social sciences

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The Value of Quality in Social Relationships: Effects of Different Dimensions of Social Capital on Self-Reported Depression

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Abstract

Social capital is a widely used concept in the social sciences. Although the quality of social relationships is an important dimension of social capital, most empirical studies primarily focus on its structural dimensions. The aim of this article is to investigate the association between structural social capital, the quality of social relationships, and self-reported depression. The central question is whether there is a difference between structural and qualitative dimensions of social capital in relation to self-reported depression. The data come from the Belarusian National Health Survey, which includes a nationally representative sample of 2107 individuals. Five different forms of social capital were measured, encompassing both structural and qualitative dimensions. The findings show that the most important forms of social capital for mental health among Belarusians are informal relationships with family, friends, and neighbours. Moreover, and of particular relevance to this study, the quality of social relationships are more strongly associated with depression than their structure. To better align with the theoretical framework of social capital, the article concludes that a combination of structural and qualitative indicators is essential when measuring social capital. Including qualitative dimensions may also be important for revealing the potential negative (mental health) outcomes of social capital.

Keywords: depression; Eastern Europe; measurements; negative social capital; qualitative social capital; social relationships; structural social capital; theory; voluntary associations

Academic Editor: Morten Blekesaune

Received: 29 June 2025
Revised: 11 September 2025
Accepted: 15 September 2025
Published: 23 September 2025

Citation: Ferlander, Sara, and Ilkka Henrik Mäkinen. 2025. The Value of Quality in Social Relationships: Effects of Different Dimensions of Social Capital on Self-Reported Depression. *Social Sciences* 14: 568. https://doi.org/10.3390/socsci14100568

1. Introduction

Social capital has, since the 1990s, become a frequently used concept in social sciences (see Figure 1), probably reflecting the need for a unifying term that captures social resources beneficial to both individuals and collectives. As such, the concept addresses a central theme in sociology. According to Welzel et al. (2006), it offers an answer to the fundamental question of all social sciences: "What keeps societies together and leads individuals to act for collective goals" (p. 122). Like many popular social-scientific concepts, social capital has had a life of its own, receiving various interpretations and applications over the past 30 years. In this article, we wish to raise a question about its practical use, illustrated through an empirical example from the field of mental health—a classical theme in sociology (cf. Durkheim [1897] 1997).

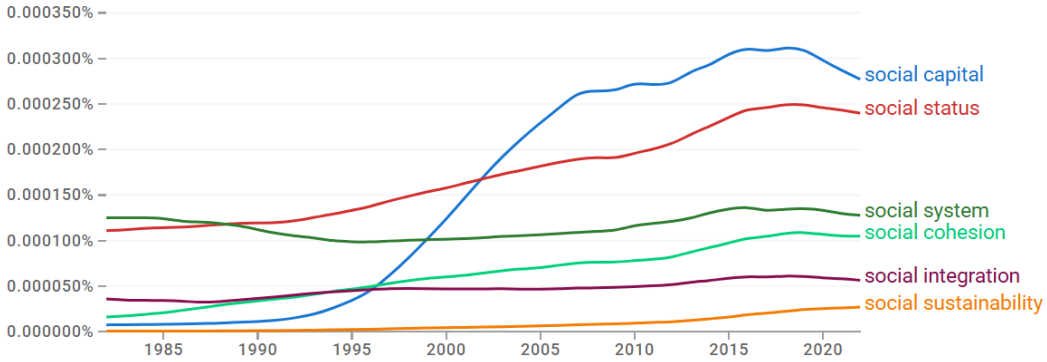

Figure 1. The frequency of the term social capital and other central social-scientific concepts in English-language literature over the past 40 years (Google N-Gram).

Depression is a major mental health issue and global public health challenge (Xu et al. 2025). Despite this, our understanding of the factors associated with depression remains limited. One factor that has received considerable attention in health research over the past decades is social capital (Moore and Kawachi 2017), which is often regarded as potentially protective element against depression (Eshan and De Silva 2015). It is argued that individuals with social capital have access to social support, influence, and other resources that positively affect their mental health. However, social capital may also involve conflicts and strain, which can contribute to mental distress (Villalonga-Olives and Kawachi 2017). The link between social capital and depression is thus complex, and its impacts can be both positive and negative.

Despite its complexity, the core idea behind social capital is simple and can be summarised as "social relationships matter" (Field 2017). Bourdieu (1986) defines social capital as "the actual or potential resources which are linked to possession of a durable network of more or less institutional relationships of mutual acquaintances and recognition" (p. 248). He argues that such networks provide their members with resources—or capital—"which entitles them to credit" (p. 249). According to Bourdieu, this credit depends on both the amount and the quality of the resources. Lin (2000) similarly defines social capital "investment and use of embedded resources in social relations for expected returns" (p. 786), conceptualising it as the quantity and/or quality of resources that actors can access through their social networks.

Although social capital has become an established concept, considerable confusion still surrounds its measurement. Empirical studies have often been criticised for failing to capture the complexity of the concept, resulting in a persistent gap between theory and practice (Gannon and Roberts 2020; Son 2020). Most previous research has primarily focused on the structural dimensions of social capital in its measurement (Weiler and Hinz 2019), while the quality of social relationships remains comparatively underexplored in empirical studies (Scales et al. 2020).

This article aims to address this gap by investigating the association between structural social capital, the quality of social relationships, and self-reported depression. The central question is whether there is a difference between the structural and qualitative dimensions of social capital in relation to individuals' perceived depression. This is examined using a national health survey that includes questions on depression and various forms of social relationships, with particular attention to the structural and qualitative dimensions of those relationships.

2. Social Capital Theory and Previous Research

2.1. The Theory of Social Capital: A Complex and Multi-Dimensional Concept

Social capital is a complex and multi-faceted concept that is employed at various levels of analysis. Scholars have long debated whether it should be understood as a property of individuals or of collectives. Sociologists have, from the outset, focused on how individuals gain resources—such as social support and information—from their networks (Bourdieu 1986; Coleman 1988). Over time, the term has expanded to also be viewed as a resource for collectives (Putnam 1993, 2000). Today, however, most scholars agree that social capital can function both as an individual and a collective asset (Lin 2001; Ferlander 2007; Villalonga-Olives and Kawachi 2015).

Social capital is generally viewed as a valuable and accumulative resource for individuals and collectives—the more social capital, the better. According to Putnam (2000), "the core idea of social capital is that social networks have a value" (p. 18). Coleman (1988) also views social capital as an asset but simultaneously recognises that "a given form of social capital that is valuable in facilitating certain actions may be useless or even harmful for others" (p. 98). This argument supports the view that there can also be a downside to social capital (Portes 1998). Although the negative aspects of social capital have been widely discussed in theory, they have relatively seldom been studied in empirical studies (Baycan and Öner 2023).

To capture both the positive and negative aspects of social capital, its complexity must be acknowledged by distinguishing between its various dimensions and forms. In her influential article, Paxton (1999)—like others after her (e.g., Lin 2000; McKenzie et al. 2002; Cook 2015)—argues that social capital comprises both quantitative and qualitive dimensions. Drawing on Simmel's (1981) distinction between structure and content, Paxton refers to these dimensions as objective and subjective. The former is described as "objective associations between individuals", while the latter is described as "a subjective type of tie" (p. 93). The objective dimension implies the existence of an actual network linking individuals to each other, whereas the subjective dimension refers to the nature and quality of these ties, such as their reciprocity, emotional tone, and the trust they contain.

Quantitative and qualitative social capital are often linked to the established distinction between structural and cognitive social capital (Krishna and Shrader 1999). The structural dimension is typically described as objective, tangible, and quantitative, referring to the structure of social relationships. In contrast, the cognitive dimension is considered subjective and intangible, focusing on the content and the quality of those relations. The similarities between these distinctions have been described as follows: "The structural and cognitive components could further be seen as the quantity (frequency) and quality (how the contacts are perceived) aspects of social networks" (Forsman et al. 2012, p. 722). This paper focuses on two dimensions, which we label structural and qualitative social capital.

Social capital also exists within different forms of relationships, such as informal and formal ones (Putnam 2000; Ferlander 2007). The former refers to resources accessed via informal contacts, such as family, friends, and neighbours, while the latter can be obtained through more rule-bound networks, such as voluntary associations. Coleman (1988) further distinguishes between social capital within and outside the family. The family is typically considered a fundamental form of social capital (Coleman 1991; Bourdieu 1994), providing relational qualities such as love and emotional support. In this paper, we focus on five distinct forms of social capital, both within and outside the family, examining their structural and qualitative dimensions. Although these dimensions and forms of social capital are theoretically distinct, they often—quite naturally—overlap in practice.

2.2. Applying the Concept of Social Capital in Practice

Since social capital is a complex and multi-dimensional concept, measuring it is not an easy task. The question of how to apply the concept of social capital in practice has long been debated (Lochner et al. 1999; Chiese 2007; Carillo Álvarez and Riera Romaní 2017), and numerous measures have been proposed. As Gannon and Roberts (2020) put it: "the theoretical value of social capital can only be translated into practical use if it can be measured, but previous literature falls short in this regard" (p. 900). Similarly, in his book *Social Capital*, Son (2020) argues that "the measurement of social capital is a glaring weakness in the literature" (p. 24).

Although studies often distinguish between different forms of social capital—such as informal and formal social capital—they typically measure these using structural indicators, including questions about contact frequency and associational membership (Weiler and Hinz 2019). In their study of social capital in European countries, Iglič et al. (2021) argue that both contact frequency and associational membership are limited and non-comprehensive indicators of this complex concept. Despite these limitations, membership in voluntary associations, introduced by Putnam (1993), remains one of the most commonly used indicators of social capital (Moore and Carpiano 2020). In surveys, respondents are often presented with a list of voluntary associations—such as sport clubs, cultural associations, and religious groups—based on the assumption that a higher number of memberships corresponds to higher levels of social capital.

However, this assumption has been met with criticism. Rather than simply counting the number of associational memberships, the importance of considering the type of association has been highlighted (Stolle and Rochon 1998; Häuberer 2014). Moreover, qualitative dimensions of voluntary associations are rarely—if ever—measured in studies of social capital. As mentioned earlier, the quality of social relationships is generally under-researched in empirical studies. This was highlighted by Scales et al. (2020) in their article on the measurement of social capital.

Cognitive social capital is, however, frequently measured in studies of social capital, particularly in research on adolescents' family and school relations (e.g., Behtoui 2017; Ahlborg et al. 2022). Although there is some confusion regarding how to operationalise this dimension, it is often assessed using the question "Generally speaking, would you say that most people can be trusted". This measure is quite broad, capturing perceptions of relations with other people in general—often strangers—without distinguishing between different forms of relationships. To better understand the effects of social capital, it is essential to measure qualitative aspects within various forms of relationships. Distinguishing between different forms of social capital—both theoretically and empirically—is crucial, as they may entail different benefits and costs, potentially leading to both positive and negative health outcomes.

2.3. Social Capital and Health

In *Suicide*, Durkheim's ([1897] 1997) major empirical study in early sociology, it is argued that individuals who were less integrated into society were more likely to commit suicide than those better integrated. Since that study, numerous scholars have examined the association between social relationships and health. Social capital has been employed as a conceptual framework for understanding how social relationships serve as valuable health resources, and it has been linked to physical and mental health in countless studies (Eshan et al. 2019; Kemppainen and Timonen 2024). While most studies have found a positive association between social capital and health, negative effects have also been found (Mitchell Usher and LaGory 2002; Villalonga-Olives and Kawachi 2017). Thus, while being part of a social network can lead to better individual health, this is not always the case.

Mixed health effects of social capital have also been found in empirical studies (Ferlander et al. 2016). In their study of social contact frequency and physical health, using data from the European Social Survey conducted in 37 countries, Stavrova and Ren (2020) found that both low and high contact frequencies were associated with poorer health. In a study in Australia, Gallagher et al. (2019) identified a curvilinear association between membership in voluntary associations and mental health: moderate participation was optimal, whereas both excessive and minimal participation had negative health impacts. Similar results were found by Santini et al. (2021) in their study of formal participation (in volunteer associations) and mental health among older adults in thirteen European countries. For individuals with few close social ties, formal participation was beneficial for mental health; however, this was not the case for those with many such ties. Among adults with seven or more close ties, formal social participation was even detrimental, increasing symptoms of depression. Santini et al. (2021) argued that excessive social activity may be stressful and mentally exhausting while also highlighting the urgent need for further research on this topic. The current study aims to address this need through an investigation of social capital and depression in Belarus.

2.4. Social Capital and Depression in Eastern Europe

Eastern Europe, including Belarus, is often characterised as having low levels of social capital (Sarracino and Mikucka 2017; Douglas 2024). Trust and the participating in voluntary associations tend to be lower in Eastern than in Western Europe (Carlson 2016). In a study of sixty nations, most Eastern European countries were described as low-trust societies (Delhey and Newton 2005), a finding later confirmed in a comparative study of thirteen countries (Pinillos-Franco and Kawachi 2019). Informal social contacts—such as those with family and friends—have often been found to be the most frequent forms of social capital in the region (Pichler and Wallace 2007; Ferlander and Mäkinen 2009). Abbot and Wallace (2010) explained this by arguing that the post-communist transition processes led to a general decline in the formal safety nets, emphasising that "the one remaining source of security for many is the support they get from close family and friends—some do not even have that" (p. 670).

The weakening of formal safety nets has, according to scholars, had significant implications on population mental health in post-Soviet countries, with increasing rates of depression (Goryakin et al. 2015) and high rates of suicide (Mäkinen 2000; Bursztein Lipsicas et al. 2013; Razvodovsky 2015). As in most countries (Xu et al. 2025), depression has emerged as a major public health concern in Eastern Europe (Bertossi Carla et al. 2019). In Europe, depression rates have been found to be especially high in the central and eastern regions (Kozela et al. 2016; Zhang et al. 2022). According to the *World Population Review* (2021), Belarus ranks among the top ten countries with the highest prevalence of depression globally. The question is how this relates to social capital in Belarus.

3. Materials and Methods

The material analysed in this study was obtained from the Belarus National Health Survey 2011, conducted under the auspices of the Belarus Academy of Sciences. The authors had the opportunity to include several questions on social capital in the survey. Aiming for a nationally representative sample, the survey employed multistage territorial sampling—a method commonly used in Belarus and Eastern Europe (e.g., Abbot and Wallace 2010; Sairambay 2021). The sample was representative of the country's seven regions, settlement type (urban/rural), and settlement size. Random route sampling was used, with quotas based on sex, age, and educational level. The final sample consisted of 2107 individuals, with a response rate of 72%. Further data was missing due to missing

responses to single questions. The final analysis, which examined associations between different forms and dimensions of social capital and self-reported depression—adjusted for age, sex, education, and economic satisfaction—was based on 1349 to 1422 cases.

3.1. The Variables Studied

Viewing social capital as a multifaceted phenomenon, this study measured different forms and dimensions of social capital. It was designed as a standard regression-based analysis of the association between five distinct forms of social capital and self-rated depression, with control for several common variables. While these associations were of interest, the primary focus was on comparing the structural and qualitative dimensions of social capital, as described below.

1. Structural social capital: Five indicators of structural social capital were used as independent variables. Two of them pertained to family relations, while three concerned contacts outside the family. Following previous studies (e.g., Coleman 1991), respondents' marital status and frequency of contact with relatives were used as indicators of family-based structural social capital. Marital status was measured with four response categories: (1) married, (2) single, (3) divorced, (4) widowed. For the analysis, these were recoded into "married" and "non-married". Contact frequency with relatives was measured by the question "How often do you socialise with your relatives?" The response options—(1) often, (2) rarely, (3) never—were recoded into two categories, "frequent" (1) and "infrequent" (2–3).

The indicators of extra-familial structural social capital included contact with friends and neighbours, as well as membership in voluntary associations. The first two were measured using questions similar to the one on contact with relatives: "How often do you socialise with your friends/neighbours?" The response categories and recoding of the friend-contact variable were the same as those used for relatives. However, the question on neighbour contact included seven frequency categories: (1) every day, (2) almost every day, (3) approximately every week, but not every day (4) approximately every month, but not every week, (5) less than once a month, (6) practically never, and (7) I do not have neighbours. These were recoded into "frequent" (1–2) and "infrequent" (3–7) contact. Membership in voluntary associations was measured by the question "Are you a member of one of the following organisations and associations? (please answer each question): (1) Women's organisation, (2) Cultural, musical, dance, or drama society, (3) Youth organisation, (4) Community organisation, (5) Teetotallers' society, (6) Political party, (7) Trade union, (8) Religious organisation, (9) Sports club, (10) Ecological organisation, and (11) Other clubs and associations (please specify)". The responses yes and no were recoded into "member" and "non-member".

2. Qualitative social capital: As far as we know, detailed questions about the quality of different forms of social relationships have not been used in previous studies on social capital. In this study, respondents were asked to rate the perceived quality of various relationships (cf. Paxton 1999; Lin 2000) on a 1–10 scale, ranging from very poor ("burdening") to very good ("energising"). The question was "Please evaluate your relations with the following groups of people, on a scale from 1 (burdening) to 10 (energising)". Respondents were given a list of six forms of relationships to evaluate: (1) family (persons living in the same household), (2) relatives (not living in the same household), (3) friends, (4) neighbours, (5) colleagues at work/school, and (6) fellow members of NGOs (if a member). The question on colleagues was excluded from the analysis, as there was no corresponding structural indicator for contact with them. Thus, the perceived quality of five different forms of social relationships was examined, making this study rather novel.

3. Control variables: As in other studies examining the association between social capital and mental health (e.g., Goryakin et al. 2014), demographic and socio-economic variables were included in the analysis as controls. Education was categorised into three groups: high (higher education, including incomplete), medium (upper secondary or vocational), and low (primary or lower secondary education). To assess the respondents' economic satisfaction, they were asked "Are you satisfied with your financial state?" The response options were "yes", "no", and "difficult to say", with the latter excluded from the analysis.

4. Self-reported depression: Respondents were asked whether they had felt depressed during the past twelve months. This constitutes the study's dependent variable, with three response options: "yes," "no," and "difficult to say." The "difficult to say" responses were excluded from further analysis.

3.2. Statistical Analysis

First, descriptive statistics were calculated to estimate the general levels of social capital and self-reported depression in Belarus (Tables 1 and 2). The differences between men and women were assessed using a chi-square analysis. Logistic regressions were then undertaken to estimate the magnitude of the associations of both structural and qualitative measures of social capital with self-reported depression for each form of social relationship (Tables 3 and 4). After these preparatory stages, structural and qualitative dimensions of social capital were put into the same model in a series of logistic regressions where their associations with self-reported depression were compared for each form of relationship where this was possible (Table 5). Finally, this analysis was repeated with controls for age, sex, educational level, and economic satisfaction (Table 6). Please note that to better visualise the associations between qualitative social capital and self-reported depression, the scale from burdening to energising was inverted when presenting the logistic regressions.

4. Results

4.1. Descriptive Statistics

The average age of respondents was 43 years, and 55% of the respondents were women. Among the participants, 17% had a high level of education, while 22% had a low level. Only one-quarter of the sample reported being satisfied with their economic situation. More than a quarter (27%) stated that they had felt depressed during the past twelve months. Self-reported depression was more common among women (31%) than among men (22%; $p < 0.0005$).

Table 1 presents findings on structural social capital. More than half of the sample (58%) were married, and over three-quarters (78%) reported frequent contact with their relatives. Regarding extra-familial contacts, approximately three- quarters reported frequent contact with friends (72%) and neighbours (75%). Additionally, more than half of the respondents (56%) were members of at least one voluntary association. There were some small but statistically significant gender differences in structural social capital. A higher proportion of men (62%) than women (55%) were married, likely reflecting the national age distribution where women are overrepresented in older age groups due to higher male mortality. In terms of informal social contacts, women reported more frequent contact with relatives (82% vs. 73%), while men had slightly more frequent contact with friends (75% vs. 70%). However, no statistically significant gender differences were found in contact with neighbours or in associational membership.

Table 1. Structural social capital in percentage among respondents aged 16 and over, based on the Belarus National Health Survey (BNHS).

Variables	Men	Women	Total	*p* *	n
Marital status				0.004	2074
Married	62	55	58		
Non-married	38	45	42		
Contact with relatives				<0.0005	2062
Frequent	73	82	78		
Infrequent	27	18	22		
Contact with friends				0.025	2030
Frequent	75	70	72		
Infrequent	25	30	28		
Contact with neighbours				0.535	2093
Frequent	74	76	75		
Infrequent	26	24	25		
Voluntary associations				0.419	1965
Member	57	55	56		
Non-member	43	45	44		

* *p* stands for gender differences.

Table 2 presents findings on qualitative dimensions of social capital. The relationships regarded as most energising were those with family, friends, and relatives—informal forms of social capital. In contrast, relationships with neighbours and within voluntary associations were rated as less energising, with the latter approaching the burdening end of the scale. There were also gender differences in the perceived quality of certain relationships. Women rated their relationships with family (in the same household), relatives, and neighbours as more energising than men. However, no statistically significant gender differences were found in the quality of relationships with friends and within voluntary associations.

Table 2. Average quality of social relationships among respondents aged 16 and over, based on the *BNHS*. The scale ranges from 1 (burdening) to 10 (energising).

Variables	Men	Women	Total	*p* *	n
Family (marital status)	7.9	8.2	8.0	0.002	1897
Relatives	7.4	8.0	7.7	<0.0005	2006
Friends	7.9	7.9	7.9	0.668	1898
Neighbours	6.2	6.6	6.4	<0.0005	1666
Voluntary associations	4.7	5.1	4.9	0.108	597

* *p* stands for gender differences.

4.2. Associations Between Social Capital and Self-Reported Depression

Table 3 presents the unadjusted associations between structural social capital and self-rated depression. The results show that marital status and the frequency of contacts with relatives and neighbours were significantly associated with depression. Individuals who were not married had higher odds of reporting depression (OR = 1.26) compared to those who were married. Similarly, respondents with infrequent contact with relatives had increased odds of reporting depression (OR = 1.50). The strongest association was found between contact with neighbours and depression: those with infrequent contact were twice as likely to report depression (OR = 2.01) compared to those with more frequent

contact. In contrast, contact with friends and membership in voluntary associations were not significantly related to depression.

Table 3. Simple logistic regression between different forms of structural social capital and self-reported depression among respondents aged 16 and over. OR 95% CI. Unadjusted coefficients.

Variables	OR	95% CI	Wald	n
Marital status			4.32	1664
Married	1.00			
Non-married	1.26	1.01–1.57 *		
Contact with relatives			9.58	1664
Frequent	1.00			
Infrequent	1.50	1.16–1.94 **		
Contact with friends			1.26	1641
Frequent	1.00			
Infrequent	1.15	0.90–1.47		
Contact with neighbours			33.30	1687
Frequent	1.00			
Infrequent	2.01	1.59–2.55 ***		
Voluntary associations			2.16	1593
Member	1.00			
Non-member	0.84	0.67–1.06		

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

The unadjusted associations between the perceived quality of different social relations and self-reported depression are presented in Table 4. The qualitative dimensions of relationships with family, relatives, and neighbours were significantly associated with depression. The poorer the quality of those relationships, the higher the odds of reporting depression. The odds ratios ranged from 1.16 to 1.18 for each step on the ten-point inverted scale, from "energising" to "burdening". The associations of the qualitative dimensions of social capital with depression were also stronger than the structural ones in Table 3, both in terms of statistical significance and Wald values.

Table 4. Simple logistic regression between measures of relational quality (burdening [a]) and self-reported depression among respondents aged 16 and over. OR 95% CI. Unadjusted coefficients.

Variables	OR	95% CI	Wald	n
Family (marital status)	1.16	1.10–1.23 ***	29.90	1526
Relatives	1.16	1.11–1.23 ***	30.65	1541
Friends	1.06	1.00–1.14	3.73	1620
Neighbours	1.18	1.12–1.24 ***	38.38	1607
Voluntary associations	0.98	0.91–1.05	0.46	480

*** $p < 0.001$. [a] Please note that the scale is here reversed, with energising = 0 to burdening = 10.

To compare the associations of structural and qualitative measures by form of relationship, a series of logistic regressions was conducted. These regression analyses examined the mutually adjusted associations for respondents who reported having each specific form of relationship. The results are presented in Table 5. The most striking finding—evident from both the significance levels and the Wald coefficients—is that the quality of the social relationship had a stronger effect on the dependent variable (self-reported depression) than the structural dimensions, across all forms of relationships, and often quite clearly

so. The statistical significance of the structural measures of social capital decreases within each form of social relationship compared to the analyses in Table 3, while the statistical significance of the qualitative dimensions of social capital remains relatively stable (cf. Table 4).

Table 5. Structural and qualitative [a] measures of different forms of social capital as covariates of self-reported depression among respondents aged 16 and over. OR 95% CI estimated from binary logistic regressions. Structural and qualitative measures are adjusted to each other by form of relationship. NB crude effects of the independent variables are presented in Tables 3 and 4 above.

Variables	OR	95% CI	Wald	AME	*p* (AME)	Nagelkerke R2	n
Contact with relatives							
Infrequent (structural)	1.34	1.01–1.77 *	4.24	0.066	0.018		
Burdening (qualitative)	1.15	1.09–1.22 ***	24.02	0.027	0.000	0.036	1518
Contact with friends							
Infrequent (structural)	1.08	0.83–1.40	0.31	0.028	0.303		
Burdening (qualitative)	1.04	0.98–1.12	1.58	0.006	0.411	2.32×10^{-3}	1578
Contact with neighbours							
Infrequent (structural)	1.53	1.17–2.00 **	9.40	0.088	0.001		
Burdening (qualitative)	1.13	1.07–1.20 ***	19.61	0.022	0.000	0.043	1601

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. [a] Please note that the scale is here reversed, with energising = 0 to burdening = 10. The AME (Average Marginal Effect) represents the average change in the predicted probability of reporting depression across all individuals in the sample, when the independent variable increased by one unit.

The independent variables in each of the models of Table 5 are correlated. *T*-tests (not shown) indicate that relations involving frequent contact are, on average, also rated more highly in terms of quality. To assess the extent to which the values of the variables coincided in a way that could distort the effect estimates, multicollinearity statistics (not shown) were calculated for the analyses presented in Table 5. Depending on the form of relationship, only 6–15% of the variation in each variable was shared with the other independent variable in the same model.

4.2.1. Controlling for Age, Sex, Education, and Economic Satisfaction

The final comparison between the structural and qualitative social capital presented in Table 6 is similar to Table 5, except that age, sex, education, and economic satisfaction were controlled for. The results show that the association between social capital and depression cannot be explained by the control variables, as three out of the four statistically significant coefficients from the unadjusted analyses remain significant after adjustment. Judging from the changes in significance levels, the relative importance of contact frequency has slightly diminished compared to the unadjusted model, while the effect of relational quality—relative to the structural dimension of social capital—has become even more pronounced.

Age, sex, educational level, and economic satisfaction were all significantly associated with depression, even when mutually adjusted (not shown). The odds of reporting depression decreased with age (OR = 0.98), and women had more than 50% higher odds of reporting depression (OR = 1.53) than men. Those with the highest educational level had twice the odds of depression compared to those with the lowest level. However, economic satisfaction showed the strongest association with depression (OR = 2.00). Those who were economically dissatisfied had more than twice the odds of reporting depression (OR = 2.27) than those who were satisfied.

Table 6. Structural and qualitative [a] measures of social capital as covariates of self-reported depression among respondents aged 16 and over. OR 95% CI estimated by binary logistic regressions. All measures adjusted each other while controlling for age, sex, education, and economic satisfaction.

Variables	OR	95% CI	Wald	AME	*p* (AME)	Nagelkerke R2	n
Contact with relatives							
Infrequent (structural)	1.43	1.05–1.93 *	5.25	0.078	0.007		
Burdening (qualitative)	1.15	1.08–1.22 ***	18.43	0.025	0.000	0.127	1349
Contact with friends							
Infrequent (structural)	1.18	0.88–1.59	1.26	0.038	0.193		
Burdening (qualitative)	1.10	1.02–1.18 *	5.98	0.016	0.028	0.103	1404
Contact with neighbours							
Infrequent (structural)	1.26	0.94–1.68	2.37	0.054	0.055		
Burdening (qualitative)	1.13	1.06–1.20 ***	14.70	0.020	0.001	0.111	1422

* $p < 0.05$; *** $p < 0.001$. [a] Please note that the scale is here reversed, with energising = 0 to burdening = 10. The AME (Average Marginal Effect) represents the average change in the predicted probability of reporting depression across all individuals in the sample, when the independent variable increased by one unit.

4.2.2. The Effect of Missing Values

The effects of the social variables on self-reported depression are compared both with each other *and* across different models (see Tables 3–6). However, this comparison might be affected by the declining number of cases as more variables are included in the models. This issue is particularly important for the effects pertaining to relatives, friends, and neighbours, which are analysed in Tables 5 and 6.

A Little MCAR analysis of these variables indicates that while the variables on relatives and neighbours are not significant in the test ($p > 0.05$), those pertaining to friends are not missing completely at random ($p = 0.0026$). To assess the extent to which this might affect the results—given the varying numbers of cases across models—all analyses for the six independent variables shown in Tables 3–6 were repeated using only cases with a complete set of data for the variables analysed (see Table 6 for their respective sample sizes). The differences in effect size estimates between analyses using "maximal" and "minimal" numbers of cases were generally small. For the two variables concerning relatives, the odds ratios differed by a maximum of 0.02 in all but one analysis, where contact frequency, when analysed alone, had an OR of 1.57 instead of 1.50 (as in Table 3). For the variables pertaining to friends, the largest difference in OR was found in the analysis of Table 5, where the relational-quality variable showed a slightly stronger effect (OR = 1.08) compared to the original (OR = 1.04), and was even statistically significant at the 5% level. Finally, the neighbour-contact variable had a somewhat lower OR in the single-variable analysis (OR = 1.88 vs. 2.01) and when compared to the quality indicator (OR = 1.42 vs. 1.53), although the significance levels were the same in both analyses.

5. Discussion

The aim of this article was to investigate the association between structural social capital, the quality of social relationships and self-reported depression. The research question addressed whether there is a difference between structural and qualitative dimensions of social capital in relation to individuals' reported depression. To answer the question, five different forms of social capital were examined, each incorporating both structural and qualitative dimensions.

5.1. Different Dimensions of Social Capital and Their Association with Reported Depression

In the analyses of structural social capital, a statistically significant inverse association was found between certain forms of social capital and reported depression. The magnitude of this association varied depending on the form of social relationship, but overall, more frequent social contacts were associated with lower odds of reporting depression. Individuals who were married and had frequent contact with relatives were less likely to report depression than their counterparts. Additionally, those who frequently interacted with neighbours also had lower odds of reporting depression compared to those with more infrequent contact. These three forms of structural social capital—marital status, family contact, and neighbourhood contact—were significantly associated with perceived depression, and they can be classified as informal social capital (Pichler and Wallace 2007).

When social capital was measured qualitatively, the same three informal relations—those with family, relatives, and neighbours—were found to be significantly associated with depression. However, the associations for qualitative social capital were markedly stronger than those for the structural dimension, and when the two types were directly compared (mutually adjusted), the qualitative aspect consistently dominated in all statistically significant associations. To illustrate this, consider two individuals of the same sex, age, educational level, and economic satisfaction. If they equally appreciate the quality of their relationship with relatives, the one who infrequently has contact with relatives has 43% higher odds of reporting depression. Conversely, if they contact their relatives equally often, the one who experiences the relationship as entirely burdening is 252% more likely to report depression than the one who experience it as entirely energising.

As pointed out by Scales et al. (2020), the qualitative dimensions of social capital are generally under-researched in studies of social capital. Nevertheless, the empirical results of this study indicate that they are more relevant for mental health than the structural ones. The answer to the research question posed in this study—whether there is a difference between the structural and qualitative dimensions of social capital for individuals' perceived depression—would therefore be yes. The difference lies in the fact that measures of the quality of social relationships consistently show a stronger association with self-reported depression than measures of structure. However, to fully address the research question posed, it is necessary to further discuss the relative importance of structural and qualitative dimensions for depression within different forms of social capital.

5.2. Different Forms of Social Capital and Their Association with Self-Reported Depression

The different forms of social capital included in this study were family, relatives (outside the nuclear family), friends, neighbours, and (co-members in) voluntary associations. Compared to previous studies, more forms of social capital were examined in this study than is usually the case. For example, contact with neighbours is rarely included in studies on social capital. Another novel contribution of this study is the examination of the qualitative dimensions of various forms of social capital, and particularly in relation to voluntary associations. While some surveys include questions about the relational quality of family ties in studies of adolescents (e.g., Behtoui 2017; Ahlborg et al. 2022), questions addressing the quality of social relationships within voluntary associations are indeed uncommon.

Regarding relational quality, the relationships perceived as the most energising were those with family, relatives, and friends—that is, informal relationships. Relations with neighbours and within voluntary associations were seen as less energising, with the latter almost approaching the burdening side. The findings of this study thus align with the view of family as an important form of social capital (Coleman 1991; Bourdieu 1994). At the same time, the findings illustrate that certain forms of social capital may be more burdening than others, highlighting a potential downside of social capital (Portes 1998; Villalonga-Olives

and Kawachi 2017). The use of qualitative indicators may be important in making negative aspects of social capital more visible. A preference for measuring social capital with a focus on structure may risk neglecting its downsides. To adequately assess these negative aspects, more nuanced and multidimensional measures of social capital are needed.

Concerning different forms of social capital and self-reported depression, a statistically significant association was found between contact with relatives—both in terms of quantity and quality—and reported depression. Individuals who had infrequent contact with relatives or experienced poor relational quality were more likely to report depression than those with more frequent contact and higher-quality relations with relatives. This finding underscores the importance of family-based social capital for mental health, as supported by previous research (Carillo Álvarez et al. 2017). A more unexpected finding, however, is the strong health impact of relations with neighbours, both in terms of contact frequency and, even more notably, perceived relational quality. In contrast, no statistically significant association was found between friendship relations or associational memberships and depression, which also aligns with previous studies (e.g., Ferlander and Mäkinen 2009).

5.3. Methodological Limitations

One notable limitation in this study is its cross-sectional design, which prevents causal inferences. While the results show that self-reported depression was more common among individuals with less frequent social contacts, the design does not allow us to determine whether depression was a consequence of infrequent contact or vice versa. The same limitation applies to the finding that depression was significantly associated with the quality of social relationships.

This raises a fundamental question regarding the direction of causality. It is possible that the individuals experiencing depression also engage less frequently with their social contacts and evaluate the quality of relationships more negatively than others. This question cannot be resolved with the current material, but several arguments can be presented to support the current interpretation. First, the phenomenon studied is self-reported depression, reported by 27% of the sample. Estimates of the prevalence of more severe, "clinical" forms of depression are significantly lower, often ranging between 3 and 8%. While it is, in our opinion, plausible that severe depression could lead to reduced social interaction and negative perceptions of relationships, we expect such patterns to be less likely to occur in milder cases (cf. Fils et al. 2010). Second, it is highly likely that deteriorating relationships with significant others can trigger at least mild depressive symptoms. In such cases, there is a genuine causal association between relationship quality and depression. Finally, and perhaps most importantly, the survey question did not refer to current depression but to episodes occurring at some time during the previous twelve months. This condition may thus no longer be present for many respondents at the time of reporting, reducing the likelihood of reverse causality.

The survey had a comparatively high response rate. However, internal missing data across different questions resulted in a reduced number of cases in the multivariate analyses, which were conducted only with respondents who provided valid data for all model variables. The number of valid cases thus decreased progressively as more variables were included in the models (see Tables 3–6). This poses a challenge, particularly when a part of the argument relies on comparing the statistical significance of independent variables across different models. Additional analyses (see Section 4.2.2) show that, although the data was not missing completely at random, the results remain robust across the different analyses.

6. Conclusions

The main finding of this study is that, when comparing the associations of structural and qualitative dimensions of social capital and self-reported depression, the associations involving qualitative dimensions of social capital were much stronger. This suggests that previous criticisms of the unreflective reliance on solely or predominantly structural measures of social capital appear to be justified.

However, it should be noted that both structural and qualitative dimensions of social capital produced statistically significant results in this study. Moreover, contact frequency with relatives and neighbours was significantly associated with self-rated depression, even when the quality of the social relationship was controlled for. Although this association lost significance when control variables were introduced into the model, there was no indication that frequent contact had a negative effect on individual's mental health—even when the quality of the relationship was accounted for. The association became non-significant but did not reverse direction.

In conclusion, while this study offers a critical perspective on the unreflective use of measures in social capital research, it does not argue for replacing one type with another. Rather, combining structural and qualitative measures more accurately reflects theoretical understandings of social capital. This approach would help bridge the gap between theory and practice, leading to more valid insights into social capital. Including qualitative indictors—still relatively uncommon in empirical studies—may also help reveal both the positive and negative outcomes of social capital.

Author Contributions: Conceptualisation, S.F. and I.H.M.; Methodology, S.F. and I.H.M.; Formal analysis, I.H.M.; Data curation, S.F. and I.H.M.; Writing—original draft, S.F. and I.H.M.; Writing—review and editing, S.F. and I.H.M. All authors have read and agreed to the published version of the manuscript.

Funding: The Foundation for Baltic and East European Studies (https://ostersjostiftelsen.se/en/, accessed on 18 September 2025) within the research project "Health and Population Developments in Eastern Europe in the Conditions of an Economic Crisis", funding number A052-2010_OSS.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The original contributions presented in this study are included in the article. Further inquiries can be directed to the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

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