



Understanding (in) formal health and wellbeing networks within higher education: a mixed-method social network perspective

Nils Swindell¹ · Jennifer Thomas¹  · Jeremy Tree² · Denise Hill¹ · Joanne Hudson¹ · Gareth Stratton¹

Accepted: 3 December 2023
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Abstract

In response to increasing concerns about the mental health and wellbeing of university students and staff, policy aims have shifted towards a ‘whole-university approach’ to mental health and wellbeing. This policy advocates for a culture wherein mental health and wellbeing are a key priority across all levels (individual, societal, environmental). Thereby, responsibility for mental health and wellbeing is distributed across the institution, requiring contributions from staff irrespective of whether mental health and wellbeing are central to their role. Consequently, boundaries of responsibility and expertise can be unclear, while individual and professional capacity and opportunity influence the consistency of support. Effective governance of the whole-university approach requires an understanding of the complex network of ‘actors’ in the wellbeing system to cohesively deliver strategic objectives. This mixed-methods case study of one Higher Education Institution (HEI) employed social network analysis (SNA) to identify network structures and connections between staff who promote mental health and wellbeing. Qualitative follow-up explored factors associated with network prominence, cohesion between the informal network and formal structures, and overall perceptions of the network. An informal network of 211 actors in the wellbeing system was identified, revealing disparities with formal governance structures. Prominence in the network was attributed to both extrinsic (e.g. workplace culture and leadership) and intrinsic (e.g. social rewards) factors, and was perceived to provide value by increasing cohesive and collaborative working. However, findings also indicate the need to raise awareness of the network and improve capacity for network membership and engagement.

Keywords Mental health · Wellbeing · Whole-university approach · StepChange · Social network analysis

Introduction

The prevalence of mental health conditions amongst university students and staff has increased rapidly over recent years (Sampson et al., 2022). Around one-third of students in the UK experienced poor mental health between 2010 and 2019 (Tabor et al., 2021), while referrals for staff counselling have increased by an average of 155% (Morrish & Priaux, 2020). Wellbeing amongst Higher Education (HE) students has also declined over the past 5 years as indicated by increased anxiety, and overall wellbeing remains consistently below that of comparative non-student populations (Neves & Hillman, 2019). For the purposes of this paper, we define wellbeing as a ‘population-based term targeting positive feelings about oneself and reflecting an inner capacity—a resourcefulness—to deal with the pressures and challenges of student life and learning’ (Barkham et al., 2019). While debates in the literature pertaining to definitions of wellbeing and its conflation with mental health are beyond the scope of this paper, we acknowledge that these constructs exist on a continuum; that is, poor wellbeing may occur in the absence of a mental health diagnosis, while an individual with mental health issues can experience high subjective wellbeing (Houghton & Anderson, 2017). Since universities are responsible for providing support services which prevent mental ill-health and promote wellbeing (Sampson et al., 2022), each of these constructs will be discussed in the context of this study hereon.

Given the myriad of socio-contextual determinants of mental health and wellbeing across multiple levels (Kemp & Fisher, 2022) and the complex interplay between supporting students and increased demands on staff in the university setting (Brewster et al., 2022), promoting the mental health of those involved presents one of the most significant challenges currently faced by policymakers in this sector.

On the basis that isolated interventions and services are too reactive and inadequate to address the multifactorial challenge of mental health and wellbeing determinants and outcomes (Worsley et al., 2020), recommendations for a ‘whole-university approach’ to mental health have been set out by the Student Minds University Mental Health Charter (Hughes & Spanner, 2019). A whole-university approach recognises that all aspects of university life across multiple levels (e.g. individual, societal, and environmental) influence mental health and wellbeing and therefore encourage the development of a culture that supports wellbeing outcomes for the whole-university community. For example, The University UK’s Step Change framework (Universities UK, 2017) provides four domains Learn, Live, Work, and Support as the core elements of university life and thus moves beyond the provision of reactive services or isolated interventions. Despite being broadly adopted across the sector, translating the rhetoric of whole-university approaches into meaningful action within large, complex organisations is challenging (Dooris et al., 2020).

Implementing a whole-university approach extends the responsibility for mental health and wellbeing beyond formal support provisions such as student support services, which consequently raises questions pertaining to boundaries of expertise and responsibilities of specific roles, as well as the individual and professional capacity to undertake such tasks (Brewster & Cox, 2022). For example, while many academics acknowledge pastoral care as an aspect of their role, perceived responsibility and capacity to provide support vary between individuals leading to weak and uncertain boundaries and inconsistencies in support (Student Minds, 2018). Similarly, library services may adopt greater responsibility for wellbeing within a whole-university approach through delivery of wellbeing workshops or signposting to other services, yet without corresponding increases in power or resources, this is reliant on individual staff’s initiative (Brewster & Cox, 2022). These examples

illustrate how delivering a whole-university approach largely depends on the perceived responsibility of formal (e.g. Student Support Services, Student Union) and informal (e.g. academic staff, security, library personnel) groups of staff across the organisation (Brewster & Cox, 2022). An appropriate governance structure is required to implement a whole-university approach and facilitate cohesion between this complex network of formal and informal 'actors' in the wellbeing system. To achieve cohesive delivery, reduce duplication of work, and avoid conflicting messages, it is important to initially define the network of actors who contribute to health and wellbeing in this setting and establish their degree of influence and role in delivering the health and wellbeing strategic objectives.

Social network analysis (SNA) (Zweig, 2016) provides a visual representation of the relationship between individuals in a social network. Through graph theory (Zweig, 2016), relationships are viewed as nodes (actors) and relationships are depicted by ties between nodes (Scott, 2011). In HE settings, SNA has been applied to identify hidden structures within academic departments (Henderson & Quardokus, 2013), understand the informal faculty structures to inform change in instructional practices (Quardokus & Henderson, 2015), and identify faculty networks through co-authorship or citations (Hurtado et al., 2014). To our knowledge, no studies have used SNA to understand informal networks of mental health and wellbeing provision in HE. Social network analysis has the potential to provide great value within the whole-university approach by identifying informal networks which can in turn be utilised to improve the flow of information, promote cohesion, and increase efficiency (Horak et al., 2020). For our purposes, the 'informal network' refers to the individuals identified through the SNA, and is based on the presence of connections. While SNA can detect structures created by relationships, in isolation, the number and type of connections held by an individual reveal little about their quality or the value they provide. Therefore, SNA is increasingly being complemented by qualitative data gathering to enhance interpretation and extend its applicability (Froehlich et al., 2020).

Therefore, the aims of this study were, first, to identify connections and networks that promote staff or student wellbeing across a HE setting and compare these to established networks within the governance structure and, second, to identify prominent actors and network features that can be used to support the cohesive delivery of the university's health and wellbeing strategy in the future. Finally, this study aimed to capture the perceived value of a cohesive network and how prominent actors fostered and maintained their connections.

Methods

Participants and setting

This study was based on the network structure of staff working at one HE institution based in Wales (UK). The HE institution released a Health and Wellbeing Strategy in 2020, which integrates principles of the Wellbeing of Future Generations Act (2015) (WCFG, 2015), Universities UK's StepChange programme (Universities UK, 2017), and the Thriving at Work review of mental health standards in the workplace (Farmer & Stevenson, 2017). The strategy committed to the development of a 5-year improvement plan built on the whole system approach and eight strategic objectives designed to promote a thriving and flourishing community of staff, students, and visitors (see Online Resource 1). A new

governance structure was formed by means of a Health and Wellbeing Board and Health and Wellbeing Network (from now on referred to as ‘formal’ networks).

The Health and Wellbeing Board reports directly to the University Senior Management Team and has delegated responsibility for the delivery of policy and strategy. The Health and Wellbeing Network is responsible for operations and the delivery of programmes and activities that promote, prevent, and provide health and wellbeing opportunities and support for staff, students, and visitors.

Given the number and diversity of potential ‘actors’ in the network ($n=3912$), an initial target network of 25 participants was purposively identified,¹ which facilitated the inclusion of additional participants through a respondent-driven approach (i.e. based on feedback from the original sample (Frantz, 2017)).

Design

A sequential exploratory mixed-methods design was adopted whereby collection and analysis of quantitative data preceded and informed a qualitative phase (Dominguez & Hollstein, 2014). This approach was deemed most appropriate for addressing the research aims, i.e. evidencing the structure, content, and context of the university’s wellbeing network through quantitative centrality analysis and subsequently utilising quantitative findings to qualitatively explore the experiences of individuals identified as most prominent in the network (Yousefi Nooraie et al., 2020).

Data collection

For the quantitative phase, purposively selected participants were contacted by email and asked to complete an online survey. The survey asked each individual to identify the nature of their working relationship with the other listed participants (1=*It’s me*; 2=*I don’t know them*; 3=*I know of them but don’t interact with them*; 4=*I have worked with them in the past, but we have not connected for some time*; 5=*Communication, we share information*; 6=*Cooperation, we work together informally to achieve common goals*; 7=*We work together as a formal team*). Responses five to seven of the survey were considered a sufficient ‘connection’ between two network members to allow a basic level of collaboration. The survey also included a free-response question which allowed participants to nominate up to ten additional individuals who they believed to support wellbeing at the university. These new individuals were subsequently sent the survey to complete by means of this respondent-led snowball sampling approach. This iterative process continued until the ‘saturation point’ had been reached (i.e. no new names were generated), thus facilitating a complete network wherein prominent actors exceeded the original list (Ledesma González et al., 2021).

Using findings from the first (quantitative) phase of the study, a qualitative follow-up survey was sent to the 34 prominent actors identified by the SNA, to explore how and why connections are formed, their value to individuals in their role, and the wellbeing systems (see Online Resource 2). A map of the whole network was included for each participant, thus allowing visualisation of their position rather than relying on interpretations of a somewhat abstract concept (Tubaro et al., 2016). Demographic information (age, gender, ethnicity, disability) was self-reported.

¹ Members of the Wellbeing Board, Student Support Services, Student Union, Health and Wellbeing Officers, and Wellbeing Champions from across the institution.

Data analysis

Quantitative

Survey responses were analysed using SNA, which applies the concepts of graph theory to describe human relations and network characteristics (Zweig, 2016). The network analyses were conducted using Gephi (Gephi 0.10.1; 202301172018) (Bastian et al., 2009). In this study, nodes were university staff members, and edges represented relationships or ties between staff members. For graph generation, relationships (edges) between individuals (nodes) were assumed to be directed (e.g. arrowheads indicating out-degree/in-degree centrality), and non-respondents to the survey were treated in the same manner as respondents who reported no connections (Hevey, 2018). Fruchterman-Reingold graph layout was used throughout (Fruchterman & Reingold, 1991).

The following metrics were derived to characterise the network at both the individual and network levels.

Density was calculated as the number of existing ties divided by the number of possible ties in a network with the same number of nodes. Therefore, density describes how many relationships are present compared to the theoretical maximum.

Centralisation was calculated to describe how ties were distributed by summing the difference between the degree of each node and the node that had the highest degree and then dividing by the theoretical maximisation of this sum. The higher the centralisation, the more the ties were concentrated in a few nodes.

Centrality indices were generated to examine the roles of individuals within the wellbeing network. *Degree centrality* is the number of direct connections held by each node in the network, i.e. an indicator of each individual's interconnectedness (Hevey, 2018). *Eigenvector centrality* is the sum of the numbers and strength of all connections (how many further connections each connection to that node holds) (Bonacich, 1972) to indicate individual influence over the wider network beyond their own immediate connections. *Betweenness centrality* is the number of times a node lies on the shortest path between other nodes (the extent to which a node is an intermediary or bridge); these individuals are important for the flow of information around the network and may isolate areas of the network if their roles are vacated (White & Borgatti, 1994).

The three centrality measures above were selected as indicators of prominence in the network according to their varying characteristics. A high degree of overlap existed between the three measures. Indeed, the same 34 participants made up the top 20 of each centrality measure and were therefore considered the most prominent network members and selected for the qualitative phase.

Qualitative

A thematic framework analysis was used to analyse the qualitative survey data (Ritchie & Spencer, 2002). This approach was deemed appropriate given the policy-level implications of findings derived from a priori objectives (e.g. informing how networks are created in this context) (Ritchie & Spencer, 2002), while allowing flexibility for inductive, data-driven theme development (e.g. how actors perceive and experience the network) (Gale et al., 2013). The framework analysis was undertaken by two members of the research team (NS and JT), in accordance with the five analytical steps described below.

1. Familiarisation. Survey responses were collated in an Excel spreadsheet allowing both researchers to immerse themselves in the data set as a whole. This involved repeated reading of participants' responses while recording initial thoughts, concepts, and preliminary codes or themes.
2. Identifying a thematic framework. This stage involved the development of framework categories based on emergent concepts identified in step one and a priori areas of interest. After revisiting the whole dataset, specific codes were assigned to relevant excerpts using a combined deductive/inductive approach. Each researcher grouped these codes into categorical 'themes' and 'sub-themes' intended to represent primary areas of interest. This iterative process involved several discussions between the researchers whereby analytic decisions were challenged, and themes revised until an appropriate framework was determined.
3. Indexing: application of the framework. Framework categories were colour-coded and applied to the whole dataset through highlighting relevant excerpts accordingly. In instances where data represented two or more categories, both/all colours were used. Corresponding notes were recorded where required, which offered a further explanation as to why each category/ies had been selected for the given excerpt. Any data deemed important, but did not fit the framework categories, were noted, and labelled as 'other' during this stage.
4. Charting. This step involved organising the indexed data through the application of a charting matrix. Using Excel, this comprised of framework categories as the matrix columns, and each participant as the matrix rows. Key information from highlighted excerpts generated in step three was charted for each category and participant, thereby reducing and rearranging the data to allow within (according to the participant) and between (according to the category) case reviewing. After independently charting the data, the researchers met again to employ a cell-by-cell comparison of their matrices, at which point any discrepancies were discussed and revised accordingly.
5. Mapping and interpretation. Using the populated matrix, this step demonstrates a transition in the analytical process from 'data management' to making sense of the data in relation to the research aims and objectives. This was achieved through developing final themes based on salient patterns and characteristics both between participants and within categories. It was important that the themes were both representative, and addressed the research questions through providing explanation (i.e. how the network formed), finding associations (i.e. what impact being 'connected' has and why), and informing the development of strategies (i.e. fostering network density and diversity) (Ritchie & Spencer, 2002).

Results

Quantitative

Eighty-seven staff members completed the network analysis survey producing a response rate of 70% and identifying 221 actors in the informal wellbeing network. Figure 1 shows the whole network, according to the university directorate, and Fig. 2 by membership to respective health and wellbeing (HWB) groups. The nodes represent individuals within the network and are coloured according to the university directorate, while the size of the node is weighted according to the number of connections

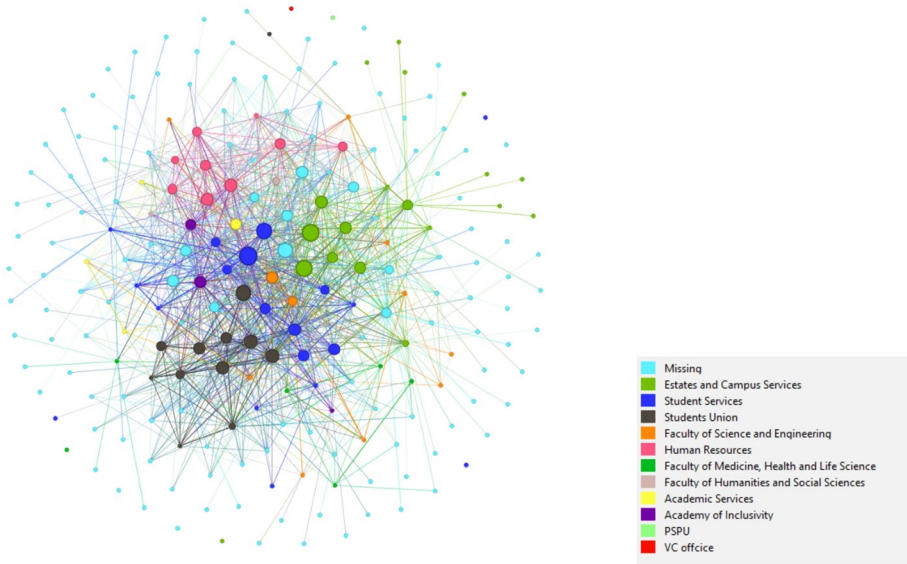


Fig. 1 Whole network by department. Notes: Missing, missing department data

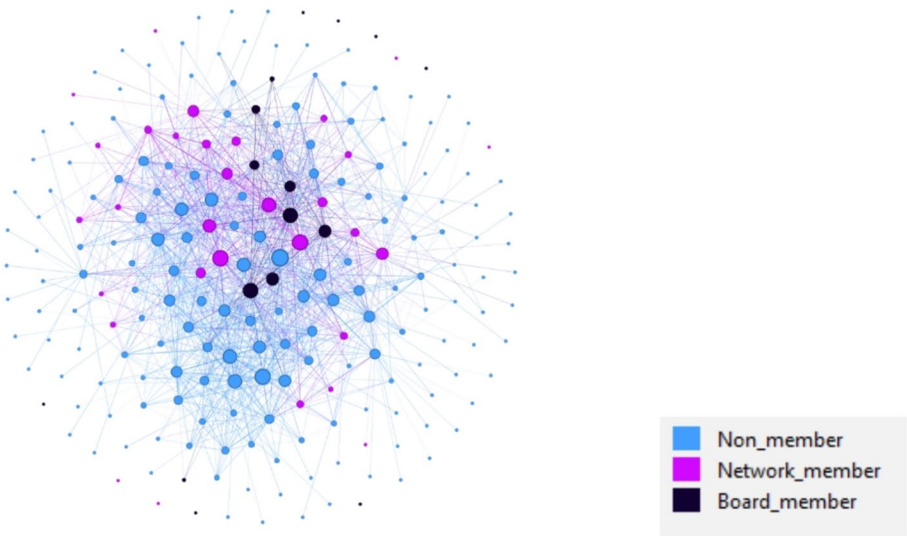


Fig. 2 All actors in the network by membership

(degree centrality). The network consisted predominantly of professional service staff from Estates and Campus Services (18), Student Services (17), Student Union (11), and Human Resources (9), collectively comprising 63% of all respondents. The representation of academic staff was low (23%) with most employed in the Faculty of Science and Engineering (11; 13%).

Table 1 Network-level characteristics ($n=221$)

	Nodes	Edge	Network density	Degree centralisation
Whole network	221	1375	0.06	0.20
Members of HWB Network	31	86	0.19	0.50
Members of HWB Board	16	24	0.20	0.21
Non members	174	724	0.05	0.20
Students' Union	12	54	0.82	-
Human Resources	9	30	0.83	-
Academic Services	4	4	0.67	-
Faculty of Medicine, Health and Life Science	6	6	0.40	-
Student Services	19	53	0.31	-
Faculty of Science and Engineering	11	20	0.36	-
Faculty of Humanities and Social Sciences	4	2	0.33	-
Estates and Campus Services	19	47	0.28	-
Missing department data	132	87	0.01	-

HWB, Health and Wellbeing

Network-level characteristics are presented in Table 1. The density of the whole network was low (6%), indicating that for every 100 connections that could exist, only six were present, resulting in a network with relatively low cohesiveness. Conversely, network density was high within select departments, specifically the Students' Union and Human Resources.

Centralisation shows the distribution of ties in the network. The low scores (<0.5) indicate that ties were well dispersed between the nodes. The greatest centralisation score was observed for members of the health and wellbeing network, indicating that the flow of information is dominated by fewer individuals in a more hierarchical structure.

Important actors in the network

Our primary interest was to understand the structure of wellbeing support within one university setting, develop insight into cohesive working practices (one of the enablers in the StepChange programme (Universities UK, 2017), and thereby support a whole-university approach to delivering the Health and Wellbeing Strategy. Understanding this structure identifies individuals who spread and monitor the flow of information across the network. Three indicators (degree centrality, eigen centrality, and betweenness) were used to monitor the role of individuals within the network.

A high *degree centrality* indicates an individual who is highly connected in the network. These individuals can quickly spread information about procedures reform or provide feedback from across the network to senior leadership. Figures 3 and 4 present the 50 most prominent actors in the informal wellbeing network according to degree centrality. Figure 3 shows how they are distributed between university departments, while Fig. 4 shows the representation of the university's Health and Wellbeing Board and Health and Wellbeing Network amongst prominent actors. These figures show that the prominent actors in the informal network are predominantly from the Students' Union,

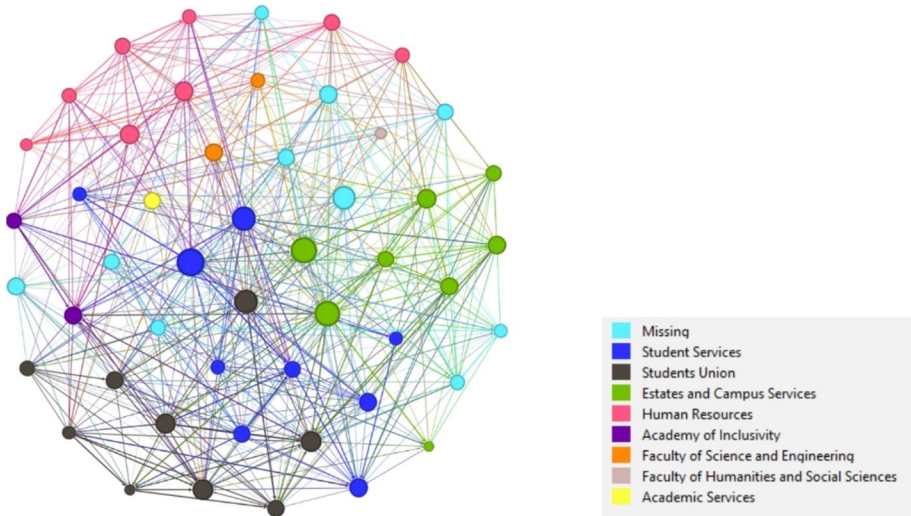


Fig. 3 Fifty most prominent actors in the network by department

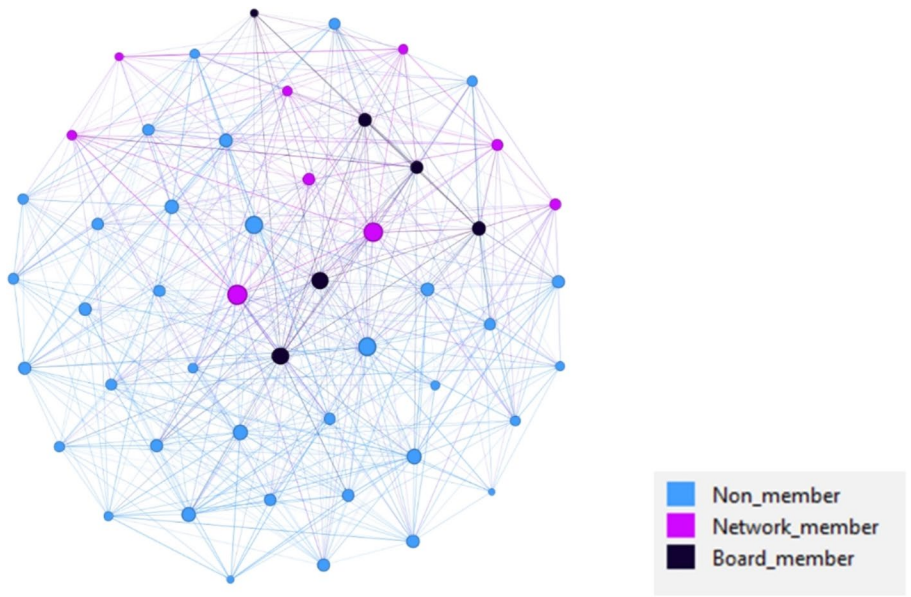


Fig. 4 Fifty most prominent members and their membership to the board and network

Student Services, and Human Resources. Furthermore, most of the prominent actors in the informal network were not members of the formal Health and Wellbeing Board or Network.

Figure 5 shows the formal health and wellbeing network in purple. All actors in the informal network with a direct connection to the formal network have been removed to

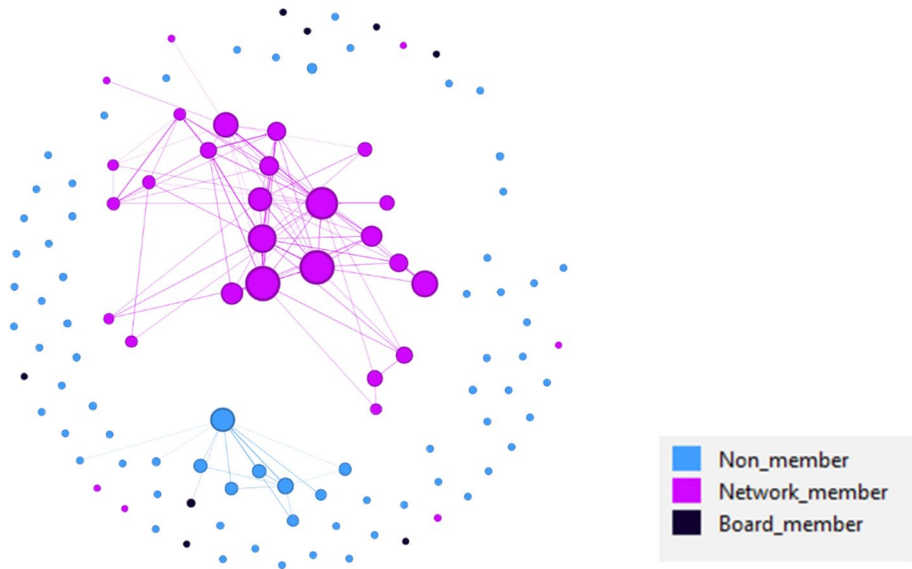


Fig. 5 Reach of the wellbeing network

isolate those who are not connected to the formal network and highlight where new lines of communication could strengthen the reach of the network.

Qualitative

Survey responses were provided by 15 of the 34 prominent network members identified by the SNA. The respondents' characteristics are presented in Table 2. Wellbeing promotion or support was described as a primary aspect of the role by nine respondents (e.g. HWB Officer, Welfare Officer) and either secondary (e.g. Sustainability Manager, Security Officer) or tertiary (HR Manager, Inclusivity Manager) by the remaining six respondents.

Two overarching themes with five sub-themes were identified through the framework analysis (Table 3). These themes are described in detail below; illustrative quotes have been selected which highlight participants' experiences of *becoming connected* and *perceptions of the HWB Network's value* to themselves and others.

Becoming connected and network formation

Participants described a range of contributing factors which enabled them to form connections with other staff. These largely represented indirect processes such as obligations of their job role and more direct actions such as proactively seeking opportunities to network and engage. These extrinsic and intrinsic means by which connections occurred are described in further detail below.

Table 2 Characteristics for respondents of qualitative survey ($n = 15$)

Characteristic	<i>N</i>	%
Age (years)		
55–64	5	33.3
46–54	5	33.3
41–45	2	13.3
31–35	1	6.7
18–25	1	6.7
36–40	1	6.7
Gender		
Female	10	66.7
Male	5	33.3
Ethnicity		
Asian	1	6.7
Black	1	6.7
Mixed/multiple ethnic background	1	6.7
Other	2	13.3
White	10	66.6
Department		
Estates and facilities management	4	26.7
Faculty of science and engineering	3	20
Human resources	2	13.3
Student services	4	26.7
Prefer not to say	2	13.3
Member of HWB network		
Yes	8	53.3
No	7	46.7
Member of HWB board		
Yes	4	26.7
No	11	63.3

HWB, Health and Wellbeing

Table 3 Themes, sub-themes, and categorical examples

Themes and sub-themes	Examples
Becoming connected and network formation	
<i>Extrinsic factors</i>	Role requirements
<i>Intrinsic factors</i>	Initiative
Perceptions and value of the network	
<i>Individual-level experiences</i>	Confidence
<i>Organisational-level outcomes</i>	Cohesive working
<i>Policy-level considerations</i>	Promotion

Extrinsic factors It was apparent that prominence in the social network was somewhat expected for those participants who recognised the promotion of health and wellbeing as a *primary* aspect of their role. This included connections which were cultivated through creating ‘ground-level’ opportunities in this context:

As part of my role, I organize campaigns and events that help improve health and wellbeing (P14: Welfare Officer).

And those formed through ‘top-down’ processes from the leadership level:

This didn’t surprise me given my leadership role. I chair the health and wellbeing Board and co-produced the network strategy in 2018 (P6: HWB Board Chair).

Leadership influence was also recognised as both a barrier and an enabler to establishing connections in relation to facilitating introductions and endorsing health and wellbeing in general:

My manager sent me round to speak to a lot of people, which was helpful (P13: Welfare Officer).

My team and manager are huge advocates on wellbeing and we support, empower and guide each other (P2: Learning and Development Manager).

The main barriers [to becoming connected] include ineffective management (P1: HWB Officer).

Although not explicitly stated, this could explain why some participants—despite their centrality—cited ‘finding out who to speak to’ (P3: Inclusivity Manager) as the main barrier to establishing connections within the network.

While some participants’ well-established connections were a consequence of their duties and job role (see above), others described how their prominence in the network reflected factors beyond their control such as insufficient resourcing:

Due to total absence of any staff responsible for wellbeing in the Union, this has fallen upon me to take up these additional tasks and responsibilities (P12: Students’ Union CEO).

Despite identifying health and wellbeing as secondary with regards to their role, other participants attributed their prominence in the network to existing connections from previous roles:

Wellbeing is a secondary element to my role. Wellbeing had been a primary element in the past (P5: Sustainability Manager).

Intrinsic factors Participants described how actively seeking out relevant opportunities and interpersonal connections had facilitated and maintained their central position within the wellbeing network. As described by P7, this included both engagement with *existing* groups and taking the initiative to *create opportunities* for further interactions:

I developed my network through gaining contacts from attending other groups, events and the “unofficial staff wellbeing group” (P7: HWB Officer).

I read the websites, offered to speak and present, and set up 1:1 with new contacts to facilitate new leads (P7: HWB Officer).

While some participants' responses lacked the detail to establish underlying motives, it was evident that centrality in the network often reflected individual characteristics, such as personality traits and personal beliefs:

I also enjoy meeting new people and making connections so I actively seek out opportunities to do so (P13: Welfare Officer).

I believe in making connections and building capacity (P1: HWB Officer).

For others, centrality in the network was more indicative of their integral values and motives for working in this context, irrespective of whether 'wellbeing' was a primary requirement of their role:

Why are we here working with students and staff if we don't want to be part of this network? (P4: Sustainability Officer).

Perceptions and value of the network

When describing the effects of their connections across the network, most participants alluded to the personal and professional impact of their centrality at the individual level and wider effects on working practices across the organisation. This included a range of both positive and negative outcomes which were considered directly consequential to their position within the network. Many participants also offered policy-level suggestions pertaining to increasing density, diversity, and the potential for utilising the network to inform improvement for wellbeing-related strategies.

Individual-level experiences Centrality in the network was mostly depicted as a positive asset to participants' own wellbeing, predominantly through improving their sense of competence in the role, or by virtue of their perceived social support networks:

I also enjoy making connections and knowing a lot of people which makes me feel more confident at work (P13: Welfare Officer).

I have made some very positive and flourishing connections across the university with likeminded people who boost my own moral and wellbeing (P1: HWB Officer).

Prominence in the network was also reflective of an awareness, with participants acknowledging the benefit of understanding each other's roles and strengths in relation to wellbeing-related outcomes for students and staff:

It has helped me better understand what other Faculties are doing and how they work (P14: Welfare Officer).

Helped me understand the needs of students and staff better...gain knowledge of people and tools to help others (P4: Sustainability Officer).

For some, increased awareness and understanding through engaging with the network were related to improved working relationships and efficient working practices:

Value [of the network is] to be able to join forces and work together and not compete or duplicate (P7: HWB Officer).

Conversely, other participants described how prominence in the network presented a source of stress owing to the association between increased connections...and workload:

I have had to compromise my own work-life balance to respond to, work on and contribute to, very many priority streams (P12: Students' Union CEO).

While others identified tensions between individual actors as a direct stressor:

Some of the closer connections have been a source of stress and strain on my well-being (P1: HWB Officer).

Organisational-level outcomes In addition to impact at the individual level, many participants described how the network enabled sharing of valuable information and cross-organisational collaborations to address pertinent issues and improve working practices:

It has helped to avoid duplication because by pooling resources, we are also able to provide quality services when we collaborate (P14: Welfare Officer).

[The network] led to collaborations and improved the service we offer (P9 Campus Life Manager).

Other prominent actors in the network highlighted how their position was integral to communicating these service-level changes to the key decision makers within the organisation:

The connections with key colleagues in this area has helped me represent student voice, provide view from the ground, and has also helped me raise important issues at the highest decision making levels (P12: Students' Union CEO).

Translation of best practices identified through the network to long-term changes at the strategic level was deemed to necessitate a joined-up 'whole-university approach' through cohesive working and further network development:

[The network connections] enabled me to promote the 8 objectives included in the health and wellbeing strategy (P6: HWB Board Chair).

The value of the network is really important and the delivery of wellbeing has to be a whole University initiative (P4: Sustainability Officer).

Identifying others who influence HWB and working cohesively across the organisation were also regarded as integral to the development of the network, thereby perpetuating its influence on practice and policy:

I think it is very important to know who else is promoting wellbeing across the uni and to raise the profile of this force (P1: HWB Officer).

Policy-level considerations Despite the largely positive effects ascribed to individual prominence, or wider awareness of the network, there was consensus that acknowledgement of the network's value may be lacking across the organisation:

The wellbeing network needs to be recognised and supported by the Health and Wellbeing Board and Human Resources (P1: HWB Officer).

To increase recognition and awareness of the network, participants recommended direct, top-down approaches (e.g. from the management level):

It would be good to have promotional slots in FLT [Faculty Leadership Team] and department monthly meetings. ...I am surprised how wellbeing is not something Line Managers are taught to promote and prevent. Although this is changing (P2: Learning and Development Manager).

They also endorsed indirect promotional campaigns intended to highlight the advantages of engaging with the HWB Network:

Or a newsletter to promote this network more (P2: Learning and Development Manager).

This[network] needs to be promoted through appropriate channels, and the benefits it can potentially bring to individuals need to be communicated and promoted well to staff and student community (P12: Students' Union CEO).

The general lack of awareness of those comprising the wellbeing network was apparent even from those identified as central actors through this research, reinforcing the argument for recognition by policymakers of those who influence wellbeing at the practice level:

I was not aware that any "formal network" existed (P3: Inclusivity Manager).

[I'm] confused by the different networks and whether they are invite only or can I attend? What is the network? (P7: HWB Officer).

The excerpts above clearly demonstrate the disconnect between prominent actors who engage, collaborate, and provide direct support to students and staff (e.g. this 'informal' network) and those comprising the 'official' networks through which policy-level decisions are made.

Discussion

This mixed-methods study applied a quantitative SNA to identify informal network structures and prominent actors in the context of Health and Wellbeing provisions across a Higher Education Institution. Qualitative follow-up provided further insight into the perceived value of a cohesive network, and how connections were fostered and maintained, by the most prominent members.

The SNA identified an informal HWB Network comprised of 211 actors from academic and professional service roles. Expectedly, a majority of the informal network was comprised of staff in roles directly related to wellbeing. However, it also included a diverse range of roles from a complex network covering 12 departments and two campuses. Significantly, very few of the informal network members represented the ‘formal’ staff HWB Network or HWB Board (14% and 7%, respectively) highlighting the need to better understand the diverse network of actors supporting wellbeing provision across the institution.

Framework analysis of qualitative data identified several extrinsic and intrinsic pathways through which participants had become prominent actors in the informal HWB network. As most participants in the qualitative phase (9/15) considered ‘wellbeing’ a primary aspect of their work, attribution of centrality to job role requirements was somewhat to be expected. There were several factors which determined prominence in the network in instances where this had not emanated by virtue of job role requirements (e.g. wellbeing identified as ‘secondary’ or ‘tertiary’ to the role). At the individual level, these participants had proactively integrated themselves with the network owing to intrinsic and social rewards acquired through contributing to HWB and connecting with others. Findings suggested that workplace culture had also facilitated these participants’ centrality, with particular emphasis on the impact of leadership and values as determinants of initial and continued integration with the network. When considering the necessity of HWB-related support from professional groups to implement a whole-university approach (Brewster & Cox, 2022), these findings are encouraging and warrant further investigation to inform the translation of such practices across the institution.

Centrality in the network was largely deemed to have a positive impact on participants encompassing multiple levels of the HWB system. On an individual level, these effects mirrored some participants’ initial motives for embedding themselves within the network, such as promoting confidence and understanding through contributing to HWB and exchanging knowledge and information with fellow actors to whom they were connected. Through enabling collaboration in this manner, it is likely that the network itself promotes perceptions of peer support amongst network actors (Dooris et al., 2020), thereby contributing to their own and—reciprocally—their students’ mental health and wellbeing (Brewster et al., 2022). Outcomes attributed to cohesive and collaborative practices underpinned perceived *value* of the network at the organisational level. Despite most of the prominent actors in the network having no direct involvement with policy-level processes, interconnectedness between these individuals and those representing the formal HWB Board (see Fig. 3) clearly illustrates those in leadership positions rely on such networks to ensure strategic decisions are practice-relevant and evidence-informed (Yousefi Nooraie et al., 2020).

Conversely, some participants described the negative consequences of their prominence in the HWB Network and, ironically, how their position had accentuated perceptions of organisational siloes across the university. Excessive workload is frequently cited as the primary cause for poor wellbeing amongst university staff (Morrish & Prialux, 2020). As described by participants, the time and capacity required to sustain

their centrality in the network seemingly compounded this association, with the network representing a source of additional stress or a burden in this context. It is unclear whether this emanates from quantifiable increases in workload or pressure on these individuals to provide a ‘voice’ for their respective departments, yet to support diversity and density of the network requires mitigation of any negative associations which may thereby discourage others’ involvement. Successful implementation of a whole-university approach to wellbeing may therefore require HEs to adopt both top-down ‘silobusting techniques’ such as focus on development, reward, and collaboration (Kemp & Fisher, 2022) and bottom-up processes through which responsibility for wellbeing is equally distributed across the whole university (Brewster & Cox, 2022).

The limited representation of formal HWB Network and HWB Board members in the informal network raises questions about how representative these bodies are of wellbeing provision across the university. Indeed, SNA identified specific parts of the informal network that were not connected to the HWB Network or HWB Board. Conversely, specific members of the HWB Network and HWB Board were isolated from the informal wellbeing network. These findings suggest a disconnect between on-the-ground HWB providers and senior leadership, thereby inhibiting the opportunity for shared decision making which is central to the whole-university approach (Hughes & Spanner, 2019). Current governance structures might be more effective if their membership were advised by social network analysis studies which—by virtue of the findings—provide a ‘tool’ for policymakers to identify and involve prominent members and thereby ensure an effective flow of information between formal and informal network structures. For example, individuals with high *betweenness centrality* are intermediaries or a bridge between network members. These individuals are important when controlling the flow of information around the network and may act as gatekeepers or cause bottlenecks (Stephenson, 2005). Alternatively, *eigen centrality* provides an indication of an individual’s influence over the wider network beyond their own immediate connections. Therefore, engaging prominent members according to these centrality measures could allow more efficient dissemination of information and improve understanding of ongoing activities and needs of the network.

The disconnect observed between the informal network and the formal HWB Board may also reflect innovative practice, implemented by those on the ground. As recognised by the Student Minds Mental Health Charter, system-wide change is not a linear, top-down process; conversely, this happens organically through a complex interplay between different parts of the university and external influences (Hughes & Spanner, 2019). Network activity independent of top-down leadership may therefore provide evidence of bottom-up engagement which, in line with systems thinking, is fundamental for the co-creation of innovations by the whole system (Naaldenberg et al., 2009). In highly centralised networks, whereby influence is limited to only a few individuals, the consensus is more readily reached and collective action produced (Sandström & Carlsson, 2008). These networks are also perceived to be more accountable (Janssen et al., 2006). However, an over-reliance on central actors can reduce the diversity of information and lead to insular thinking (Bodin & Crona, 2009). Consequently, centralised networks have also been found to be less effective in solving complex challenges (Janssen et al., 2006; Sandström & Carlsson, 2008). In the present study, the centralisation values are suggestive of a decentralised network. The observed disconnect highlights a need for connecting *upward* to place any innovations in the context of the whole-university approach and, through influencing policies and practices, create supportive environments for new initiatives and greater synergy and impact (Dooris, 2013).

As described above, the limited time and capacity of university staff is clearly a barrier to more individuals seeking opportunities through which they could integrate with the HWB Network. However, through framework analysis of participants' responses, it was evident that awareness of the networks (formal and informal) and associated opportunities through which to engage were limited, thereby potentially isolating individuals for whom wellbeing was not integral to their role. The low network density reported by the SNA supports these findings; network density captures the interconnectivity of individuals in a network and has been shown to influence the transmission of information (Burt, 2005), sharing of knowledge (Carley, 2016), and the rate at which information spreads through a network (Lerman & Ghosh, 2010). Investing in network membership by, for example, incentivising network engagement or building networking activity into job roles may negate these barriers by increasing capacity, improving awareness of the network, and consequently improving network density. Networks with high density are cohesive and potentially resilient to the loss of central actors. In contrast, sparse networks are vulnerable to fragmentation (Janssen et al., 2006). Periodic newsletters may be one means through which network members could showcase best practices for HWB while simultaneously increasing awareness and network 'reach' (Dooris et al., 2020), yet this may be negated for some siloed groups which inherently prioritise work over wellbeing. Likewise, university-wide networking events intended to foster collaborative and cohesive HWB practices may be poorly attended by those who did not have supportive management and structures (Brewster & Cox, 2022).

These findings indicate the need for HEIs to provide more opportunities through which all networks (whether formal or informal) may integrate, exchange ideas, and establish a shared vision and approach to HWB. Achieving this may necessitate a longer-term culture change in which staff wellbeing and by-proxy students' wellbeing (Brewster et al., 2022) become a priority through proactive and strategic approaches which are embedded throughout organisational policies and structures. For instance, ensuring that formal network membership is accessible to anyone interested is essential for the effective representation of the 'whole system'. Further, incorporating wellbeing activities into staff workload and formally recognising these activities in performance reviews are likely to foster the increased capacity for their own and others' wellbeing (Brewster et al., 2022). Employers may also reward staff in 'non-wellbeing' roles for their commitment to achieving a 'thriving and flourishing' university (Student Minds, 2018).

This study is not without limitations. Response rates to the SNA survey (70%) may have influenced the structure of the network, with missing data due to non-respondents affecting the density and degree centrality measures (Huang et al., 2019). Future studies should consider approaches for achieving as near to 100% response rate as possible when undertaking whole network studies (e.g. incentives, follow-up; see Neal & Neal, 2017), or apply additional methods such as cognitive social structuring to improve completeness and accuracy of SNA data (Krackhardt, 1987). Similarly, although free recall is a commonly applied and validated technique for generating relational ties (Längler et al., 2019), it is possible that some ties may have been missed or—conversely—the strength of associations overestimated due to the influence of social desirability. Finally, while the cross-sectional design of this study was appropriate for addressing the research aims, networks exist in a dynamic, evolving system, and therefore, follow-up longitudinal research would support understanding of network changes over time.

Conclusion

Promoting positive mental health and wellbeing is a significant challenge currently faced by the HE sector. However, through adopting and implementing a whole-university approach, universities have the potential to cultivate a system in which students and staff can thrive and flourish. By taking a social network perspective, this paper defined an otherwise unspecified network of actors that comprise the whole-university approach and examined its structural configurations in relation to established governance networks. Knowledge of this otherwise hidden social structure offered insight into how relational ties may enable or hinder the network, thereby identifying potential opportunities for improvement. Indeed, governance structures may be more representative of the multiple interacting components of the whole system and more effectively connect disparate areas of activity if their membership were informed by SNA. Furthermore, finding ways to increase capacity for network membership and engagement and creating opportunities through which all networks (formal or informal) can integrate may support a more cohesive and resilient network to deliver the whole-university approach to mental health and wellbeing.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s10734-023-01158-x>.

Declarations

Conflict of interest The authors declare no competing interests.

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Authors and Affiliations

Nils Swindell¹ · Jennifer Thomas¹  · Jeremy Tree² · Denise Hill¹ · Joanne Hudson¹ · Gareth Stratton¹

✉ Nils Swindell
n.j.swindell@swansea.ac.uk

✉ Jennifer Thomas
j.a.thomas@swansea.ac.uk

¹ Applied Sports, Technology, Exercise and Medicine (A-STEM) Research Centre, Swansea University, Swansea, UK

² School of Psychology, Faculty of Medicine, Health and Life Science, Swansea University, Swansea, UK