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Social Capital, Social Health Insurance, and Health-related Quality of Life among People with Chronic Disease: Cultural and Ideational Perspectives

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This study extends debates on implications of informal welfare for population health and well-being. It examines whether cultural and ideational precepts such as social capital, affect enrolment in National Health Insurance Scheme (NHIS) among people living with chronic disease(s) in Ghana. It also explores how NHIS enrolment explains the association between social capital and health-related quality of life (HRQoL) using empirical data from five regions in Ghana. Results indicate that bonding social capital was associated with HRQoL. Bridging and linking social capital were positively and negatively associated with enrolment in NHIS, respectively. Enrolment in the NHIS explained the relationships of trust in neighbours, bridging and linking social capital with HRQoL. Thus, while social capital can improve HRQoL of people living with chronic disease(s), it does so by, among others, influencing their participation in formal health protective services. Culturally driven informal welfare resources are critical to making formal programmes meaningful to people.

Keywords: Social capital; culture and ideational perspectives; social health insurance; chronic diseases; Ghana

Introduction

A critical aspect of social and public policies pertains to protecting population health, particularly those at risk of poor health outcomes, such as those living with chronic diseases (Yi et al., 2017). People living with chronic diseases have persistent or long-lasting health conditions that require continuous medical management. Chronic health conditions are often linked to lower life quality, impaired physical functioning, and reduced life span (Vancampfort et al., 2017). Severe chronic conditions endanger active engagement in productive economic and social activities, which can limit resources to support overall well-being (Islam et al., 2014). In Ghana, one of the core thematic areas of the National Social Protection Policy (2016–2031) is to improve universal health coverage through collaborative efforts of formal and informal welfare service providers (MGCSP, 2015). In many emerging welfare systems in sub-Saharan Africa, inequalities and gaps in social service provisions have meant that many vulnerable populations are traditionally reliant on informal welfare services, which are facilitated by cultural and ideational phenomena such as reciprocity and social solidarity (Amoah, 2020; Holmes and Lwanga-Ntale, 2012). Unfortunately, conceptualisation of informal welfare provision remains less understood in terms of how they can be incorporated into formal systems (Amoah, 2020; Papadopoulos and Roumpakis, 2017). This article extends the debates on informal welfare provision and cultural and ideational dimensions of social policy in the context of health-related outcomes among people living with chronic health

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problems in Ghana. In many ways, the study complements the goal of Ghana's National Social Protection Policy to incorporate traditional welfare services into the formal system, and "maximise the opportunities offered by informal social networks and the practice of reciprocity" (MGCSP, 2015, p. 40).

The cultural and ideational perspective on social policy posits that national values, public opinion, socio-cultural norms and practices, and shared beliefs shape the policy and programme options available to policymakers (Béland, 2010). Thus, the meaning people give to their world directly and indirectly affects social policy decisions and uptake (Kpessa and Béland, 2013). For instance, cultural norms in many sub-Saharan African countries and Asia have traditionally placed welfare provisions on families and broader communities (Kpessa and Béland, 2013; Phillips et al., 2008). In Ghana and many other places with informal welfare regimes, informal support (e.g. social support) is sometimes expected based on cultural norms of reciprocity (e.g. intergenerational norm of filial piety), making it easier for governments to partly relay their responsibilities to families and communities (Amoah, 2020; van der Geest, 2018; Wood and Gough, 2006). Additionally, weaknesses in welfare systems in terms of quality and quantity have long made the influence and role of social values and informal social arrangements on social policy development more significant (Nordensvard and Ketola, 2022; Wood and Gough, 2006). Indeed, even in advanced systems, societal values and practices strongly influence welfare policies (Pfau-Effinger, 2005). However, debates on the consequences and mechanisms of how informal welfare sources shape social protection programmes and health-related outcomes of different population groups remain a topical research and policy subject.

Evidence suggests that cultural and ideational dimensions of social policy, embodied in informal phenomena such as social capital – despite its flaws (Fine, 1999) – are particularly influential for health-related outcomes of different population groups (Nordensvard and Ketola, 2022; Wood and Gough, 2006). Social capital is the resources that emerge from different forms of social relationships, which are often facilitated by social norms and practices (Halpern, 2005; Harpham, 2008). Social capital has structural and cognitive components (Halpern, 2005). Structural social capital includes bonding (resources from close social ties such as family and friends), bridging (resources from weak ties such as a friend of a friend and a casual neighbour), and linking (resources emerging through connections to institutions and people of different power and socio-economic status) social capital. Cognitive social capital describes how people feel about their social networks, and it is symbolised by precepts such as trust, reciprocity, and sense of fairness (Harpham, 2008). Some studies represent social capital with trust due to its role in the functioning of other dimensions of social capital. This is due its role in promoting social cohesion, social solidarity, collective action, and behaviours (Habibov *et al.*, 2017; Mohseni and Lindstrom, 2007).

Both structural and cognitive aspects of social capital are fundamental in promoting health, preventing diseases, aiding healthcare, and improving health outcomes (Amoah *et al.*, 2018b; Haslam and Haslam, 2019; Putnam, 2000; Villalonga-Olives *et al.*, 2018).

Social capital is considered a vital health asset – "any factor (or resource), which enhances the ability of individuals, groups, communities, populations, social systems and /or institutions to maintain and sustain health and well-being, and to help to reduce health inequalities" (Morgan and Ziglio, 2007, p. 18). Such assets include social, financial, and human resources (e.g. education, and supportive social networks), which can buffer life stressors (Morgan and Ziglio, 2007). Thus, these assets are partly embedded in cultural and ideational norms and practices that enable individuals to tap into tangible and intangible resources, capacities, and capabilities of their social networks and communities in times of need (Haslam and Haslam, 2019; Morgan *et al.*, 2012). This makes social capital an indispensable form of social protection for vulnerable populations, considering their health and well-being, especially in low- and middle-income countries (LMICs) (Addae and Kuhner, 2022; Holmes and Lwanga-Ntale, 2012). However, empirical analysis of how elements of social capital affect health-related well-being of different population groups, such as

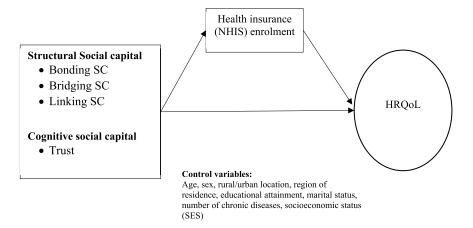


Figure 1. Conceptual model of the study.

people living with chronic disease(s), is in paucity. One such mechanism is health insurance access and utilisation (Sun *et al.*, 2009). Health insurance safeguards against worsening chronic conditions among vulnerable populations, reducing health inequalities (Assari *et al.*, 2019). Access to health insurance improves overall well-being by releasing financial resources for other household expenses (Mazumder and Miller, 2016). Moreover, having health insurance can reduce the risk of chronic diseases (Malta *et al.*, 2015). Hence, investigating the factors that determine access and use of health insurance and its implications for people living with chronic disease(s) is an important step towards protecting their well-being.

Aims of this study

This study examines how social capital, a cultural and ideational phenomenon, shapes health protection policies and health outcomes among people living with chronic diseases in Ghana. Specifically, the study has three aims: (1) to strengthen evidence of the role of social capital as a health asset by examining the association of structural (bonding, bridging, and linking social capital) and cognitive (trust) social capital with health-related quality of life (HRQoL) of people living with chronic diseases, (2) to explore the association of cognitive and structural social capital with enrolment in the National Health Insurance Scheme (NHIS) - a social health insurance programme in Ghana (Salari et al., 2019), and (3) to investigate whether enrolment in the NHIS explains the association between social capital and HRQoL as shown in Figure 1. While research on many East Asia productivist welfare regimes and places alike are shedding light in this direction (e.g., Izuhara, 2013; Papadopoulos and Roumpakis, 2017), related studies in sub-Saharan African countries are emerging (Kpessa and Béland, 2013). Addressing these objectives can offer empirical insights into how culturally induced informal welfare arrangements co-exist with formal services in emerging welfare regimes. In addition, the study attempts to deepen research on the dynamics of formal and informal welfare mechanisms towards protecting HRQoL of people in vulnerable conditions.

Social health insurance programme in Ghana: characteristics and status

Like many LMICs, financing healthcare is a profound challenge in Ghana (Schieber *et al.*, 2012). Given this, the *government enacted Act* 650 to establish the National Health Insurance Authority in 2003 (NHIA) (Salari *et al.*, 2019). The NHIA was inaugurated in 2004 to facilitate and regulate three forms of health insurance schemes, namely: District Mutual Health Insurance Schemes

under the National Health Insurance Scheme (NHIS), Private Commercial Health Insurance Schemes (PCHIS), and Private Mutual Health Insurance Schemes (Agyepong *et al.*, 2016; Vellekoop *et al.*, 2022).

The NHIS is a social insurance scheme to provide financial risk protection for all householders and ensure universal health coverage to reduce health inequalities (Agyepong *et al.*, 2016; Agyepong and Nagai, 2011; Amoah and Phillips, 2018). Hitherto, health services operated under a classic neoliberalist phenomenon known as *cash and carry system* (CCS), where householders had to wholly finance healthcare services, leaving many low-income households without adequate healthcare (Agyepong *et al.*, 2016).

Enrolment in the NHIS is voluntary. All persons aged eighteen years and older must pay an annual premium. However, individuals below eighteen years, above seventy years, and pregnant women are exempt from premium payments (Vellekoop et al., 2022). Thus, the programme is universalistic in nature but with several positive selectivity to ensure the inclusion of the most vulnerable and often excluded populations. This is consistent with the ultimate goal of Ghana's Social Protection Policy to have universal social protection for all Ghanaians throughout their life cycle (MGCSP, 2015). Presently, the NHIS has the predominant share of the health insurance market in Ghana, given that subscription is highly subsidised (Vellekoop et al., 2022). NHIS covers about 95 per cent of outpatient and in-patient care for common communicable and noncommunicable diseases, including the cost of several diagnostic tests (Vellekoop et al., 2022). Management of common chronic diseases such as hypertension and diabetes is covered by the NHIS (Vellekoop et al., 2022). In fact, claims for chronic disease care, such as hypertension, are among the highest in some parts of Ghana (Wang et al., 2017). Notwithstanding its coverage and market share, subscriptions to the NHIS remain relatively low, often around 40 per cent annually (Salari et al., 2019). It is noted that while economic or affordability factors are primary reasons for non-enrolment in the NHIS (Salari et al., 2019), most uninsured and partially insured households could afford to enrol in the scheme (Fenenga et al., 2015). This indicates several underlying reasons why enrolment is low and requires further research (Fenenga et al., 2018; Salari et al., 2019).

Social capital, social health insurance coverage and HRQoL among people living with chronic disease(s)

For people with chronic diseases, social capital is an important resource in the care and management of their conditions (Christian et al., 2020). The structural component of social capital can protect against the negative consequences of chronic illnesses through instrumental support such as helping to do household chores, supporting medical adherence and providing financial support (Lee et al., 2020). In LMICs, financial support offered to the severely and chronically ill can determine whether the person lives or dies (Hollard and Sene, 2016; Woolcock and Narayan, 2000). Poor and vulnerable populations sometimes obtain financial support through their social networks directly (e.g. money for healthcare) or indirectly (e.g. support in subscribing to and utilising health insurance) (Fenenga et al., 2015). People with high bonding social capital are likely to join health insurance programmes even if premiums are high, which has implications for HRQoL (Ko et al., 2018). Having adequate bonding and bridging social capital increases the likelihood of supporting more government expenditure on health insurance programmes (Ko et al., 2018; Mladovsky et al., 2014). Bridging social capital creates opportunities for community risk pooling and financial protection programmes (Mladovsky et al., 2014). Furthermore, trust in a health system and linking social capital predict satisfaction with health services and increase the chances of enrolment in health insurance (Amoah et al., 2021; Fenenga et al., 2015). Indeed, trust and a sense of solidarity affect decisions on health service utilisation and adoption of health service interventions (Amoah et al., 2018a). Such influences are even stronger among people with multiple chronic conditions (Christian et al., 2020).

Therefore, Fenenga et al. (2018) argue that even basic attempts to promote social capital might be a cost-effective tool in increasing insurance enrolment and ultimately improving HRQoL of populations.

Thus, the effect of social capital on the adoption of health-protective programmes is likely to lead to positive health outcomes for people with chronic diseases. This is especially true given that high out-of-pocket payments for healthcare deny many people from obtaining needed care (Gros, 2016). Therefore, it is hypothesised that both cognitive and structural forms of social capital will be positively associated with HRQoL and NHIS enrolment, and having health insurance will mediate the relationship between social capital and HRQoL of people living with chronic diseases.

Methodology

Data for the study was derived from a cross-sectional survey conducted among young and older adult householders in five of the ten administrative regions of Ghana in 2018. The data were gathered from fifty-one rural communities and seventy-seven urban areas across the five regions. An eclectic approach was applied to select specific regions, districts, communities, and people using a multi-stage cluster sampling. As part of the process, the regions, districts, and communities involved in the study were purposively selected. The goal was to derive a balanced sample in terms of geographic areas (e.g. rural and urban locations), respondents of diverse socioeconomic statuses (SES), and various religious and ethnic characteristics. The regions included Ashanti (eight districts), Greater Accra (seven districts), Brong Ahafo (five districts), Eastern (three districts), and Northern (six districts) regions. A systematic sampling technique was employed at household level to interview one person from every second house in a rural community, and one person from every fifth house in an urban area. Details of the data collection process have been reported in other works (Amoah and Adjei, 2023; Amoah et al., 2022a; Amoah et al., 2022b). The sampling processes yielded 2,097 respondents, however, this study analyses data from 315 respondents. Trained interviewers asked respondents to declare if they had been diagnosed with any chronic health problem. Common examples of chronic diseases such as hypertension, diabetes, heart disease, and respiratory problems (e.g. asthma) were added to the question to aid respondents' recollection. The Research Ethics Committee of Lingnan University, Hong Kong, approved the study protocol (EC-043/1718), and the Council for Scientific and Industrial Research (CSIR), Ghana, provided in-country approval (RPN 005/CSIR-IRB/2018).

Measures

Dependent variable

HRQoL was measured using a five-item instrument that covered mental and physical health status (ISSP Research Group, 2015). The items included: During the past four weeks, (1) have you had bodily aches or pains? and (2) have you felt unhappy and depressed? The response options were a five-point Likert scale: always, often, sometimes, seldom, and never. The mean of the responses was computed and used in all the analyses. However, in a structural equation model, this variable was used as a latent variable. The instrument showed adequate reliability with a Cronbach Alpha of 0.69. It also had a good theoretical fit with $\chi 2$ goodness-of-fit test, $\chi 2$ /degrees of freedom (df) ratio (CMIN/df) = 0.997, p < 0.393; goodness-of-fit index (GFI) = 0.996; incremental fit index (IFI) = 1.00; root mean square error of approximation (RMSEA) = 0.000; and comparative fit index (CFI) = 1.000.

Mediator and dependent variable

Social health insurance coverage: respondents were asked whether they had enrolled in the NHIS at the time of the survey. They answered either 'yes' or 'no'.

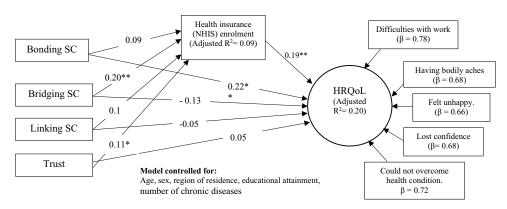


Figure 2. Association of social capital with HRQoL through health insurance. Notes: All coefficients are standardised values. SC = Social capital

Independent variable

Social capital was measured using the Adapted Social Capital Assessment Tool, which relies on cultural expectations of reciprocity, social solidarity, and neighbourliness to estimate the magnitude of social capital for a group of people (Harpham, 2008). For each of the three kinds of structural social capital, participants were asked to select from several options regarding the support (emotional, information, or instrumental) they had received from individuals/groups/institutions that could be classified as bonding, bridging, or linking social capital. The number of options they selected for each category was summed to have a score for each structural social capital (see also Amoah and Adjei, 2023). Cognitive social capital was represented by trust using this single item: 'Generally speaking, would you say that most people in your community/neighbourhood can be trusted or that you need to be very careful in dealing with people?' They answered either 'yes' or 'no' (Harpham, 2008).

Covariates

Age (in years), sex (male/female), location of residence (rural/urban), region of residence, educational attainment, SES (measured as 1 = low and 10 = high), marital status (married, unmarried), and the number of chronic diseases were considered as control variables based on evidence from extant studies (Kusi *et al.*, 2015; Salari *et al.*, 2019). Further details can be found in Table 1.

Data analyses

Three primary analyses were conducted in response to the three research objectives. The first two were done separately from the third to ensure that the analyses comprised only variables relevant to the objective. The first analysis involved a multiple linear regression to examine the association of various kinds of social capital with HRQoL of people living with chronic diseases. The analysis used the enter method. There were no concerns for multicollinearity. Second, two models in binary logistic regression using the enter method were employed to examine the association of structural and cognitive social capital with NHIS enrolment. Hosmer and Lemeshow test were insignificant for both logistic regression models, indicating a good fit ($\chi^2 = 14.12$, p = 0.079). The third analysis involved structural equation modelling in SPSS AMOS. HRQoL was analysed as a latent variable; all others were treated as observed variables (see Figure 2). Descriptive analyses were conducted before the three main analyses to provide an overview of the responses (see Table 1) and gauge initial relationships among the variables through Spearman's Rank correlation

Table 1. Descriptive analyses of variables

Age (in years) 55.8 Minimum-maximum ages 18-91 Sex Male 140 Female 175 Region of residence Ashanti 94 Brong Ahafo 36 Northern Region 64 Eastern Region 46	13.2 - 44.4 55.6 29.8 11.4 20.3 14.6
Sex Male 140 Female 175 Region of residence Ashanti 94 Brong Ahafo 36 Northern Region 64	55.6 29.8 11.4 20.3
Male 140 Female 175 Region of residence Ashanti 94 Brong Ahafo 36 Northern Region 64	55.6 29.8 11.4 20.3
Female 175 Region of residence Ashanti 94 Brong Ahafo 36 Northern Region 64	55.6 29.8 11.4 20.3
Region of residence Ashanti 94 Brong Ahafo 36 Northern Region 64	29.8 11.4 20.3
Ashanti 94 Brong Ahafo 36 Northern Region 64	11.4 20.3
Brong Ahafo 36 Northern Region 64	11.4 20.3
Northern Region 64	20.3
Eastern Region 46	14.6
Greater Accra 75	23.8
ocation of residence	
Rural 120	38.1
Urban 195	61.9
Educational attainment	
Never been to school 117	37.1
Primary school 58	18.4
Middle school/junior high school 77	24.4
Secondary school 38	12.1
Tertiary and above 25	7.9
Marital status	
Unmarried 99	31.4
Married 216	68.6
Number of chronic diseases	
1 212	67.3
2 79	25.1
3 21	6.7
4 3	1.0
Mean/SD 1.4	0.7
Bonding social capital	
Mean/SD 2.4	1.3
Minimum - Maximum 0-5	_
Bridging social capital	
Mean (SD) 1.8	1.1
Minimum - Maximum 0-5	

(Continued)

Table 1. (Continued)

Variable	Frequency/Mean (n = 315)	%/SD
Linking social capital		
Mean (SD)	1.7	1.4
Minimum - Maximum	0-5	
Trust in neighbours		
Yes	169	53.7%
No	146	46.3%
NHIS enrolment		
Yes	204	64.8%
No	111	35.2%
SES		
Mean/SD	4.25	1.69
Minimum - Maximum	1-10	
HRQoL		
Mean (SD)	3.2	0.7
Minimum - Maximum	1-5	

SD = Standard deviation.

analysis (Table 2). The correlation analysis aided in selecting relevant control variables in the main analysis. A detailed explanation of how control variables were selected for each analysis is found in *supplementary material I*. The data had a few missing responses in some variables, and they were replaced by the mean. The conceptual model showed a strong fit with the following indices: CMIN/df = 1.949, p < 0.000; GFI = 0.972; IFI = 0.960; RMSEA = 0.055; and CFI = 0.956 (Byrne, 2013). All significant associations were evaluated at p < 0.05.

Results

The study comprised participants ranging from ages eighteen to ninety-one, with 55.6 per cent of them being females. Most of them had at least one chronic disease. In the twelve months preceding the study, most of them had more bonding social capital (mean/SD = 2.4/1.3) than bridging (mean/SD = 1.8/1.1) and linking (mean/SD = 1.7/1.4) social capital, as shown in Table 1. Approximately 65 per cent of them had enrolled in the NHIS. Their HRQoL was moderate, with most of them ranking their health as three out of five. According to Table 2, sociodemographic factors such as age, educational status, and number of chronic diseases correlated with HRQoL.

According to Table 3 (model 2), only bonding social capital (β =0.235, p < 0.01) was associated with HRQoL among the kinds of social capital examined. However, bridging social capital was positively associated with NHIS enrolment (Odds ratio [OR]=1.715, p < 0.001), while linking social capital showed a negative association with enrolment in NHIS (OR=0.731, p < 0.05), as shown in Table 4 (Model 2). Robustness checks for the relationship between social capital and HRQoL and NHIS enrolment were conducted without control variables. The results were generally similar to the findings here, including the direction of associations (see supplementary material II).

Table 2. Correlation analysis of variables included in the study

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	HRQoL	1													
2.	Age	155**	1												
3.	Sex (Male)	009	003	1											
4.	Marital Status (Married)	.050	194**	089	1										
5.	Locality (rural/urban)	087	.178**	.044	.011	1									
6.	Educational status	.149**	096	144*	079	025	1								
7.	Health insurance (NHIS)	.060	154**	009	.019	.010	097	1							
8.	No. of chronic diseases	191**	.087	119*	092	045	.184**	.032	1						
9.	Bonding SC	.164**	081	.061	140*	299**	118*	.132*	068	1					
10.	Bridging Social capital	003	055	042	066	236**	090	.181**	003	.498**	1				
11.	Linking SC	.032	091	047	033	472**	047	.060	.089	.514**	.445**	1			
12.	Trust	.083	061	.065	.245**	.113*	.013	.099	017	074	118*	.083	1		
13.	SES	065	.178**	163**	043	038	.337**	060	.042	110	042	083	019	1	
14.	Region (Ashanti)	061	.063	.021	.008	.447**	107	188**	153**	195**	136*	341**	006	342**	1

^{**} Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed)

	Model 1			Model 2		
	B (95% CI)	Std. Error	β	B (95% CI)	Std. Error	β
Age	005 (011, .001)	.003	101	005 (011, .001)	.003	089
Sex (male)	.007 (146, .160)	.078	.005	.038 (114, .190)	.077	.027
Marital status (married)	.038 (135, .210)	.088	.024	.049 (129, .226)	.090	.031
Number of chronic diseases	235*** (352,117)	.060	223	213*** (329,096)	.059	202
Educational attainment	.050** (.018, .082)	.016	.175	.053** (.022, .085)	.016	.187
Bonding SC				.131** (.056, .206)	.038	.235
Bridging SC				050 (131, .030)	.041	079
Linking SC				041 (114, .032)	.037	081
Trust in neighbours				.121 (036, .279)	.080	.087
R-square	0.093			0.132		

Table 3. Association between social capital and HRQoL of people living with chronic diseases by multiple linear regression

n = 315, *p < 0.05, **p < 0.01.

Figure 2 and Table 5 show the results of the mediation analyses. According to Figure 2 and Table 6, NHIS enrolment was significantly associated with HRQoL (β =0.192, p < 0.01) and mediated the relationships of trust in neighbours (β =0.022, p < 0.05), bridging (β =0.038, p < 0.01) and linking (β =-0.023, p < 0.05) social capital with HRQoL.

Discussion

To expand the debates on informal welfare arrangements, often driven by socio-cultural and ideational principles, this study has examined how social capital shapes social health insurance enrolment and HRQoL of people living with chronic diseases in Ghana. The findings draw us closer to strengthening existing social policies to improve the life quality of people with long-term health problems. This knowledge base is significant for Ghana and other places where the welfare system is still evolving (Amoah, 2020; Wood and Gough, 2006). To the best of our knowledge, this is the first study to explore how social capital affects the HRQoL of this population group. In the ensuing sections, the findings are discussed in the context of social determinants of health, sociocultural and ideational perspectives of welfare provisions, and their implications for people living with chronic diseases and the entire welfare landscape of Ghana and places alike. We found that being enrolled in the NHIS was positively associated with the HRQoL of people living with chronic diseases. This finding is consistent with several other studies across different countries, which point to the critical role of health insurance in health outcomes (Assari *et al.*, 2019; Mazumder and Miller, 2016). The finding lends support to government policies aimed at reducing financial burden on health, similar to those implemented in Ghana (Vellekoop *et al.*, 2022).

Bonding social capital is a health asset for people living with chronic diseases

Consistent with several extant research, bonding social capital was associated with the HRQoL of people with chronic diseases. This is not entirely surprising, considering that this kind of social capital is the most accessible and remains a primary health asset for this demographic (Amoah *et al.*, 2018a; Halpern, 2005). In many sub-Saharan African countries, close social

Table 4. Association between social capital and NHIS enrolment among people with chronic diseases by logistic regression

		1	Model 1			Model 2				
				95% CI	for OR				95% CI	for OI
Variable	В	SE	OR	Lower	Upper	В	SE	OR	Lower	Uppe
Age	031**	.011	.969	.949	.990	029*	.011	.971	.950	.993
Number of chronic diseases	.210	.207	1.233	.822	1.850	.310	.217	1.363	.891	2.085
Educational attainment	122	.063	.885	.783	1.001	094*	.065	.910	.801	1.03
Sex										
Female (ref)										
Male	.115	.271	1.096	1.121	.660	.106	.283	1.111	.638	1.93
SES	.034	.102	.966	.791	1.187	060	.106	.942	.765	1.16
Marital status										
Unmarried (ref)										
Married	208	.304	.812	.448	1.475	265	.324	.876	.487	1.57
Location of residence										
Urban (ref)										
Rural	.991**	.370	2.695	1.305	5.564	.945*	.398	2.572	1.179	5.61
Region of residence										
Greater Accra (ref)										
Ashanti	.781	.460	2.184	.886	5.385	.480	.530	1.617	.572	4.57
Brong Ahafo	489	.528	.613	.218	1.724	490	.563	.613	.203	1.84
Northern	307	.403	.736	.334	1.621	325	.437	.723	.307	1.70
Eastern	-1.914***	.550	.147	.050	.433	-2.346	.595***	.096	.030	.30
Bonding SC						.045	.145	1.154	.901	1.47
Bridging SC						.540***	.155	1.046	.788	1.38
Linking SC						313*	.139	1.715	1.266	2.32
Trust in neighbours						.327	.291	.731	.557	.95
Nagelkerke R ²			0.166				().227		

n = 315, *p < 0.05, **p < 0.01; CI = confidence interval; OR = odds ratio; SE = Standard Error.

networks, including, sometimes, extended family members, are historically the first point of call for welfare support, given cultural expectations that put the responsibility of care on families (Kpessa and Béland, 2013). For instance, in parts of Cameroon, even amid waning direct family care, families and communities seek hired help for vulnerable populations informally because of cultural expectations (Fonchingong, 2013). For people living with severe chronic health conditions and many vulnerable populations in Ghana, bonding social capital is a crucial health asset when it comes to seeking health information, as well as emotional and instrumental support because of weaknesses in formal welfare services and public health (Addae and Kuhner, 2022; Amoah *et al.*, 2018b; Nordensvard and Ketola, 2022; Vancampfort *et al.*, 2017). The evidence in this study corresponds to arguments that promoting social capital can be a 'key mechanism through which disadvantage and poverty, which result in ill health, might be tackled' (Haslam and Haslam, 2019, p. 23). Thus, this finding necessitates a rethink of current formal

Table 5. Direct and total effects paths examined

	Bonding		Bridging		Linking		Tr	ust	NHIS enrolment	
	Total effect	Direct effect	Total effect	Direct effect						
NHIS enrolment	.093	t.093	.197	.197**	122**	122	.144*	.144*	-	-
HRQoL	.234*	.216*	091	129	070	047	.071	.049	.192**	.192**

 $^{^{\}star\star}p < 0.01; \ ^{\star}p < 0.05.$ All values are standardised estimates

		95% Confide			
Paths	В	Lower boundary	Upper boundary	β	p-value
Bonding SC NHIS enrolment HRQoL	0.012	0.000	0.035	0.018	0.116
Bridging SC NHIS enrolment HRQoL	0.029	0.010	0.060	0.038	0.005
Linking SC NHIS enrolment HRQoL	-0.014	-0.038	-0.003	-0.023	0.035
Trust NHIS enrolment HRQoL	0.037	0.006	0.087	0.022	0.037

Table 6. Indirect effects of social capital on HRQoL through health insurance coverage among people with chronic diseases

Notes: Bold figures indicate significant relationships. Table generated through software provided by Gaskin and Lim (2018).

welfare provisions in ways that enable individuals to support their ailing loved ones without many adverse effects on household welfare. Given the relatively high poverty and deprivation levels in Ghana (MGCSP, 2015), at least targeted welfare schemes to support families devoid of the current strict means-tested approaches to meet their healthcare needs will go a long way to addressing intergenerational poverty due to present chronic illness. This suggestion can be implemented by decentralised arms of the government and non-state actors as part of the government's social protection strategy to support self and mutual help activities at individual, local, and community levels (MGCSP, 2015).

Bridging and linking social capital shape patronage in formal welfare programmes

According to this study, bridging social capital was positively associated with NHIS enrolment. While cultural expectations of welfare support of bridging social capital are not as strong as bonding social capital, the ideational principle of norms of reciprocity transcends close-knit relationships in many societies (Halpern, 2005; Hollard and Sene, 2016; Kpessa and Béland, 2013). In Ghana and many other sub-Saharan African countries, individuals within weak social networks (e.g. communities and social associations) are inclined to support their acquaintances in all forms as they would do for close social ties (Amoah *et al.*, 2018a; Kpessa and Béland, 2013). Hence, Lee *et al.* (2020) argue that structural forms of social capital (e.g. bridging social capital through community participation) can shield against the adverse effects of chronic diseases. Apparently, one of the possible ways to achieve such protective effects of bridging social capital is through support for people with chronic diseases to access and utilise health protective programmes.

However, the negative association of linking social capital with NHIS enrolment shows that cultural precepts of reciprocity embedded in unequal social relationships can limit the expected impact of social protection programmes. Social capital can negatively impact health outcomes (Villalonga-Olives and Kawachi, 2017). This study shows that one of the ways to achieve such possible association is through enrolment in social insurance programmes. Poor and vulnerable people sometimes use their linking social capital to access health services informally by consulting professionals and potentially skilled people outside of formal systems, even to the point of delaying help-seeking (Amoah *et al.*, 2018a). Such people are less likely to enrol in health insurance programmes if they are likely to obtain health services at little to no cost. Given the role of bridging and linking social capital in NHIS enrolment, this study agrees with Fine (1999) that social capital is not a substitute for effective public policy; instead, it is a prerequisite for it and sometimes works through states and markets – in this case, the state programme of NHIS. These social resources must be scrutinised carefully in the context of a given situation during the conception and implementation of formal welfare policies.

Formal welfare programmes explain the influence of informal support on HRQoL

The National Social Protection Policy of Ghana advocates for significant collaboration between government institutions, community, and traditional institutions (e.g. chiefs and other local leaders) and householders to blend formal and informal welfare services to ensure adequate support for vulnerable populations (MGCSP, 2015). Therefore, the findings in this study that NHIS enrolment mediates the association between trust in neighbours, bridging and linking social capital with HRQoL of people living with chronic diseases, provide empirical evidence on the need to pursue a welfare mix of state and non-state collaboration in welfare provision. Previous research suggests that trust in neighbours directly improves health outcomes for people with chronic diseases (Palafox et al., 2017). However, this was not the case in the current study. Instead, among people with chronic diseases, high trust increased the chances of enrolment in health insurance programmes, which has been documented to improve health outcomes (Assari et al., 2019; Mazumder and Miller, 2016). Hence, this finding is consistent with that of Fenenga et al. (2015), who found that trust at community and institutional levels is critical to enrolment in NHIS. Halpern (2005) argues that societies with high trust engender strong bonds between people and public institutions. Under such conditions, people are more likely to trust and uptake public and private services to protect their health (Palafox et al., 2017).

Moreover, with other studies in Ghana positioning family (bonding) social capital as a vital health asset among young populations (Addae and Kuhner, 2022), this study adds that social capital, as an asset, goes beyond close-knit ties to include weak ties, such as bridging and linking. The influence of bridging and linking social capital on HRQoL through the NHIS enrolment confirms the long-held hypothesis that weak social ties (i.e. bridging and linking social capital) produce resources (e.g. money and information) often outside the reach of close-knit ties, which can contribute to good health (Amoah and Adjei, 2023; Halpern, 2005). With reports of low knowledge of NHIS and hesitation of some householders to enrol in the programme (Fenenga et al., 2015; Schieber et al., 2012), it is possible that bridging and linking social capital are avenues to improve the affordability of healthcare, leading to improved HRQoL. Christian et al. (2020) argue that people with chronic diseases often have a stronger will to engage with social organisations such as civil society organisations, non-governmental organisations (NGOs), and even faith-based organisations. These organisations often generate bridging and linking social capital, which can be useful for subscribing to health insurance in Ghana. For example, some NGOs provide financial aid for communities to enrol in the NHIS (Fetrie-Akabor, 2023). Such situations allow people with chronic diseases who are in difficult financial situations to obtain needed financial assistance (Christian et al., 2020; Islam et al., 2014). This is partly why Putnam (2000) recounts that having more social capital enables people with chronic conditions to recover better than those without this support.

Furthermore, the mediating effect of NHIS enrolment in the association of bridging and linking social capital with HRQoL can be attributed to the role that health insurance plays in health behaviours and family financial situations. Malta *et al.* (2015) argue that having health insurance reduces the chances of adopting deleterious lifestyles as they are likely to seek professional advice instead of unconventional remedies. This implies that social capital can dissuade choices that adversely affect health outcomes by aiding people with chronic diseases to obtain health insurance. Additionally, these findings mean that while social capital and other culturally driven informal welfare support are touted as critical to HRQoL, its role can be better understood through the availability of formal services such as the NHIS in Ghana, which can reduce health inequalities (Assari *et al.*, 2019). This finding supports the assertion by Ghana's National Social Protection Policy document that while Ghana has a rich tradition of social norms of reciprocity at family and community levels that offer support to those in need, such structures must be 'built upon and harnessed' to have a robust welfare system (MGCSP, 2015, p. 47). Hence, the need for an appropriate welfare system that allows for the sustainable co-existence of informal and formal

provisions in places such as Ghana is non-negotiable. After all, despite plans to 'modernise' Ghana's welfare system (MGCSP, 2015), family and other informal networks remain critical 'risk absorbers' for vulnerable groups (Addae and Kuhner, 2022; van der Geest, 2018).

Limitations

While the above evidence is helpful in understanding the role of social capital as a health asset in the HRQoL of people living with chronic diseases, it is important to acknowledge these limitations. The empirical analysis is based on cross-sectional data. Additionally, the data were primarily based on self-reported variables, which can be susceptible to social desirability. Therefore, causal conclusions cannot be drawn from the results. Despite these limitations, the findings and ensuing discussions indicate that the study is consistent with numerous existing studies and has important implications for research, policy, and practice.

Conclusions and the way forward for welfare services

Debates on the role of social contexts in welfare policies, their uptake and implications for population well-being remain a subject of ongoing research in LMICs. This study aimed to contribute to these debates by examining how cultural and ideational precepts such as social capital serve as a health asset in shaping social health insurance policies (NHIS enrolment) and HRQoL among people living with chronic diseases in Ghana. It also explored whether NHIS enrolment explains the association between social capital and HRQoL of people living with chronic diseases. In pursuing these aims, the study adds to the broad debates on cultural and ideational dimensions of welfare provision by exploring how informal sources of welfare (i.e. social capital) co-exist with formal arrangements (i.e. NHIS) and their consequences for HRQoL.

The evidence suggests that health insurance is crucial to the HRQoL of people with chronic disease(s). Also, both structural and cognitive aspects of social capital can be important health assets regarding the uptake of social insurance programmes and the promotion of HRQoL. The findings indicate that while social capital is instrumental to the HRQoL of people living with chronic disease(s), it does so by, among others, supporting such people in securing formal health protective services. At the same time, some social capital domains (e.g. linking social capital) can confine patronage of public health protection programmes. These imply that even with the availability of formal welfare programmes, culturally driven informal resources are critical to making such programmes meaningful to people at risk of poor health outcomes. With Ghana's National Social Protection Policy emphasising mobilising individual and community networks and formal mechanisms to offer modern welfare services (MGCSP, 2015), it is imperative that the nature of such informal arrangements is contextually understood. Based on the findings of this study, efforts to modernise the welfare system must consider the characteristics and the roles of different forms of social capital (e.g. bonding versus linking social capital) to make their inclusion in formal welfare arrangements meaningful and sustainable. The evidence in this study shows that formal and informal welfare support work hand-in-hand to promote the HRQoL of people living with chronic diseases.

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