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The Multidimensional Structure of Social Connectedness and Its Associations with Wellbeing and Quality of Life

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Abstract

Social connectedness has been conceptualised in diverse ways across the psychological and social sciences, with relationship quality, family support, trust, neighbourhood cohesion, and loneliness often examined separately. The present study examined whether these experiences represent distinct social phenomena or manifestations of a broader underlying social connectedness construct. Data were drawn from 41,242 participants from the United Kingdom Household Longitudinal Study. Confirmatory factor analyses compared competing representations of social connectedness, followed by structural equation modelling to examine associations with psychological wellbeing outcomes.

Results indicated that a three-factor model comprising relational connectedness, community connectedness, and subjective disconnectedness provided the best balance of fit and theoretical parsimony. These dimensions were strongly interrelated and were adequately represented by a higher-order social connectedness factor, consistent with a hierarchical conceptualisation of the construct. The higher-order factor was strongly associated with lower psychological distress and higher life satisfaction, mental wellbeing, and mental health-related quality of life, accounting for 56% to 63% of the variance in psychological wellbeing outcomes. Associations with physical health-related quality of life were comparatively modest. Correlated-factors analyses indicated that community connectedness was most strongly associated with life satisfaction and mental health-related quality of life, whereas subjective disconnectedness was most strongly associated with psychological distress.

These findings suggest that social connectedness may be usefully understood as a multidimensional but integrated psychological construct, linking relational, community, and subjective dimensions within a unified framework.

Clinical Trial Number

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Introduction

Quality of life is shaped not only by individuals' material and health circumstances, but also by the relationships, communities, and social environments in which they are embedded. Social connection has been associated with life satisfaction, psychological wellbeing, and health-related quality of life, yet the relevant evidence is distributed across largely separate literatures on relationship quality, family support, neighbourhood cohesion, trust, and loneliness. Research and policy therefore often target these experiences separately, making it unclear whether interventions and quality-of-life assessments should treat them as distinct targets or as dimensions of an integrated social resource.

Humans are inherently social beings whose survival and wellbeing have historically depended upon their ability to form and maintain relationships with others (Baumeister & Leary, 1995). Consequently, social connection has long been considered a fundamental human need (Williams, 2009; Baumeister & Leary, 1995). Supporting this proposition, research on ostracism (i.e., the denial of social connection) has demonstrated that social exclusion is associated with psychological distress and activation of neural systems involved in the experience of pain (Eisenberger, et al., 2003; Eisenberger, 2012). Similarly, Williams' Temporal Needs Threat Model (Williams, 2009) proposed that experiences of exclusion threaten fundamental psychological needs including belonging, self-esteem, control, and meaningful existence. Collectively, these findings suggest that social relationships are not merely desirable but constitute an important psychological resource.

Social Connectedness

Social connectedness broadly refers to the extent to which individuals feel connected to the people, groups, and communities around them (Lee & Robbins, 1995; Haslam et al., 2018) and has been more recently been described as an umbrella construct encompassing the structure, function, and quality of social relationships (Holt-Lunstad, 2022). Although the construct is widely recognised, it has been operationalised in a variety of ways. Early attempts focused on the subjective experience of interpersonal closeness and belonging, most notably through Lee and Robbins' (1995) Social Connectedness Scale. However, related constructs have also emerged across several adjacent literatures.

Within the social support literature, researchers have focused on the emotional, practical, and informational resources available through interpersonal relationships (Cohen & Wills, 1985; Uchino, 2009). Social capital researchers have instead emphasised broader social resources such as trust, reciprocity, and participation within communities (Coleman, 1988; Putnam, 2000). Similarly, neighbourhood and community researchers have examined concepts such as neighbourhood cohesion, sense of community, and local belonging (Buckner, 1988; McMillan & Chavis, 1986). In contrast, loneliness research has focused on the subjective experience that arises when social relationships are perceived as insufficient in either quantity or quality (Perlman & Peplau, 1981; Hawkley & Cacioppo, 2010, Lim et al., 2020). Although these literatures differ in emphasis, they each seek to characterise how individuals are embedded within their social environments. Social support, social capital, and community cohesion primarily describe relational and social resources, whereas loneliness captures the subjective experience of insufficient social connection. While loneliness is not itself a social resource, it reflects an individual's perceived level of social connectedness and may therefore be considered alongside these constructs as part of a broader conceptualisation of social connectedness.

Several theoretical perspectives suggest that these apparently distinct constructs may reflect a broader underlying resource. Belongingness theory proposes that humans possess a fundamental need to form and maintain meaningful social bonds (Baumeister & Leary, 1995), while social support theory emphasises the protective effects of supportive relationships during periods of stress (Cohen & Wills, 1985). At a broader level, social capital theory highlights the benefits of trust, reciprocity, and community integration (Putnam, 2000), while the social identity approach emphasises the psychological benefits associated with group membership and social belonging (Haslam et al., 2009). Despite differences in emphasis, these perspectives converge on the proposition that individuals derive important psychological resources from their relationships and social environments. Consequently, family support, relationship quality, neighbourhood cohesion, trust, and loneliness may represent manifestations of a broader higher-order social connectedness construct.

Despite this shared focus, social connectedness has not been measured consistently. Some studies conceptualise social connectedness as an individual psychological experience (Lee & Robbins, 1995), others as a property of social networks (Berkman et al., 2000) or communities (Putnam, 2000; Sampson et al., 1997), while others infer connectedness indirectly through indicators such as social support, trust, relationship quality, or loneliness. This has produced a fragmented literature in which closely related constructs are often examined separately. Consequently, while previous research has established the importance of family support, relationship quality, neighbourhood cohesion, trust, and loneliness, relatively little is known about whether these variables represent distinct dimensions of social experience or manifestations of a broader underlying social connectedness construct.

Social Connectedness and Wellbeing

Social factors are increasingly recognised as important contributors to population health and wellbeing (Hood et al., 2016). Individuals reporting greater social support tend to experience lower levels of psychological distress and greater life satisfaction (Cohen & Wills, 1985; Uchino, 2009). Similarly, relationship quality has consistently been associated with improved wellbeing and mental health (Umberson & Montez, 2010), while neighbourhood cohesion and social trust have been linked to greater subjective wellbeing and community functioning (Helliwell & Putnam, 2004; Stafford et al., 2008). Loneliness is associated with depression, poorer psychological health, and reduced wellbeing (Hawkley & Cacioppo, 2010), and has also been associated with increased risk of premature mortality (Holt-Lunstad et al., 2015). Collectively, these findings suggest that social connectedness may represent an important correlate of psychological wellbeing.

However, much of this research has focused on individual components of social connectedness in isolation. Consequently, it remains unclear whether the observed associations reflect the influence of distinct social resources or a broader underlying connectedness construct. Addressing this limitation is important because individuals do not experience family relationships, trust, community integration, and loneliness as isolated phenomena. Rather, these experiences collectively shape an individual's overall sense of social integration and belonging.

The Present Study

The present study addresses this limitation using data from Understanding Society, a large household panel study of adults living in the United Kingdom. The study examined whether diverse relational, community, and subjective indicators could be integrated into a multidimensional social connectedness framework, and whether this framework clarified their shared and distinctive associations with psychological wellbeing and health-related quality of life. Unlike traditional measures such as the Social Connectedness Scale, which assess perceived connectedness directly, the present study integrates indicators drawn from several social literatures to examine social connectedness as a potential population-level resource for quality of life.

To establish the structure of this framework, we compared a series of competing measurement models specified a priori on theoretical grounds. These included a unidimensional model, a two-factor model separating subjective from broader interpersonal connectedness, and multidimensional models distinguishing relational connectedness, community connectedness, and subjective disconnectedness. The model demonstrating the strongest balance of empirical fit and theoretical interpretability was retained for subsequent analyses.

We then examined whether a broad social connectedness factor provided a parsimonious representation of associations with psychological distress, life satisfaction, mental wellbeing, and mental and physical health-related quality of life. In parallel, the lower-order dimensions were examined to determine whether relational, community, and subjective experiences showed distinctive associations with particular quality-of-life outcomes. This combination of analyses allowed us to evaluate both the utility of an integrated social connectedness construct for population wellbeing research and the practical value of retaining its constituent dimensions.

It was hypothesised that: (1) indicators of family support, relationship quality, neighbourhood cohesion, trust, and loneliness would demonstrate shared variance consistent with a multidimensional social connectedness framework; (2) the relationships among relational, community, and subjective dimensions would be compatible with a higher-order representation; and (3) higher social connectedness would be associated with lower psychological distress and higher life satisfaction, mental wellbeing, and health-related quality of life.

Methods

Data availability

The data used in this study were obtained from Understanding Society: The UK Household Longitudinal Study and are available to registered researchers through the UK Data Service, subject to the applicable end-user licence conditions. The authors are not permitted to redistribute the participant-level data. Complete analysis syntax, model specifications, and variable-derivation information are provided in the supplementary materials accompanying this article.

Participants

Data were drawn from Understanding Society: The UK Household Longitudinal Study (University of Essex, Institute for Social and Economic Research, 2025). This is a longitudinal household panel survey of individuals living in the United Kingdom and collects information on a broad range of demographic, socioeconomic, health, psychological, and social variables through annual interviews and self-completion questionnaires. Informed consent was obtained prior to data collection taking place (further information on the survey and its consent procedures can be found at https://www.understandingsociety.ac.uk/).

The present study utilised data primarily from Waves L, M, and N of Understanding Society. Variables were selected to capture multiple theoretically relevant dimensions of social connectedness. Specifically, neighbourhood cohesion was obtained from Wave L, relationship quality was obtained from Wave M, and generalised trust was obtained from Wave N. Measures of loneliness, family support and psychological wellbeing were available across multiple waves and were aggregated across Waves L–N to provide more stable person-level estimates. Scores were calculated as the mean of available observations across waves.

This approach was adopted because the indicators required to operationalise social connectedness were not administered within a single survey wave. Rather than restricting analyses to a single wave and omitting important dimensions of social connectedness, data from consecutive waves were combined to create person-level indicators reflecting relatively stable aspects of individuals' social functioning. This approach is consistent with recommendations that repeated observations may be used to derive more reliable estimates of relatively stable person-level characteristics by reducing occasion-specific measurement error (Little, 2013).

Participants were retained only if they provided data on at least one social connectedness indicator, resulting in a final analytic sample of 41,242 participants. Of these, 44.5% were male and 55.5% were female; sex was missing or not reported for 15 participants. Participants reported a mean year of birth of 1971.54 (SD = 19.21), corresponding to an approximate mean age of 51 years at the end of the study period. A table covering variable coverage is presented in supplementary materials.

Because Understanding Society administers different questionnaires to different participant groups and survey waves, no participant contributed data to every indicator. Consequently, models were estimated using Full Information Maximum Likelihood, which utilises all available information for each parameter estimate rather than requiring complete cases. Accordingly, each covariance and factor loading was estimated using all participants who contributed relevant information for the variables involved, rather than only respondents with complete data on every indicator.

Although Understanding Society is a longitudinal panel study, the indicators required to operationalise the proposed social connectedness construct were not administered repeatedly in equivalent form. Relationship quality was assessed in Wave M, neighbourhood cohesion in Wave L, and generalised trust in Wave N, while loneliness and several wellbeing indicators were available across multiple waves. Consequently, the complete measurement model could not be estimated at multiple comparable occasions. The present analysis therefore used adjacent waves to construct person-level indicators for the purpose of examining the structure and concurrent nomological validity of social connectedness, rather than modelling temporal or causal relationships.

Measures

Variable selection was guided by contemporary multidimensional models of social connection. Holt-Lunstad (2022) conceptualises social connection as an umbrella construct encompassing structural, functional, and quality-based dimensions of social relationships. Accordingly, relationship satisfaction and cohesion were selected as indicators of relationship quality, family support as an indicator of functional support, neighbourhood cohesion and generalised trust as indicators of broader community and social capital, and loneliness indicators as markers of subjective social disconnection.

Relationship Quality

Relationship quality was measured using two derived subscales from the Revised Dyadic Adjustment Scale (RDAS; Busby et al., 1995): Relationship Satisfaction (*scdassat_dv*) and Relationship Cohesion (*scdascoh_dv*). The RDAS is a widely used measure of relationship functioning designed to assess the quality and stability of intimate relationships.

The satisfaction subscale assessed respondents' overall satisfaction with their relationship, including the extent to which they have considered separation, regret entering the relationship, or experience conflict within the partnership. In contrast, the cohesion subscale assesses the degree of shared activities, discussion, and engagement between partners. Sample items include *"How often do you and your partner calmly discuss something?"* and *"Do you ever regret that you entered into this relationship?"* Scores on both subscales were calculated according to Understanding Society derivation procedures, with higher scores indicating greater relationship satisfaction and relationship cohesion respectively. Previous research has demonstrated that the RDAS possesses good reliability and validity and is highly correlated with the original Dyadic Adjustment Scale while offering improved efficiency in large-scale survey research (Busby et al., 1995).

Neighbourhood Cohesion

Neighbourhood cohesion was assessed using the derived Understanding Society measure (*nbrsnci_dv*), adapted from Buckner's (1988) Neighbourhood Cohesion Instrument. This scale captures perceptions of neighbourhood belonging, neighbouring behaviour, and psychological sense of community. Scores range from 1 to 5, with higher scores indicating stronger neighbourhood cohesion and greater integration within the local community.

Family Support

This variable captured the extent to which an individual was able to draw upon the support of those they lived with. It was only administered to participants aged 16–21 years old and were still living at home with their parents. It was framed through the following question. *"Do you feel supported by your family, that is the people who live with you?"*. Responses ranged from 1 *(I feel supported by my family in most or all of the things I do)* to 3 (*I do not feel supported by my family in the things I do).* Higher scores indicated lower perceived family support.

Family support was retained because it provided an indicator of supportive close relationships outside the romantic partnership domain. Its inclusion therefore reduced the risk that relational connectedness would be defined solely by two subscales derived from the same dyadic adjustment instrument. However, because the item was administered only to younger respondents living with parents, its contribution should be interpreted as a preliminary test of whether support across different close-relationship contexts shares common variance.

Trust

Generalised trust was measured using a single-item indicator of interpersonal trust included within Understanding Society (*scgentrust*). Participants were asked, *"On a scale from 0 to 10, where 0 is not at all and 10 is completely, in general how much do you trust most people?"* Responses were scored on an 11-point scale, with higher scores indicating greater trust in others. Measures of generalised trust have been widely used within the social capital literature and are considered important indicators of social cohesion, reciprocity, and willingness to engage with others within society (Putnam, 2000; Delhey & Newton, 2003).

As the measure was only available in Wave N, it was used as a person-level indicator of trust within the present study. This approach is consistent with previous research which has conceptualised generalised trust as a relatively stable social attitude rather than a transient psychological state (Uslaner, 2002; Delhey & Newton, 2003). Consequently, the measure was treated as reflecting an individual's broader orientation towards others and their social environment.

Loneliness

Loneliness was measured using the Government Statistical Service (GSS) harmonised loneliness measure, a four-item scale developed to assess subjective experiences of social disconnection and isolation. The measure comprises four items assessing feelings of loneliness (*sclonely*), lack of companionship (*sclackcom*), feeling left out (*scleftout*), and feeling isolated from others (*scisolate*).

Participants were asked to indicate how often they experienced each feeling, with higher scores reflecting greater loneliness. Example items include *"How often do you feel left out?"* and *"How often do you feel isolated from others?"* The measure was developed by the UK Office for National Statistics and is based on the short-form UCLA Loneliness Scale, which has demonstrated good reliability and validity across a range of populations (Russell, 1996; Office for National Statistics, 2018). For the primary analyses, the four loneliness indicators were retained as separate observed indicators of a latent subjective connectedness factor. Higher scores reflected greater loneliness.

General Psychological Distress

Psychological distress was assessed using the General Health Questionnaire-12 (GHQ-12; Goldberg, 1972; Goldberg & Williams, 1988) (*scghq1_dv*). The GHQ-12 is a widely used screening measure designed to assess symptoms of psychological distress and minor psychiatric morbidity within community populations. Participants responded to twelve items assessing recent experiences of anxiety, depression, social dysfunction, and loss of confidence. Scores ranged from 0 to 36, with higher scores indicating greater psychological distress. The GHQ-12 has demonstrated good reliability and validity across a wide range of populations and has been extensively used in epidemiological and social survey research.

Mental Wellbeing

Mental wellbeing was assessed using the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS; Stewart-Brown et al., 2009) (*swemwbs_dv*). The SWEMWBS is a seven-item measure designed to assess positive aspects of mental health, including psychological functioning, optimism, and interpersonal relationships. Participants indicated how often they had experienced each statement over the previous two weeks. Scores ranged from 7 to 35, with higher scores indicating greater mental wellbeing. The SWEMWBS has demonstrated good psychometric properties and strong convergent validity with other measures of psychological wellbeing (Stewart-Brown et al., 2009; Ng Fat et al., 2017).

Life Satisfaction

Overall life satisfaction was assessed using the Understanding Society life satisfaction item (*sclfsato*). Participants were asked *"How dissatisfied or satisfied are you with your life overall?"* Responses were recorded on a seven-point scale ranging from 1 *(Completely dissatisfied)* to 7 *(Completely satisfied)*. Single-item measures of life satisfaction have been widely used in large-scale social surveys and demonstrate strong associations with multi-item measures of subjective wellbeing (Diener, Inglehart, & Tay, 2013).

Health-Related Quality of Life

Health-related quality of life was assessed using the 12-Item Short Form Health Survey (SF-12; Ware, Kosinski, & Keller, 1996). The SF-12 is a widely used measure of physical and mental health functioning derived from the longer SF-36 Health Survey. Two summary indices were included:

Mental Component Summary (SF-12 MCS)

The Mental Component Summary (*sf12mcs_dv*) assesses psychological wellbeing and mental functioning, including emotional wellbeing, vitality, and role limitations due to emotional difficulties. Scores range from 0 to 100, with higher scores indicating better mental health functioning.

Physical Component Summary (SF-12 PCS)

The Physical Component Summary (*sf12pcs_dv*) assesses physical health functioning, including physical limitations, bodily pain, and general health perceptions. Scores range from 0 to 100, with higher scores indicating better physical health functioning.

The SF-12 has demonstrated good reliability and validity and provides an efficient measure of health-related quality of life suitable for large-scale population studies (Ware et al., 1996).

Analyses

Analyses were conducted by estimating measurement models in jamovi 2.6 using the SEMLj module (The jamovi project, 2025; Gallucci & Jentschke, 2021). Descriptive statistics, bivariate correlations were computed for all study variables prior to model estimation. All variables except sex were treated as continuous and MLR was used as the estimator, with Full Information Maximum Likelihood (FIML) used to handle missing data. Scaled indices were reported throughout.

The primary aim of the study was to examine whether relationship quality, family support, neighbourhood cohesion, trust, and loneliness represent distinct social experiences or manifestations of a broader latent social connectedness construct. To address this question, a series of confirmatory factor analyses (CFAs) were conducted to compare competing models of social connectedness.

First, a unidimensional model was estimated in which all indicators loaded directly onto a single latent social connectedness factor. This model reflects the proposition that social connectedness is best understood as a single underlying construct.

Secondly multidimensional models, representing the concept that social connectedness consisted of numerous distinct but related concepts were estimated. Specifically, these were a two factor model consisting of a subjective connectedness factor (consisting of the 4 loneliness indicators) and an interpersonal connectedness factor (consisting of the relationships, family support, social cohesion and generalised trust indicators), a three-factor model consisting of a relational connectedness factor (consisting of relationship and family support variables), a community connectedness factor (consisting of social cohesion and generalised trust) and a subjective disconnectedness factor (consisting of the 4 loneliness indicators) and finally a 4 factor model where the community connectedness factor was split into a social cohesion and trust factor. Model fit was evaluated using multiple indices, including the chi-square statistic (χ^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardised Root Mean Square Residual (SRMR). Following the recommendations of Hu and Bentler (1999), values of CFI and TLI greater than .95, RMSEA values below .06, and SRMR values below .08 were considered indicative of acceptable model fit.

Following identification of the best-fitting measurement model, structural equation modelling (SEM) was used to examine the relationship between social connectedness and psychological wellbeing. The selected model will then be compared against a similar model which contains a higher order factor using the characteristics of these relationships to inform decisions. This model reflects the proposition that different forms of social connectedness represent distinct but related manifestations of a broader social resource. This approach is necessary because higher-order

models and their corresponding correlated-factors models are mathematically equivalent in this context and therefore produce identical global fit statistics, model fit alone cannot be used to determine whether a higher-order representation is preferable.

Results

Descriptive Statistics

Descriptive statistics for all study variables are presented in Table 1. Following the exclusion of respondents who provided no data on any social connectedness indicator, the analytic sample consisted of 41,242 participants. Descriptive statistics indicated moderate-to-favourable levels of wellbeing across outcomes. Mean GHQ-12 scores indicated relatively low levels of psychological distress (M = 11.93, SD = 5.37), while mean SWEMWBS scores (M = 24.31, SD = 4.90) were broadly consistent with population norms. Participants also reported relatively high levels of life satisfaction (M = 5.13, SD = 1.29), and average SF-12 mental (M = 47.06, SD = 10.29) and physical (M = 49.21, SD = 10.56) health scores were comparable to normative population estimates. Sample sizes varied across variables because of planned questionnaire routing and wave-specific measurement, with the family support measure available for a substantially smaller subset of respondents (n = 3,292). Consequently, correlations involving family support were estimated from fewer observations than those involving the remaining indicators and should therefore be interpreted with appropriate caution.

Pearson correlations among all study variables are also presented in Table 1. Consistent with expectations, indicators of relational, community, and subjective connectedness were significantly associated with one another. Relationship satisfaction and relationship cohesion demonstrated a moderate positive association (r = .403, p < .001), while neighbourhood cohesion and generalised trust were also positively correlated (r = .259, p < .001). Family support demonstrated modest associations with neighbourhood cohesion (r = − .244, p < .001) and generalised trust (r = − .288, p < .001). Indicators of loneliness were associated with lower relationship quality, lower neighbourhood cohesion, and lower trust, suggesting that individuals reporting stronger social ties and greater community integration also reported lower levels of loneliness.

The four loneliness indicators were strongly intercorrelated (rs = .693–.797, all ps < .001), providing preliminary support for their representation as a common latent construct. Similarly, relationship satisfaction and relationship cohesion demonstrated substantial covariance (r = .403, p < .001), supporting their inclusion as indicators of relational connectedness. Family support showed moderate associations with several indicators of subjective connectedness (rs = .264–.314, all ps < .001), although these relationships should be interpreted cautiously given the substantially smaller subsample available for the family support measure.

Greater loneliness was associated with poorer psychological wellbeing, including higher psychological distress, lower life satisfaction, lower mental wellbeing, and poorer mental health-related quality of life. Conversely, relationship quality, neighbourhood cohesion, and trust were positively associated with life satisfaction, mental wellbeing, and mental health functioning, and negatively associated with psychological distress. The strongest associations were observed between loneliness and mental health outcomes, particularly psychological distress (r = .564–.574) and mental health-related quality of life (r = − .578 to − .573), highlighting the close relationship between subjective connectedness and psychological wellbeing.

Table 1

Descriptive Statistics for Social Connectedness Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Relational Connectedness																
1. Relationship Satisfaction	16.23	2.64	—													
2. Relationship Cohesion	10.94	3.71	.40	—												
3. Family Support	1.30	0.48	− .54	.01	—											
Community Connectedness																
4. Neighbourhood Cohesion	3.51	0.70	.11	.13	− .24	—										
5. Generalised Trust	6.14	2.15	.18	.15	− .29	.26	—									
Subjective Connectedness																
6. Lonely	1.51	0.61	− .37	− .31	.31	− .24	− .30	—								
7. Lack of Companionship	1.54	0.60	− .43	− .37	.26	− .20	− .25	.76	—							
8. Left Out	1.46	0.56	− .37	− .30	.30	− .24	− .31	.74	.70	—						
9. Isolated	1.50	0.59	− .33	− .28	.30	− .25	− .31	.80	.69	.79	—					
Wellbeing Outcomes																
10. Psychological Distress (GHQ-12)	11.93	5.37	− .32	− .27	.36	− .24	− .34	.56	.46	.55	.57	—				
11. Life Satisfaction	5.13	1.29	.34	.33	− .37	.30	.38	− .51	− .45	− .50	− .51	− .64	—			
12. Mental Health (SF-12 MCS)	47.06	10.29	.34	.30	− .34	.28	.36	− .58	− .47	− .55	− .57	− .78	.63	—		
13. Physical Health (SF-12 PCS)	49.21	10.56	.00	.12	− .07	− .04	.09	− .12	− .12	− .15	− .15	− .21	.24	.04	—	
14. Wellbeing (SWEMWBS)	24.31	4.90	.35	.40	− .32	.25	.32	− .54	− .47	− .53	− .54	− .68	.62	.68	.17	—

Note. Values are Pearson correlations. Correlations are based on available pairwise observations and therefore sample sizes vary across coefficients. All correlations were statistically significant at $p < .001$ except the correlation between relationship cohesion and family support ($r = .01$, $p = .951$) and the correlation between relationship satisfaction and physical health ($r = -.002$, $p = .778$).

Competing factor models

Four competing confirmatory factor models were estimated to examine the latent structure of social connectedness. The first specified a unidimensional model in which all indicators loaded onto a single latent social connectedness factor. The second specified a two-factor model consisting of a broad social connectedness factor (relationship satisfaction, relationship cohesion, family support, neighbourhood cohesion, and generalised trust) and a subjective disconnection factor (loneliness, lack of companionship, feeling left out, and isolation). The third specified three correlated first-order factors representing relational connectedness (relationship satisfaction, relationship cohesion, and family support), community connectedness (neighbourhood cohesion and generalised trust), and subjective disconnection (loneliness, lack of companionship, feeling left out, and isolation). The fourth specified a four-factor model in which community connectedness was separated into distinct neighbourhood cohesion and trust factors.

Fit statistics for all models are presented in Table 2. The unidimensional model demonstrated only marginal fit to the data, $\chi^2(27) = 4350$, $p < .001$, CFI = .955, TLI = .940, RMSEA = .062 (90% CI [.061, .064]), and SRMR = .057. Although several indices approached conventional criteria for acceptable fit, the model fit less well than all multidimensional alternatives, suggesting that social connectedness cannot be adequately represented as a single undifferentiated construct.

Fit improved substantially for the multidimensional models. The two-factor model demonstrated acceptable fit, $\chi^2(26) = 3132$, $p < .001$, CFI = .968, TLI = .955, RMSEA = .054 (90% CI [.052, .055]), and SRMR = .044. The three-factor model demonstrated the strongest balance of empirical fit and theoretical interpretability, $\chi^2(24) = 2457$, $p < .001$, CFI = .975, TLI = .962, RMSEA = .050 (90% CI [.048, .051]), and SRMR = .044. The four-factor model also demonstrated good fit, $\chi^2(25) = 2842$, $p < .001$, CFI = .971, TLI = .958, RMSEA = .052 (90% CI [.051, .054]), and SRMR = .049, but fit was slightly poorer than the three-factor solution across most indices. Although the two-factor model produced a higher χ^2 statistic, direct comparison of χ^2 values across models with differing degrees of freedom is not appropriate because each model imposes a different pattern of constraints on the covariance matrix.

These findings indicate that social connectedness is best represented as a multidimensional construct comprising relational, community, and subjective dimensions. Although the four-factor model distinguished between neighbourhood cohesion and trust, this distinction did not improve model fit, suggesting that these indicators are more appropriately conceptualised as reflecting a common community connectedness factor. Although differences between the two- and three-factor models were modest, the three-factor model consistently demonstrated superior CFI, TLI, and RMSEA values while also distinguishing relational and community connectedness as theoretically distinct constructs. Consequently, the three-factor solution was retained on the basis of both empirical fit and theoretical interpretability. Because χ^2 is strongly influenced by sample size and the models differed in their degrees of freedom, model comparisons were based primarily on the overall pattern of fit indices together with theoretical interpretability rather than on χ^2 values alone.

Within the three-factor model, the dimensions were moderately to strongly associated, indicating that they represent related but empirically distinguishable aspects of social connectedness. Relational and community connectedness were positively associated, whereas both dimensions were negatively associated with subjective connectedness, indicating that individuals reporting stronger social relationships and greater community integration also reported lower levels of loneliness and social isolation.

Given its favourable balance of empirical fit and theoretical interpretability, the three-factor solution was retained for subsequent analyses. A higher-order model was then estimated to examine whether the three first-order dimensions could be represented as manifestations of a broader latent social connectedness construct. As higher-order and correlated first-order models are mathematically equivalent, they produce identical global fit statistics. Consequently, the higher-order model was evaluated primarily to assess the conceptual plausibility of representing social connectedness as a hierarchical construct rather than as an alternative, better-fitting model.

Table 2

Fit Statistics for Competing Measurement Models of Social Connectedness

Model	χ^2	df	p	CFI	TLI	RMSEA (90% CI)	SRMR
One-factor	4350	27	< .001	.955	.940	.062 [.061, .064]	.057
Two-factor	3132	26	< .001	.968	.955	.054 [.052, .055]	.044
Three-factor	2457	24	< .001	.975	.962	.050 [.048, .051]	.044
Four-factor	2842	25	< .001	.971	.958	.052 [.051, .054]	.049

Note. χ^2 = scaled Yuan–Bentler chi-square statistic. CFI = Comparative Fit Index; TLI = Tucker–Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square Residual. Higher values of CFI and TLI and lower values of RMSEA and SRMR indicate better model fit. The three-factor model demonstrated the strongest overall fit and was retained on both empirical and theoretical grounds.

Factor Loadings

To further evaluate the adequacy of the retained measurement model, standardised factor loadings and composite reliability estimates were examined (Table 3). All indicators loaded significantly onto their respective latent constructs (all *ps* < .001). Within the Relational Connectedness factor, relationship satisfaction (β = .717), relationship cohesion (β = .613), and family support (β = −.506) demonstrated moderate loadings. Community Connectedness was defined by moderate loadings for neighbourhood cohesion (β = .471) and generalised trust (β = .578), while Subjective Disconnection demonstrated consistently strong loadings across all four indicators (βs = .816–.894).

The higher-order Social Connectedness factor was also well defined, with substantial loadings from Relational Connectedness (β = .779), Community Connectedness (β = .682), and Subjective Disconnection (β = −.867). Composite reliability was acceptable for Relational Connectedness (CR = .65), good for the higher-order Social Connectedness construct (CR = .82), and excellent for Subjective Disconnection (CR = .92). Composite reliability was not interpreted for Community Connectedness because the construct was represented by only two indicators, for

which reliability coefficients are known to be less stable and informative. Taken together, these findings provide evidence that the retained measurement model demonstrated satisfactory construct validity, with indicators loading as expected onto their respective latent constructs.

Table 3
Standardised Factor Loadings for the Final Higher-Order Measurement Model

Latent construct	Indicator	β	z	p
Relational Connectedness	Relationship satisfaction	.717	—	—
	Relationship cohesion	.613	38.0	< .001
	Family support	−.506	−17.5	< .001
Community Connectedness	Neighbourhood cohesion	.471	—	—
	Generalised trust	.578	37.2	< .001
Subjective Disconnection	Lonely	.894	—	—
	Lack companionship	.816	210.4	< .001
	Left out	.858	192.3	< .001
	Isolated	.889	241.7	< .001
Higher-order Social Connectedness	Relational Connectedness	.779	—	—
	Community Connectedness	.682	29.5	< .001
	Subjective Disconnection	−.867	−30.1	< .001

Note. β = standardised factor loading. The loading of the first indicator for each latent construct was fixed to 1.00 to identify the model and therefore has no estimated standard error, confidence interval, z statistic, or p value.

Nomological Associations with Wellbeing Outcomes

Correlated-Factors Model

To evaluate the unique contributions of each dimension of social connectedness, psychological distress, life satisfaction, mental wellbeing, mental health-related quality of life, and physical health-related quality of life were simultaneously regressed onto relational, community, and subjective connectedness.

As shown in Table 4, all three dimensions made significant independent contributions to psychological wellbeing outcomes. Subjective disconnection emerged as having the strongest relationship with psychological distress (β = .393, p < .001), indicating that experiences of loneliness and social isolation were particularly strongly associated with poorer psychological functioning. Community connectedness exhibited the strongest relationship with life satisfaction (β = .441, p < .001) and demonstrated substantial associations with mental health-related quality of life (β = .354, p < .001). Relational connectedness also contributed significantly across most outcomes, with its strongest association observed for mental wellbeing (β = .350, p < .001).

The correlated-factors model accounted for 45.7% of the variance in psychological distress, 52.5% of the variance in life satisfaction, 50.0% of the variance in mental wellbeing, 51.1% of the variance in mental health-related quality of life, and 2.6% of the variance in physical health-related quality of life.

Higher-Order Model

The higher-order social connectedness factor was strongly associated with all psychological wellbeing outcomes. Greater social connectedness was associated with lower psychological distress (β = −.773, p < .001), greater life satisfaction (β = .749, p < .001), greater mental wellbeing (β = .770, p < .001), and better mental health-related quality of life (β = .796, p < .001). Associations with physical health-related quality of life were statistically significant but comparatively modest (β = .175, p < .001).

The higher-order model accounted for 59.7% of the variance in psychological distress, 56.1% of the variance in life satisfaction, 59.4% of the variance in mental wellbeing, 63.4% of the variance in mental health-related quality of life, and 3.1% of the variance in physical health-related quality of life.

Taken together, these findings suggest that relational, community, and subjective connectedness show distinct associations with wellbeing outcomes, while simultaneously supporting the utility of conceptualising social connectedness as a broad higher-order construct. The higher-

order model captured substantial variance across all psychological wellbeing outcomes, indicating that much of the shared variability amongst individual dimensions may be attributable to a common underlying social connectedness factor.

Table 4
Relationships Between Outcomes and Social Connectedness Variables

Outcome	Model	Factor	β	95% CI	z	*p*	R^2
Psychological Distress (GHQ-12)	Correlated Factors	Relational	− .101	[-0.388, -0.199]	-6.11	< .001	.457
		Community	− .282	[-4.926, -3.967]	-18.16	< .001	
		Subjective	.393	[3.663, 4.128]	32.89	< .001	
	Higher-Order	Social Connectedness	− .773	[-3.074, -2.779]	-38.90	< .001	.597
Life Satisfaction	Correlated Factors	Relational	.256	[0.155, 0.204]	14.36	< .001	.525
		Community	.441	[1.526, 1.816]	22.60	< .001	
		Subjective	− .141	[-0.402, -0.270]	-9.95	< .001	
	Higher-Order	Social Connectedness	.749	[0.647, 0.715]	39.00	< .001	.561
Mental Wellbeing (SWEMWBS)	Correlated Factors	Relational	.350	[0.856, 1.062]	18.26	< .001	.500
		Community	.267	[3.494, 4.442]	16.41	< .001	
		Subjective	− .208	[-2.173, -1.694]	-15.84	< .001	
	Higher-Order	Social Connectedness	.770	[2.602, 2.881]	38.50	< .001	.594
Mental Health (SF-12 MCS)	Correlated Factors	Relational	.147	[0.644, 0.996]	9.13	< .001	.511
		Community	.354	[9.716, 11.709]	21.07	< .001	
		Subjective	− .328	[-6.675, -5.769]	-26.93	< .001	
	Higher-Order	Social Connectedness	.796	[5.489, 6.070]	39.00	< .001	.634
Physical Health (SF-12 PCS)	Correlated Factors	Relational	− .024	[-0.359, 0.083]	-1.22	.221	.026
		Community	− .022	[-1.553, 0.218]	-1.48	.139	
		Subjective	− .186	[-4.131, -3.099]	-13.74	< .001	
	Higher-Order	Social Connectedness	.175	[1.174, 1.426]	20.20	< .001	.031

Note. β = standardised coefficient. Confidence intervals are reported for unstandardised estimates. R^2 values indicate the proportion of variance explained for each outcome within each model.

Discussion

The present study sought to address a longstanding question within the social connectedness literature, namely whether experiences such as relationship quality, family support, trust, neighbourhood cohesion, and loneliness represent distinct social phenomena or manifestations of a broader underlying social resource. Drawing on data from a large UK sample, the findings suggest that these experiences are neither wholly independent nor adequately represented by a single undifferentiated construct. Instead, social connectedness was best conceptualised as comprising three interrelated dimensions, namely relational connectedness, community connectedness, and subjective connectedness, which could themselves be represented within a broader higher-order social connectedness construct.

The findings make several contributions to the conceptualisation of social connectedness. First, they provide evidence against a purely unidimensional perspective. Although all indicators were related, the superior fit of the three-factor model indicated that the quality of close relationships, perceptions of community integration and trust, and subjective feelings of loneliness represent distinguishable aspects of social experience. At the same time, the strong associations among these dimensions and the adequacy of the higher-order model suggest that they are not independent constructs. Rather, they appear to reflect interconnected expressions of a broader social connectedness construct. One

interpretation is that the higher-order factor reflects an individual's overall degree of social integration across multiple domains of social life. Individuals who report supportive close relationships, stronger community ties, greater trust in others, and lower loneliness may possess a more general sense of being embedded within a supportive social environment. The inclusion of loneliness within the broader connectedness construct reflects the view that loneliness represents the subjective experience of social disconnection rather than a downstream consequence of connectedness alone. From this perspective, the higher-order factor may capture the cumulative psychological benefits associated with social integration across relational, familial, community, and subjective domains. This finding supports theoretical perspectives that have proposed that diverse social experiences share a common foundation in human connectedness while retaining distinctive characteristics and functions.

Importantly, the findings also provide support for integrating concepts that have often been examined in relative isolation. Belongingness theory proposes that humans possess a fundamental need to establish and maintain meaningful interpersonal relationships (Baumeister & Leary, 1995), while social support theory emphasises the protective functions of supportive relationships during periods of stress (Cohen & Wills, 1985). Social capital perspectives highlight the importance of trust, reciprocity, and community participation (Putnam, 2000), whereas social identity approaches emphasise the psychological benefits derived from group membership and social belonging (Haslam et al., 2009). The present findings suggest that these theoretical traditions may be capturing different manifestations of a broader social connectedness construct rather than entirely separate phenomena.

A particularly notable finding was the emergence of relational connectedness as a distinct dimension characterised by relationship quality and family support. Although family support has often been examined separately from romantic relationship quality, the present findings suggest that both may represent aspects of a broader domain reflecting the quality, availability, and supportive nature of close interpersonal relationships. This interpretation is consistent with attachment and social support perspectives, which emphasise the importance of close, dependable social bonds as a source of psychological security and resilience (Cohen & Wills, 1985; Uchino, 2009).

Beyond clarifying the structure of social connectedness, the study demonstrated robust associations between connectedness and wellbeing. The higher-order social connectedness factor was strongly associated with lower psychological distress and higher levels of life satisfaction, mental wellbeing, and mental health-related quality of life. Indeed, the higher-order model accounted for between 56% and 63% of the variance in psychological wellbeing outcomes, highlighting the substantial role that social connectedness may play in psychological functioning. In contrast, social connectedness demonstrated only modest associations with physical health-related quality of life, suggesting that the influence of connectedness may be more immediate for psychological wellbeing than for physical functioning. The present findings align with Holt-Lunstad's (2022) argument that social connection is best understood as a multifactorial construct rather than as any single indicator such as loneliness, support, or relationship quality. In this context, the higher-order factor may be understood as capturing the shared variance across multiple domains of social connection, while the lower-order dimensions retain theoretically meaningful distinctions.

Although the higher-order factor demonstrated strong criterion validity, the correlated-factors model revealed meaningful differences in the contributions of the individual dimensions. Community connectedness showed the strongest relationship with life satisfaction and mental health-related quality of life, whereas subjective disconnectedness was most strongly associated with psychological distress. These findings suggest that different dimensions of connectedness may be related to wellbeing through partially distinct pathways. Feelings of loneliness and social isolation appear particularly relevant to psychological distress, whereas trust and community integration may be more closely linked to positive evaluations of life and psychological functioning. Consequently, interventions designed to improve wellbeing may benefit from targeting specific dimensions of connectedness depending on the outcome of interest.

Taken together, the findings support a hierarchical conceptualisation of social connectedness in which relational connectedness, community connectedness, and subjective connectedness represent distinguishable but closely related dimensions of a broader social resource. This perspective helps reconcile previously fragmented literatures by demonstrating that constructs traditionally examined separately may be understood as components of a common underlying phenomenon. In doing so, the study contributes to a more integrated framework for understanding social connectedness as a multidimensional but unified psychological resource.

Implications

The present findings have several theoretical and applied implications. Theoretically, they suggest that social connectedness may be usefully conceptualised as a multidimensional yet integrated resource rather than as a collection of unrelated social experiences. By organising relationship quality, family support, trust, neighbourhood cohesion, and loneliness within a common framework, the study provides a basis for linking literatures concerned with belongingness, social support, social capital, loneliness, and quality of life. At the same time, the distinctive associations of the lower-order dimensions indicate that an integrated framework should not be interpreted as making its components interchangeable.

At an applied level, composite assessments of social connectedness may be useful for population wellbeing surveillance and for identifying individuals or groups experiencing broad social vulnerability. A general connectedness score may provide a concise summary when the purpose is screening or monitoring, whereas the lower-order dimensions may be more informative when selecting intervention targets. The particularly

strong association between subjective disconnectedness and psychological distress suggests that loneliness-focused provision may be especially relevant when reducing distress is the principal objective. By contrast, the associations of community connectedness with life satisfaction and mental health-related quality of life suggest that community participation, local trust, and neighbourhood integration may be particularly relevant when the goal is to support positive wellbeing and quality of life. These patterns also caution against assuming that a single intervention will improve every form of connectedness or every wellbeing outcome. Because the measures were combined into person-level estimates across a relatively short period and the structural associations are effectively cross-sectional, these implications concern assessment and the selection of plausible intervention targets rather than evidence of causal effects.

Limitations

Several limitations should be considered when interpreting the present findings.

First, although the study utilised data from a large UK household panel survey, the analyses were based on aggregated person-level indicators and are therefore effectively cross-sectional in nature. Consequently, causal inferences cannot be drawn. While greater social connectedness may contribute to improved wellbeing, it is equally plausible that individuals with better psychological functioning are more likely to establish, maintain, and perceive positive social relationships. The observed associations may therefore reflect reciprocal processes that cannot be disentangled using the present design.

Second, all indicators were derived from self-report measures. Although self-report instruments are widely used within psychological and social research, they are susceptible to response biases, shared method variance, and individual differences in interpretation. In particular, individuals experiencing psychological distress may evaluate both their social relationships and wellbeing more negatively, potentially inflating observed associations. Future research would benefit from incorporating behavioural indicators, social network measures, informant reports, or ecological momentary assessment methods to provide a more comprehensive assessment of social connectedness. Although the selected indicators covered functional, relational, community, and subjective domains of social connection, they did not capture all aspects identified in broader multidimensional frameworks, such as social network structure, social participation, or frequency of social contact.

Third, the inclusion of family support within the relational connectedness factor should be interpreted cautiously. The family support measure was administered only to a restricted subgroup of younger participants, resulting in substantial planned missingness relative to the other indicators. Although full information maximum likelihood estimation allowed all available data to contribute to model estimation and reduced the need for listwise deletion, relationships involving family support were estimated from considerably less information than other model parameters. Consequently, the role of family support within the broader connectedness framework requires replication using measures administered across a wider age range and more representative samples. Accordingly, the present findings regarding relational connectedness should be viewed as provisional until replicated in datasets in which family support is measured across the full adult age range. Although FIML is specifically designed to accommodate this form of planned missingness without requiring listwise deletion, the restricted overlap means that the stability of the relational connectedness factor should be confirmed in future datasets in which family support is assessed across the full adult sample.

Fourth, the indicators included within the present model were constrained by the measures available within Understanding Society. Although relationship quality, family support, neighbourhood cohesion, trust, and loneliness captured several theoretically important dimensions of connectedness, other potentially relevant aspects of social relationships were not represented. For example, friendship quality, social participation, social network characteristics, belongingness, workplace relationships, and online forms of connectedness may represent additional facets of social connectedness that were not examined in the present study. Consequently, the proposed model should not be interpreted as an exhaustive representation of the construct.

Despite these limitations, the study possesses several notable strengths, including the use of a large UK sample, the integration of multiple theoretically distinct indicators of social connectedness, and the application of confirmatory factor analytic and structural modelling approaches to examine both the structure and consequences of connectedness. These strengths provide a robust basis for advancing understanding of social connectedness as a multidimensional psychological resource.

Future Directions

Several avenues for future research emerge from the present findings. First, longitudinal studies are needed to examine the causal and potentially reciprocal relationships between social connectedness and wellbeing. Such research would help clarify whether connectedness functions primarily as a determinant of wellbeing, a consequence of wellbeing, or both.

Second, future research should seek to replicate the present factor structure using alternative indicators of connectedness. In particular, measures of friendship quality, social network size, social participation, belongingness and family relationships may help refine understanding of the relational and community dimensions identified in the present study.

Third, future studies should investigate the mechanisms through which social connectedness influences wellbeing. Theoretical perspectives suggest that the benefits of connectedness may arise through enhanced belongingness, stronger social identities, greater perceived control, increased meaning in life, and improved access to social support and other social resources. These pathways may operate in complementary ways, with multiple mechanisms contributing simultaneously to wellbeing, but they may also differ in importance across individuals and contexts. Understanding how these mechanisms interact may help refine theory and identify more effective targets for intervention.Finally, cross-cultural research is needed to determine whether the present hierarchical model generalises beyond the United Kingdom. Cultural differences in family structures, community engagement, trust, and social norms may influence both the structure and consequences of social connectedness.

Conclusion

The present study sought to clarify the structure of social connectedness and its relationship with wellbeing. Findings from a large UK sample indicated that social connectedness is best understood as comprising three interrelated dimensions relational connectedness, community connectedness, and subjective connectedness which can be represented within a broader higher-order social connectedness construct. Although these dimensions demonstrated distinctive associations with wellbeing outcomes, their shared variance was strongly associated with psychological wellbeing, accounting for substantial proportions of variance in psychological distress, life satisfaction, mental wellbeing, and mental health-related quality of life.

By integrating concepts traditionally examined within separate literatures, including relationship quality, family support, social capital, trust, neighbourhood cohesion, and loneliness, the present study advances a more unified conceptualisation of social connectedness. These findings suggest that social connectedness represents a multidimensional yet coherent psychological resource that plays a central role in human wellbeing and flourishing.

Declarations

Author Contribution

C.S. was the project lead and was primarily responsible for the conceptualisation of the project and the initial draft and literature review A.D. Provided support for the analysis and reviewed the interpretations of the data D.W. reviewed the manuscript All authors then reviewed the manuscript and agreed for its submission

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Data Availability

The data used in this study were obtained from Understanding Society: The UK Household Longitudinal Study and are available to registered researchers through the UK Data Service, subject to the applicable end-user licence conditions. The authors are not permitted to redistribute the participant-level data. Complete analysis syntax, model specifications, and variable-derivation information are provided in the supplementary materials accompanying this article.

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