lockdown (46.2%) and 353 participants (85.7%) maintained social distancing. The majority of participants (n = 376, 91.0%) perceived lockdown as a useful strategy to reduce coronavirus (COVID-19) transmission and 280 participants (67.8%) thought that the pandemic would end soon.

Measures

Emotional and Social Loneliness

Loneliness was assessed using the 6-item De Jong Gierveld Loneliness Scale, which measures loneliness through emotional and social loneliness dimensions (de Jong Gierveld & van Tilburg, 2006). Emotional loneliness reflects the perceived absence of close emotional attachment, whereas social loneliness reflects perceived deficits in the broader social network. The scale includes three emotional loneliness items and three social loneliness items. Items were rated on a 5-point response scale ranging from 0 to 4. Emotional loneliness items were scored directly. The three positively worded social connection items were reverse-coded so that higher scores indicated greater social loneliness. Emotional loneliness and social loneliness scores each ranged from 0 to 12, and total loneliness scores

ranged from 0 to 24. In the present study, Cronbach's alpha was .670 for emotional loneliness, .835 for social loneliness, and .692 for total loneliness.

WHO-5 Well-Being Index

Subjective well-being was assessed using the 5-item WHO-5 Well-Being Index. The WHO-5 is a brief measure of positive subjective well-being and has been widely used as an indicator of psychological well-being and poor well-being risk (Topp et al., 2015). Participants rated how frequently they experienced positive well-being indicators. Responses were scored from 0 to 5, with higher scores indicating greater well-being. Total scores were computed by summing the five items, with possible scores ranging from 0 to 25. In the present study, the WHO-5 showed excellent internal consistency ($\alpha = .884$).

Mental Health Continuum–Short Form

Positive mental health was assessed using the Mental Health Continuum–Short Form (MHC-SF), a 14-item measure of emotional, social, and psychological well-being (Keyes, 2009). The original MHC-SF uses a 6-point frequency response format ranging from 0 = never to 5 = every day. In the present archival dataset, however, the items were administered in a dichotomous yes/no response format, as reported in the source study from which the measure was taken. Therefore, MHC-SF scores in the present study were interpreted as endorsed indicators of positive mental health rather than standard frequency-based MHC-SF scores.

Demographic and Lockdown-Related Variables

Participants reported age, gender, self-rated health, family structure, self-isolation, social distancing, whether they went outside during lockdown, whether they perceived lockdown as a useful strategy to reduce coronavirus spread, and whether they expected the pandemic to end soon. Age, gender, self-rated health, family structure, self-isolation, social distancing, and going out during lockdown were included as covariates in the hierarchical regression analyses.

Procedure

The study used archival survey data collected during the lockdown period in Pakistan. Participants completed a self-report questionnaire that included demographic information, lockdown-related questions, the 6-item loneliness scale, the WHO-5 Well-Being Index, and the modified MHC-SF. Participation was voluntary, and responses were treated confidentially. Before analysis, the dataset was reviewed and rescored to ensure consistency between item coding and the conceptual direction of each measure. In particular, the social loneliness items were reverse-coded so that higher scores represented greater social loneliness.

Data Screening and Scoring

The dataset was screened before analysis. Scale scores were computed after checking item coding and expected score ranges. WHO-5 items were scored from 0 to 5 and summed to create a total well-being score. MHC-SF items were coded dichotomously and summed to create emotional, social, psychological, and total positive mental health scores. Loneliness items were scored so that higher scores reflected greater loneliness. Emotional loneliness was computed from the three negatively worded loneliness items, while social loneliness was computed from the three reverse-coded social connection items. Total loneliness was computed by summing emotional and social loneliness. Internal consistency was estimated for all scales and subscales before conducting the main analyses.

Data Analysis

Data were analyzed using IBM SPSS Statistics. Descriptive statistics were computed for demographic

, lockdown-related, and main study variables. Cronbach's alpha was used to estimate internal consistency for all scales and subscales. Pearson product–moment correlations were used to examine bivariate associations among emotional loneliness, social loneliness, WHO-5 well-being, and MHC-SF outcomes. Hierarchical multiple regression analyses were then conducted to examine whether emotional and social loneliness predicted well-being and positive mental health after controlling for demographic and lockdown-related variables. In Block 1, age, gender, self-rated health, family structure, self-isolation, social distancing, and going out during lockdown were entered as covariates. In Block 2, emotional loneliness and social loneliness were entered as focal predictors. Separate models were tested for WHO-5 well-being, MHC emotional well-being, MHC social well-being, MHC psychological well-being, and MHC total positive mental health. A supplementary model entered total loneliness as a single predictor of WHO-5 well-being and MHC total scores to compare the explanatory value of the total and dimensional loneliness approaches.

Results

Participant Characteristics

The final sample consisted of 413 participants. Participants ranged in age from 18 to 80 years (M = 28.11, SD = 8.40). The sample included 185 males (44.8%) and 228 females (55.2%). Almost half of the participants belonged to joint family systems (48.4%), whereas 51.6% belonged to nuclear family systems. During lockdown, 46.2% of participants reported self-isolation, 85.7% reported maintaining social distancing, and 71.4% reported going outside after lockdown began. Most participants perceived lockdown as a useful strategy to reduce the spread of coronavirus (91.0%), and 67.8% believed that the pandemic would end soon.

Table 1

Demographic and Lockdown-Related Characteristics of Participants

Variable	Category / Statistic	*n*	%
Age	M = 28.11, SD = 8.40, range = 18–80	413	—
Gender	Male	185	44.8
	Female	228	55.2
Health condition	Poor / very low	7	1.7
	Fair	58	14.1
	Good	179	43.4
	Very good	108	26.2
	Excellent	60	14.6
Family structure	Joint	200	48.4
	Nuclear	213	51.6
Self-isolation	No	222	53.8
	Yes	191	46.2
Social distancing	No	59	14.3
	Yes	353	85.7
Went out during lockdown	No	118	28.6
	Yes	295	71.4

Variable	Category / Statistic	*n*	%
Lockdown perceived as useful	No	37	9.0
	Yes	376	91.0
Pandemic expected to end soon	No	133	32.2
	Yes	280	67.8

Note. Percentages for health condition and social distancing are based on valid responses because each variable had one missing value. Age is reported as mean, standard deviation, and range.

The demographic profile indicates that the sample included both male and female adults, with a slightly larger proportion of female participants. Most participants reported favorable health, maintained social distancing, and perceived lockdown as a useful public health measure. These characteristics provide context for interpreting loneliness and well-being during the lockdown period. Internal consistency was acceptable to good for most study measures. The WHO-5 Well-Being Index demonstrated strong reliability, and the modified MHC-SF total score showed good reliability. The MHC emotional and psychological well-being subscales showed acceptable reliability, whereas the MHC social well-being subscale showed modest reliability and was therefore interpreted cautiously. Emotional loneliness showed modest internal consistency, while social loneliness demonstrated good internal consistency. Descriptive statistics showed that all scale scores were within their expected ranges.

Table 2

Reliability and Descriptive Statistics for Study Variables

Variable	Items	Possible range	Observed range	*M*	*SD*	α
Emotional loneliness	3	0–12	0–12	4.66	2.73	.670
Social loneliness	3	0–12	0–12	5.74	3.38	.835
Total loneliness	6	0–24	0–24	10.40	4.66	.692
WHO-5 well-being	5	0–25	0–25	15.56	5.83	.884
MHC emotional well-being	3	0–3	0–3	1.97	1.16	.752
MHC social well-being	5	0–5	0–5	3.16	1.50	.615
MHC psychological well-being	6	0–6	0–6	4.76	1.58	.731
MHC total	14	0–14	0–14	9.88	3.35	.809

Note. MHC-SF = Mental Health Continuum–Short Form. The MHC-SF was administered in a dichotomous yes/no response format in the present dataset, although the original scale uses a 6-point frequency response format. Therefore, MHC-SF scores are interpreted as endorsed indicators of positive mental health rather than standard frequency-based MHC-SF scores.

The reliability findings were adequate for examining emotional and social loneliness as separate dimensions. Social loneliness showed stronger internal consistency than emotional loneliness, while total loneliness showed acceptable but comparatively weaker reliability. This pattern supported the decision to examine emotional and social loneliness separately rather than relying only on a total loneliness score.

Pearson correlation analyses were conducted to examine associations among loneliness, WHO-5 well-being, and modified MHC-SF domains. Emotional loneliness was consistently and negatively associated with WHO-5 well-being and all MHC-SF outcomes. In contrast, social loneliness showed a weaker and mixed pattern of associations. It was weakly negatively associated with WHO-5 well-

being, non-significantly associated with MHC social well-being, and weakly positively associated with MHC emotional well-being, MHC psychological well-being, and MHC total scores.

Table 3

Correlations Among Loneliness, Well-Being, and Positive Mental Health Variables

Variable	1	2	3	4	5	6	7
1. Emotional loneliness	—						
2. Social loneliness	.154**	—					
3. WHO-5 well-being	-.504***	-.100*	—				
4. MHC emotional well-being	-.400***	.116*	.472***	—			
5. MHC social well-being	-.377***	.031	.385***	.374***	—		
6. MHC psychological well-being	-.306***	.123*	.289***	.473***	.441***	—	
7. MHC total	-.452***	.112*	.472***	.737***	.786***	.833***	—

Note. $N = 413$. $p < .05$. **p** < .01. ***p*** < .001.

The correlation pattern showed that emotional loneliness was the more consistent loneliness dimension associated with poorer well-being and lower positive mental health. The strongest association was between emotional loneliness and WHO-5 well-being, followed by emotional loneliness and MHC total. Social loneliness showed a comparatively weak and inconsistent pattern, suggesting that emotional and social loneliness were not interchangeable in this lockdown-period sample.

Hierarchical regression analyses were conducted to examine whether emotional and social loneliness predicted WHO-5 well-being and modified MHC-SF outcomes after controlling for demographic and lockdown-related variables. Age, gender, self-rated health, family structure, self-isolation, social distancing, and going out during lockdown were entered in Block 1. Emotional loneliness and social loneliness were entered in Block 2.

Table 4

Hierarchical Regression Models Predicting Well-Being and Positive Mental Health From Emotional and Social Loneliness

Outcome	Final R^2	ΔR^2 for loneliness block	Predictor	*B*	*SE B*	β	95% CI for *B*	*p*
WHO-5 well-being	.326	.217	Emotional loneliness	-0.973	0.090	-.460	[-1.149, 0.797]	< .001
			Social loneliness	-0.100	0.074	-.058	[-0.247, 0.046]	.180
MHC emotional well-being	.280	.143	Emotional loneliness	-0.163	0.019	-.387	[-0.200, 0.127]	< .001
			Social loneliness	0.043	0.015	.126	[0.013, 0.073]	.005
MHC social well-being	.178	.138	Emotional loneliness	-0.210	0.026	-.382	[-0.261, 0.159]	< .001
			Social loneliness	0.047	0.021	.107	[0.005, 0.090]	.027

Outcome	Final R^2	ΔR^2 for loneliness block	Predictor	*B*	*SE B*	β	95% CI for *B*	*p*
MHC psychological well-being	.183	.094	Emotional loneliness	-0.177	0.027	-.306	[-0.230, 0.124]	< .001
			Social loneliness	0.065	0.022	.139	[0.021, 0.109]	.004
MHC total	.289	.194	Emotional loneliness	-0.551	0.053	-.449	[-0.656, 0.446]	< .001
			Social loneliness	0.156	0.044	.157	[0.069, 0.243]	< .001

Note. $N = 411$ for controlled regression models due to missing values in covariates. Block 1 included age, gender, self-rated health, family structure, self-isolation, social distancing, and going out during lockdown. Block 2 included emotional loneliness and social loneliness. CI = confidence interval; MHC = Mental Health Continuum.

The hierarchical regression models showed that loneliness explained additional variance in all outcomes beyond demographic and lockdown-related variables. The loneliness block explained an additional 21.7% of the variance in WHO-5 well-being, 14.3% in MHC emotional well-being, 13.8% in MHC social well-being, 9.4% in MHC psychological well-being, and 19.4% in MHC total scores. Emotional loneliness was a significant negative predictor across all outcomes, indicating that higher emotional loneliness was associated with lower well-being and lower positive mental health. Social loneliness did not significantly predict WHO-5 well-being after covariates were controlled, but it showed small positive associations with the modified MHC-SF domains and total score. This pattern indicates that, after accounting for emotional loneliness, social loneliness had a weaker and more complex relationship with positive mental health indicators.

As a supplementary robustness check, total loneliness was entered as a single predictor of WHO-5 well-being and MHC total scores. Total loneliness significantly predicted lower WHO-5 well-being, $\beta = -.368$, $p < .001$, $R^2 = .135$, and lower MHC total scores, $\beta = -.183$, $p < .001$, $R^2 = .034$. However, these models explained less variance than the models separating emotional and social loneliness, these findings indicated that the dimensional model provided greater explanatory value than the total loneliness model. Overall, the findings indicate that emotional loneliness was the more consistent loneliness-related predictor of reduced well-being and positive mental health during lockdown. Social loneliness showed weaker and more complex associations, suggesting that the emotional absence of close interpersonal connection may have been more consistently associated with psychological functioning during lockdown than perceived deficits in broader social networks.

Discussion

The present study examined whether emotional and social loneliness were differentially associated with subjective well-being and positive mental health during lockdown in Pakistan. The findings supported the value of distinguishing loneliness dimensions rather than relying only on a total loneliness score. Emotional loneliness showed a consistent negative association with WHO-5 well-being and all modified MHC-SF indicators, whereas social loneliness showed weaker and more complex associations. This pattern is consistent with multidimensional loneliness theory, which distinguishes emotional loneliness as the perceived absence of close, emotionally meaningful attachment and social loneliness as perceived deficits in broader social networks or companionship (de Jong Gierveld & van Tilburg, 2006; Weiss, 1973).

The most robust finding was the consistent negative association between emotional loneliness and positive psychological functioning. Emotional loneliness was negatively correlated with WHO-5 well-being, MHC emotional well-being, MHC social well-being, MHC psychological well-being, and MHC total scores. It also remained a significant negative predictor of all outcomes after controlling for demographic and lockdown-related variables. This finding is theoretically meaningful because emotional loneliness reflects unmet needs for closeness, intimacy, and emotionally meaningful connection, which are central to perceived belonging and relational security (Hawkley & Cacioppo, 2010; Weiss, 1973). Pandemic-period evidence also suggests that emotional loneliness may be particularly sensitive to disruptions in confidant relationships and close emotional contact (Lampraki et al., 2022; Poštuvan et al., 2024). The present findings extend this literature by showing that emotional loneliness was consistently linked with lower positive mental health indicators in a Pakistani lockdown-period sample.

The results are also consistent with broader COVID-19 literature showing that loneliness was associated with poorer well-being during the pandemic. Systematic review evidence indicates that loneliness during COVID-19 was generally linked with lower subjective well-being, although findings varied across designs, samples, and measures (Buecker & Horstmann, 2021; Castelletti et al., 2024). Experience-sampling evidence from Austria similarly showed that loneliness was associated with poorer emotional well-being during lockdown conditions (Stieger et al., 2021). However, the present study adds a more specific dimensional finding: the negative association with well-being and positive mental health was primarily driven by emotional loneliness rather than social loneliness. This suggests that global loneliness scores may obscure important differences between loneliness dimensions.

The pattern for social loneliness was weaker and less straightforward. At the bivariate level, social loneliness was weakly negatively associated with WHO-5 well-being, unrelated to MHC social well-being, and weakly positively associated with MHC emotional well-being, MHC psychological well-being, and MHC total scores. Social loneliness was not significantly associated with WHO-5 well-being in the controlled regression models, but instead had small positive associations with the modified MHC-SF domains when emotional loneliness and the covariates were added to the models. The results are not interpreted as evidence that social loneliness is beneficial. A reasonable alternative explanation is that the positive coefficients may be a "residual" or "suppression" effect once the common variance due to emotional loneliness was accounted for. Emotional and social loneliness were positively associated but their associations with well-being outcomes differed, suggesting that residual variance in social loneliness may have reflected limited broader social contact rather than emotionally painful disconnection from others.

This interpretation is consistent with evidence that loneliness dimensions may diverge during periods of physical distancing. Landmann and Rohmann (2022) argued that emotional, social, and physical loneliness may “drift apart” under lockdown conditions, and found that these dimensions showed distinct associations with stress and well-being. Lampraki et al. (2022) similarly found that emotional loneliness increased over time during the pandemic, whereas social loneliness remained relatively stable; they also showed that emotional loneliness was more closely linked with loss of confidant relationships, while social loneliness was more closely linked with broader reductions in interaction and practical support contacts. Poštuvan et al. (2024) also reported pandemic-period change in emotional loneliness but not social loneliness. The present findings are consistent with this literature by suggesting that emotional and social loneliness were not interchangeable predictors of well-being during lockdown.

The cultural and household context of Pakistan may also be relevant to understanding the comparatively weaker role of social loneliness. In Pakistan’s family-oriented social context, household structure and family relationships may shape how social restriction is experienced (Hussein, 2022; Khan et al., 2021). Nearly half of the present sample belonged to joint family systems, and many participants may have retained some household-based or family-based contact during lockdown. In

such a context, perceived deficits in broader social networks may not necessarily carry the same psychological meaning as the perceived absence of close emotional connection. This interpretation is consistent with evidence that functional aspects of relationships, such as satisfaction with communication and perceived support, may be more relevant to well-being than structural contact indicators alone (Macdonald & Hülür, 2021). Thus, the present findings suggest that emotionally meaningful connection may be especially important for positive mental health during periods of restricted mobility.

The supplementary robustness checks further supported the dimensional approach. Total loneliness significantly predicted lower WHO-5 well-being and lower MHC total scores, but the total loneliness models explained less variance than the models separating emotional and social loneliness. This finding is consistent with the De Jong Gierveld loneliness framework, which allows loneliness to be examined both as a total construct and through emotional and social subscales depending on the research question (de Jong Gierveld & van Tilburg, 2006). In the present study, the dimensional approach was more informative because the total loneliness score masked the distinct patterns shown by emotional and social loneliness. This is also consistent with pandemic-period evidence suggesting that different loneliness dimensions may show distinct trajectories, predictors, and well-being associations (Lampraki et al., 2022; Landmann & Rohmann, 2022; Poštuvan et al., 2024).

The findings have implications for mental health promotion during lockdown-like or socially restrictive conditions. Interventions that focus only on increasing the number of social contacts may be insufficient if emotionally meaningful connection remains absent. Research on loneliness and social relationships suggests that perceived support, relationship quality, and meaningful communication are important for well-being (Hawkley & Cacioppo, 2010; Macdonald & Hülür, 2021). In emergency or public health restriction contexts, psychological support may therefore benefit from strengthening emotionally supportive relationships, trusted confidant contact, and opportunities for meaningful interpersonal communication. This may be particularly relevant in family-oriented contexts, where social embeddedness may coexist with unmet emotional needs.

The study also contributes to positive mental health research by examining well-being indicators rather than focusing only on distress. Much pandemic-related psychological research has emphasized depression, anxiety, stress, and psychiatric symptoms, whereas the present study examined WHO-5 well-being and modified MHC-SF indicators. Positive mental health refers not only to the absence of distress but also to the presence of emotional, social, and psychological well-being (Keyes, 2009; Topp et al., 2015). The finding that emotional loneliness was negatively associated with all positive mental health indicators suggests that emotionally meaningful connection may be relevant not only for reducing distress but also for sustaining positive functioning, vitality, and well-being during socially restrictive conditions.

Several limitations should be acknowledged. First, the study was cross-sectional; therefore, causal conclusions cannot be drawn. Although emotional loneliness statistically predicted lower well-being and positive mental health in regression models, the direction of association cannot be established. Lower well-being may also increase perceptions of emotional disconnection, or both may be influenced by unmeasured factors. Second, the study used archival lockdown-period data, which provides historically meaningful evidence but limited control over the original measurement design. Third, the MHC-SF was administered in a dichotomous yes/no response format rather than the original 6-point frequency response format. Although this format was used in the source study from which the measure was taken, it limits direct comparison with studies using the standard MHC-SF scoring procedure. Therefore, MHC-SF findings should be interpreted as endorsed indicators of positive mental health rather than standard frequency-based MHC-SF scores. Fourth, the MHC social well-being subscale showed modest internal consistency, so findings for this domain should be interpreted cautiously. Fifth, the sample was not nationally representative of Pakistan, and findings should not be generalized to the wider population without replication.

Future research should examine emotional and social loneliness longitudinally in Pakistani and South Asian contexts to clarify temporal ordering between loneliness dimensions and well-being. Studies using the standard MHC-SF response format would allow stronger comparison with existing positive mental health literature. Future research should also include measures of family support, household relationship quality, perceived emotional support, digital communication, and physical loneliness. These variables would help clarify whether the association between social loneliness and well-being differs according to emotional support, family context, or availability of in-person contact. Examining physical loneliness may be especially useful because COVID-19 restrictions limited physical presence and touch while still allowing some remote forms of communication (Landmann & Rohmann, 2022).

In conclusion, emotional and social loneliness were not equivalent correlates of positive mental health and well-being during lockdown in Pakistan. Emotional loneliness emerged as the more consistent negative predictor across WHO-5 well-being and modified MHC-SF indicators. Social loneliness showed weaker and context-dependent associations, including small positive associations with MHC-SF indicators after emotional loneliness was controlled. These findings support a dimensional approach to loneliness and suggest that the perceived absence of emotionally meaningful connection may be particularly relevant to positive mental health during periods of social restriction.

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