Connection brokers: How educators work within and between social networks to cultivate community digital resilience to support children with disabilities using the Internet

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Abstract

For children with disabilities, being online can have great benefits, and being part of a well-connected community pays dividends. Research has focused on the development of digital resilience at an individual level but the ways in which surrounding networks of community support impact this is underexplored. Drawing on digital resilience as a socio-ecological concept and undertaking a thematic analysis of semi-structured interviews with educators, this article addresses this gap by exploring how educators work within and between community networks to support children with disabilities online. Findings suggest that educators are key connection brokers who activate and provide access to a variety of assets and manage pools of resources to build digital resilience at a community level as well as for the individual. We note, however, that addressing structural holes to allow information to flow beyond the community level is challenging and requires continued investment to cultivate greater capacity.

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Introduction

Ubiquitous digital technologies provide opportunities for children with disabilities to thrive educationally, socially, and economically, enabling them to realise their potential as active citizens. Optimal ways to nurture digital citizens rely on education and shared responsibility of all stakeholders (Organisation for Economic Co-operation and Development (OECD) 2020). Yet, for some educators the use of Internet or 'connective' technologies by children with disabilities remains problematic due to the assumed impacts of online risk experiences (such as bullying, sexual messaging and mis/disinformation) for this population (de Groot et al., 2022; Chadwick et al., 2017; Newman et al., 2017).

The term 'children with disabilities' describes a highly diverse group. In this paper we use this term inclusively, using the definition provided by the United Nations Convention on the Rights of Persons with Disabilities (2006) and by UNICEF (2022). In line with their definitions, we broadly understand the term 'children' as referring to anyone under the age of 18, while the term 'disabilities' referring to those who are affected by long-term physical, mental, sensory, or intellectual impairments. Acknowledging such a wide range of disability, Lundy et al. (2019) argues that digital technologies are a great enabler for this group. They can provide opportunities to participate and be creative in ways that children with disabilities may not be able to do so easily in the 'offline' world (Lundy et al., 2019). Accessibility and assumptions of risk are important issues, as they can lead to children with disabilities being further digitally excluded in a world demanding increasing digital participation (Mascheroni et al., 2022; Nevard et al., 2021; Lundy et al., 2019). These are interrelated issues that foreground the 'recursive loop' of social and digital inequalities, where digital disparities can reinforce and/or amplify social inequalities and *vice versa* (Mascheroni et al., 2022; Szpakowicz, 2022).

Evidence illustrates that connected experiences for children with disabilities can be different from their peers (Lundy et al., 2019). On the one hand, children with disabilities encounter online risks more frequently than their peers (El Asam and Katz, 2018). On the other, they are frequently in contact with a myriad of differing professionals who, working with the child and their parent/guardians, create child-centred communities of support. The disjuncture here is that, despite connectivity being increasingly required of all citizens, and children with disabilities coming into frequent contact with a wide range of professionals, they receive less support navigating the Internet than their peers (Glencross et al., 2021; Livingstone et al., 2017; El-Asam et al., 2021).

Advances in how digital resilience (that is, the dynamic process of learning how to recognise, manage and recover from online risk experiences) occurs within multidirectional relationships across individual, home, community and societal levels provides an alternative way through which to view this disjuncture (Author's, A). A socio-ecological approach to digital resilience, one that accounts for these different levels allows the often-overlooked key extra-familial support from professionals such as Teachers, Youth Workers and Speech and Language Therapists operating at a community level to come into sharper focus (Author's, A).

In proposing an adaption to Urie Bronfenbrenner's bioecological theory (Bronfenbrenner and Morris, 2006), Navarro and Tudge (2022) propose a 'neo-ecological theory' which is useful here. In their theoretical paper, Navarro and Tudge (2022) propose that the microsystem, understood as the space in which proximal processes, occur (e.g., home, school, or work) has both physical *and* virtual locations. This is critical and has great practical importance for educators who, residing collectively within the community, are simultaneously required to operate, intersect, and interface at individual, home, and societal levels both physically *and, using digital technologies,* virtually. This is important because social capital – that is, the psychological and social benefits engendered through individuals' social networks (Putnam, 2000; Coleman, 1994), which transcends the binary of physical *and* virtual – has yet to occupy a central role in conversations about supporting the connected lives of children with disabilities. However, educators operating at this interface must negotiate and navigate the need to educate and support but also protect children with disabilities. Mindful that communities operate at the intersection of micro (individual and home) and macro (societal) levels, ~~this article takes~~we use a socio-ecological approach to ~~digital resilience to explore~~examine~~, in particular, how~~ how digital resilience operates (or not) at a community level in relation to how children with disabilities in the United Kingdom (UK) are (or are not) supported by educators to build and show digital resilience.

What is Digital Resilience?

Resilience is a process of positive adaptation despite adversity (Southwick and Charney, 2012). There is a growing consensus that resilience operates at a systems level (Ungar, 2021). Therefore, factors that shape individual resilience are impacted by the resilience of homes, communities, and societies, and how these resources can be harnessed and developed over time (Southwick and Charney, 2012; Pfefferbaum et al., 2017; Pfefferbaum et al., 2008). Viewed through this socio-ecological lens~~,~~ resilience can be generated at multiple levels and via a myriad of interacting systems (Ungar, 2021). Recent advances in conceptualising digital resilience illustrate similar mechanisms (Author's, A; Author's, B)

Digital resilience is the dynamic process of learning how to recognise, manage and recover from online risk experiences (UCKIS, 2020). Originating within the realm of cyber-security and relating to the ability of systems to recognise and respond to cyber-attacks, digital resilience has become a useful concept through which to view online risk (Vissenberg et al., 2022). However, digital resilience research has tended to focus on the individual or home level. Hence it ~~In so doing, digital resilience~~ has been assumed to operate solely within the individual or their home environments (Author's, A). Countering this trend, Author's (A) propose~~d~~s a socio-ecological framework to understand how children build and deploy digital resilience. Author's (A) conducted participatory empirical work recruiting children aged 8-12 years old (n=59), parent/carers and educators of this age group and Internet safety experts (n=20) and 6 co-researchers aged 16-17. Analysing ~~this~~ the qualitative interview and focus group data ~~sensitised through~~using a socio-ecological framework, the authors illustrated how

digital resilience of 8–12-year-old 'pre-teens' operated within and across four different levels (individual, home, community and societal) and four process domains (learning, recognising comment managing and recovery). They posit that how digital resilience is constituted, experienced, and derived needs to be understood as:

> '*a dynamic process whereby individuals and/or groups learn how to recognise, manage, and recover from online risks within and across individual, home, community, and societal levels*.' (Author's, A).

Hence, digital resilience becomes understood as a process resulting from multidirectional relationships within and across differing interconnected and nested individual, home, community, and societal systems. Building on this work, Author's (C) undertook a meta-ethnography of children's, parents' and educators' experiences and understandings of digital resilience. Author's (C) analysed 11 studies conducted since 2011 across 14 countries and concluded that current conceptualisations of digital resilience underestimated the role played by wider community networks. However, little work has been undertaken to examine how digital resilience operates (or not) in the communities supporting the connected lives of children with disabilities (Livingstone et al., 2022).

Digital resilience at a community level and social capital

Community resilience is the capacity of a community (a network of human and physical systems) to recognise and prepare for risk, threat, and/or stressors, to adapt and cope with and/or recover to return to positive functionality and support new post-stressor growth (Ungar, 2021; Pfefferbaum et al., 2017; Pfefferbaum et al., 2008). Resilience at this level comprises of the communication between the systems, structures, processes, norms, and activities that encompass a given community as well as the social connectedness and social capital residing within and between these relationships (Pfefferbaum et al., 2017; Putnam, 2000).

Digital resilience at a community level builds on this work. From their empirical work, Author's (A) describe digital resilience at a community level as related to the digital literacies, experiences, and knowledge of members of a community, as well as the mediation approaches of community actors such as educators and organisations within an individual's support network(s). At this level, an individual's digital resilience is impacted by the existence, availability, and experiences of community actors, while also relying on communication with, between and beyond community actors and on one's ability to activate community assets and resources. Key to supporting the individual, are community actors, from teachers in schools to youth workers from civil society organisations that work in the education sector and links with home environments (as desired or required) with a view to contributing to how children learn how to recognise, manage, and recover from online risks. However, how these communities react to the increasing connectivity of children with disabilities viewed via a digital resilience lens is unknown.

Evidence illustrates the importance of social capital in building community resilience (Pfefferbaum et al., 2017; Bakker et al., 2019), making social capital a key component

of digital resilience at a community level. Social capital is a useful concept for examining the benefits accessible via individuals' social networks (Putnam, 1995; Coleman, 1994). Research in this area is vast. However, in the context of this paper we focus on the 'network' element, that is the 'linking' of community actors to formal structures and organisations that may assist the 'bonding' experienced in close relationships and the 'bridging' of individuals to communities beyond their immediate environments (Putnam, 1995).

The current study

To thrive as digital citizens, children with disabilities need tailored and dynamic Internet Safety Education (Author's, B). Critically, they also need support from the communities of educators they interact with, which is not always present (Lundy et al., 2019; Chadwick et al., 2017; Szpakowicz, 2022; Newman et al., 2017; Chiner et al., 2022; de Groot et al., 2022; Glencross et al., 2021; El-Asam et al., 2021; Livingstone et al., 2022).

Viewing digital resilience through the lens of systemic thinking and social capital moves away from deficit models, shifting the focus from the individual's (~~i.e.~~i.e., the child's) responsibility for learning, adapting and growing in their online lives, ~~and~~ towards a focus on a more complex understanding of interactions between the child and the systems and networks that constitute their contexts (Ungar, 2021). By exploring how these networks are experienced by educators, we aim to provide insights into how community systems affect individuals, seeking to balance the importance of systems and networks - the environments in which individuals operate - and the individual experience of those systems and networks. We do this by answering the following research question: "*How do educators experience being part of communities that operate to support (or not) the connected lives of children with disabilities?"*

Methods

Adopting a social constructionist approach, this paper sought to explore participant's implicit and contextually situated assumptions about children with disabilities' connected lives (Berger and Luckmann, 1967). To do this we used data gathered for a multi-method, multi-perspective project [removed for peer-review] to address the research gap above. The views of children with disabilities, their families and how educators use talk as social action to experience the connected lives of children with disabilities, are not the focus here but are examined elsewhere (Author's, C; Author's, D).

Children with disabilities are a highly diverse group and this ~~this~~ is reflected in their support networks. These support networks comprise a wide range of professionals working in a variety of contexts and specialisms. To account for this heterogeneity, we describe our participant group as 'educators' and define this broadly to include teachers and teaching assistants as well as those working in specialist roles within and beyond the educational setting, (e.g., Speech and Language Therapists, Educational Psychologists, Youth Workers). These are all community actors in the lives of children with disabilities who have the responsibility as 'social pedagogues' (Storø, 2013) to educate but also more widely to offer support and foster growth and resilience in their online lives. As such, these groups constitute the community networks in which this paper is interested.

Recruitment and data collection

We employed purposive sampling to recruit participants across dimensions of diversity (e.g., gender, ethnicity, age, geographical location (i.e., point on the urban-rural continuum)) and sought to include a wide range of different educational organisational positions and professional contexts (please see Supplementary Materials 1, for Table 1: Inclusion and Exclusion Criteria). Data was collected between May–September 2021. Data used in this paper consists of 30 online semi-structured interviews with professionals supporting the education, growth, and wellbeing of children with disabilities (21 female and 9 males, *M* age=43.1 years, age range 27-62 years) from across the UK (please see Supplementary Materials 2, for Table 2: Participant Demographics).

Using Microsoft Teams, we conducted semi-structured interviews asking questions to elicit participants' experiences of children with disabilities using and connecting with (i.e., the provision of services and information), and via (i.e., to socialise and play) the Internet. Questions were piloted prior to data collection.

The data collection team was an applied psychologist and lecturer qualified to PhD level (M); a teacher educator researcher qualified to PhD level (M); a medical researcher qualified to postgraduate level (F); a teaching assistant and researcher qualified to postgraduate level (F). Interviews were arranged at a mutually convenient time and only researchers and participants were present. Prior to the interviews, all participants were given information on what the project involved and how their data would be used. The interviews began by taking consent, explaining boundaries, and checking understanding. This was followed by questions and discussions. At the end of the interviews, participants were thanked for their participation and debriefed.

Ethical Considerations

Prior to the interviews, all participants were sent information on what the project involved and how their data would be used, with clear procedures for gaining consent. Participants were offered the chance to review their transcripts and withdraw participation at any point during the interview process. Care was taken to ensure the privacy and comfort of participants, including the option to leave cameras on or off as they preferred, and consideration of the space in which the interviews would take place. All names were then replaced with pseudonyms to preserve anonymity. No safeguarding issues arose during the project.

Ethical approval was provided by [removed for peer-review].

Analytical Procedure

Analysis was informed by a social constructionist framework (Berger and Luckmann, 1967). Interviews were anonymized at the point of transcription, with files imported into NVivo for coding. We used thematic analysis to qualitatively analyse interview transcripts (Braun and Clarke, 2006). For this paper, the multi-perspective and multimethod data set and coding undertaken for Author's (B) was revisited by two researchers [removed for peer-review]. This involved [removed for peer-review] utilising initial inductive codes concerning educators' relationships to the community, networks, and social capital. Drawing on Braun and Clarke (2006) six-step process, [removed for peer-review] then began to search for themes by collating and modifying codes sensitised to the current paper's research question ~~of the current paper~~. This

was a data-driven and collaborative process, with regular meetings and discussions held to review, define and name themes. Hence, themes related to the research question were constructed from the data set rather than being theoretically driven *per se*. However, themes were articulated with theoretical insights from related literature to draw out their importance and inform future lines of policy, practice, and research.

Analysis and findings

Across our data corpus, our analysis constructed three major themes: '*The strength of weak ties: connection brokering',* '*Structural holes within and beyond the community level',* and '*The resilience dividend'.* We use illustrative extracts for each theme with discussions of their implications for policy and practice before conclusions are presented.

Theme 1: The strength of weak ties: connection brokering

Many educators shared experiences of when children with disabilities had encountered online risks and how they ~~themselves as educators~~ and their networks responded. Drawing on ideas of social capital perspective (i.e., benefits engendered through individuals' social networks (Putnam, 2000; Coleman, 1994), Granovetter (1983) distinguishes between "strong ties" (found in close relationships with partners and close friends) and "weak ties" (found in relationships with acquaintances and colleagues). Developing this distinction, Granovetter (1983) posited that weak ties were more powerful than strong ties when seeking information since they were more likely to provide novel as opposed to redundant information. In '*The strength of weak ties'* theme, educators with many weak ties enabled the efficient flow of novel information across their networks:

Extract 1:

> *'It kind of starts with me just raising it with either the SENCO or the designated Safeguard Lead. I'd obviously loop in the IT team … standard stuff. They will work quickly to put restrictions in, have a conversation with the individual...I don't ever really deal with it, I normally just bring in the right people so they can deal with it…and then protocols are put in place to prevent it from happening again.'*
>
> (Justin, Secondary School Teacher)

'*The strength in weak ties'* theme contains the notion that what from the outside may appear a complicated process can appear as '*standard stuff*' within communities. In the context of extract 1, Justin's 'bridging' (Putnam, 2000) enables the child to be supported by a range of specialists directly and indirectly. Community social capital is activated, promoting community digital resilience which can be drawn on by the child and their surrounding community in the face of future similar threats. From extract 1, we see how it is not individual actors that are important *per se*, but the activation of community resources across groups that promote community digital resilience. This is

important as frequent supportive interactions are a critical element in cultivating community social capital, that is cohesiveness of communities that build trust between various groups within a community (Goodman et al., 1998). This promotes community digital resilience, building capacity and sharing knowledge for future use across individual and community levels.

In this theme, other educators took up similar 'connection broker' positions to Justin. The position of connection broker is when an individual manages a pool of connections to community resources. They become experts in brokering connections or series of connections between a wide variety of experts. Drawing on Pfefferbaum et al. (2017) work on community resilience, these networks are utilised to build community digital resilience. Through distributing knowledge to different individual and group stakeholders including teachers, specialist educational professionals, IT specialists, parents/guardians and children with disabilities themselves, a community is better able to cope and adapt to online risks, and potentially improve prevention capabilities:

Extract 2:

> *'It's about following that up and meeting with the families, meeting with the pupils, explaining what went wrong, how it went wrong and what to do instead in future. There are also moments where we've had to get other professionals involved, like let Social Care know or our Police Liaison Officer, just to make sure that we're triangulating the support, that it's not only school being aware of things that are being said and shared online.'*
>
> (Naomi, Assistant Headteacher, Secondary School)

In extract 2~~,~~ Naomi similarly describes herself as a nexus point and indicates the importance of networks in distributing resources and knowledge. Drawing on a socio-ecological lens of digital resilience (Author's, A), the connection broker position increases digital resilience capacity at the community level (i.e., among other key societal actors such as the child's peers, social care, and police liaison officers), but also distributes knowledge at an individual ~~level~~ (i.e., the child themselves) and home level (i.e., the child's family).

Organisations such as schools may encompass many kinds of ties eliciting differing social capital benefits (Putnam, 1995). Formal school systems can mean efficient access to existing channels of knowledge distribution that can aid the spread of information. Because of the formal nature of these ties, they may require little investment and maintenance and yet still serve their purpose, with research pointing to formal organisational structures as significantly contributing to tie formation and social capital development (Demir, 2021). The connected lives of children with disabilities exist within numerous co-existing and interacting communities:

Extract 3:

> *'It's about building trust over time… you have religious leaders, people who work on the estates, you can talk to the social workers… there is a real multi agency community that you can tap into..'*
>
> (Maisie, Secondary School Teacher)

Extract 4:

> *'We either use knowledge of people internally, they might have got kids who are on the same thing, or may have a little brother/sister, and we dig into their knowledge, or we go more external; we've built up relationships with [place name] Radicalisation & Extremism Police Officer…we use links like NSPCC, Think You Know'*
>
> (Max, Residential Social Care Manager)

In extracts 3 and 4~~,~~ participants reference investments required to create weak ties that permit the flow of information between dispersed groups of community actors. Drawing on Burt (2000), Maise and Max refer to how a structural hole, that is an absence of connections between different social groups, can be spanned by connection brokering. It is by bridging such holes that connection brokers can influence how the connected lives of children with disabilities are supported. Structural holes between groups do not mean that individuals within those groups are unaware of each other (Burt, 2000). Instead, people are focused on their own activities so much that they do not attend to the activities of individuals in the other group. Individuals on either side of structural holes circulate different information within their group (Lin et al., 2001).

~~Hence, withi~~In the context of this paper~~,~~ structural holes require connection brokers to ensure the flow of information occurs between different yet overlapping groups in ways which can promote community digital resilience. Individuals who span this gap, by forming a bridge between these different groups, can access and activate multiple sources of information and resources, and facilitate the flow of capital between groups (Burt, 2000). When this linkage is absent and structural holes appear and/or persist, new information is less likely to flow (Granovetter, 1983). This is explored now in Theme 2: *Structural holes within and beyond the community level*.

Theme 2: Structural holes within and beyond the community level

Across the data set there were numerous examples when structural holes persisted or were cultivated. Previous research exploring how professionals support vulnerable youth has repeatedly highlighted how barriers, such as a lack of training and/or institutional underappreciation of the connected lives of young people, challenge the efficient flow of information amongst networks (El-Asam et al., 2021). In the context of this paper, such structural holes were experienced as problematic, and primarily reported by educators when they needed to support children with disabilities operating across boundaries. These included transitions within the community level, for example from primary to secondary education, and where educators needed to interface between levels, for example home and school and school and society.

Extract 5:

> *'..with the online, like.. a lot of this stuff, especially with these kids, it takes a bit of unpicking, and we rely on the parents/guardians and previous teachers to pass that information to us, otherwise we're going in blind for that first term'*
>
> (Justin, Secondary School Teacher)

In extract 5~~,~~ Justin describes the difficulty experienced when structural holes between education settings occur. When the flow of new information about a child with disabilities does not occur at the community level between institutions, the child's ability to activate community digital resilience is hindered. Evidence indicates that transitions between primary and secondary education can be challenging for all children (McCoy et al., 2020; Jindal-Snape et al., 2020). Rens et al. (2018) systematic review focusing on transitions from primary to secondary school concluded that, where structural holes exist, transitions are more problematic for children. Children with disabilities often have extra challenges to navigate and require more information flow (Rens et al., 2018; McCoy et al., 2020), yet how this works in relation to connective aspects of their lives remains unknown.

Whilst this group may have additional needs, it is important to move away from a deficit perspective. Current conceptualisations heighten digital exclusion at the expense of a strength-based digital inclusion and citizenship perspective (Helsper, 2012; Chadwick et al., 2022). For example, Internet access can be a great enabler for children with disabilities (Lundy et al., 2019; Author's, C), however, if universal restricted mediation occurs due to assumed deficits (Chiner et al., 2022; Nevard et al., 2021; Newman et al., 2017; Szpakowicz, 2022), the individual child's ability to activate digital resilience at the community level is also disrupted. ~~In the above example~~As seen in extract 5, a lack of information flow due to structural holes may contribute to ~~such~~ a restrictive approach~~es~~ as an educator 'going in blind' cannot predict risks/stressors without relevant information. ~~.~~

As we see in extract 6 and from Rens et al. (2018), structural holes can also occur beyond the community level. Frequently, within this theme educators shared ways in which they had directly attempted to cultivate digital resilience availability between the home and community levels.

Extract 6:

> *'The parents are crucial...we've done online talks with various other organisations, and we have targeted particular parents...we might have identified them as being children who we're slightly more concerned about and we would then invite those parents specifically to a meeting'*
>
> (Coral, Primary School Teacher)

In extract 6~~,~~ the importance of the home level is highlighted, as are the ways in which those operating at a community level may be aware of deficits in relation to a child's ability to activate digital resilience resource assets (i.e., parents/carers and the digital resilience of these individuals) in the home. This extract also highlights the usefulness of other organisations operating at a community level. However, as extract 7 illustrates, whilst ~~the~~ structural holes may ~~have~~ be~~en~~ addressed and knowledge shared, there is no guarantee that knowledge will be acted upon:

Extract 7:

> '…*we might have young people who are gaming late into the night and we give advice to try and help with that but it might be that parents don't buy into it… we're not able to stop that, only the parents are able to stop that at home..'*
>
> (Stephanie, SEND Teaching and Safeguarding Lead, Secondary School)

Social capital relies not just on the existence of networks, but on the willingness and engagement of community members in contributing to activities that advance common goals (Pfefferbaum et al., 2017). This is key as the optimal way to nurture digital citizens is via education and shared responsibility of all stakeholders (OECD, 2020). In comparison, extract 8 illustrates that the involvement of others may not always be welcomed:

Extract 8:

> *'…When you engage families, from a digital safeguarding point of view, and with different agencies, that can put up a barrier between home and school that…can get reinforced "You don't talk to school because they're an agency that's involved with Social Services and the Police"…so you get that kind of shutting down…'*
>
> (Dean, Secondary School Teacher)

Extract 8 illustrates how educators can experience needing to bridge structural holes from community to the home level in a similar way to extracts 6 and 7. However, extract 8 highlights how in serious cases, educators are required to share information with authorities operating at the societal level and the consequences of this. We see how a digital safeguarding incident required Dean to increase the flow of information from school to home but how having to link to authorities at a societal level can create or reinforce structural holes, all of which impacts the ability of the individual child to call upon and activate digital resilience assets.

Importantly, whilst educators can find it difficult involving parents of children with disabilities about decision making regarding their children, evidence indicates that collaborative approaches are more effective in addressing complex situations and conflicts (Leenders et al., 2019). Given that children with disabilities are more likely to encounter online risks and have these risks escalate quicker than their peers (El Asam and Katz, 2018; Katz and El Asam, 2019; Lundy et al., 2019), these are high stakes conversations for educators requiring sustained investment. In Theme 3, '*The resilience dividend*' we examine the potential benefits of these investments even in the unlikely absence of online risk.

Theme 3: The resilience dividend

Resilience dividend is a term used to describe the net co-benefit (or co-cost) of investing in enhancing resilience even in the absence of threats or stressors (Rodin and Maxwell, 2014). ~~In this paper, w~~We ~~employ~~ use this term to focus on how community capacity to prevent or respond more effectively to future instances of threat were experienced, but also what new opportunities were experienced as beneficial beyond the limiting safe/unsafe binary which underpins much Internet Safety Education (Author's, D).

In the context of this paper, Theme 3 '*The resilience dividend'* illustrates how, by investing time to overcome structural holes, educators were able to better support the connected lives of children with disabilities across several different levels in ways that enhance community digital resilience.

Extract 9:

> *'…with online risks and that….a parent of a child with SEND is always a pain in the neck… because…they see a different side of the child and, therefore, the insights of the parent are not as valuable and that's actually not true…what we're really doing is not utilising their knowledge…with the online lessons… parents…could see where the engagement issues were and they could start talking in the same way to the staff*
>
> (Maisie, Secondary School Teacher)

Masie describes parents as assets that are not utilised due to a structural hole characterised here as a lack of information exchange. However, once structural holes were bridged, in this case via online learning during COVID-19 lockdowns, information could travel from community (in this case schools) to home levels and *vice-versa* more freely. As well as increasing access to information about 'issues' via weak ties, the resilience dividend within this extract indicates how those within the home can become activated within the learning context beyond this singular problem. In this case, community digital resilience is increased as well as the ability of the educator to draw on the parent in other learning contexts.

In this theme, educators also frequently discussed how they had developed trusting relationships with children with disabilities through undertaking everyday activities, including teaching and learning in subjects outside online safety. Unsurprisingly, where educators and children with disabilities experienced such relationships, information could flow between levels in a more informal manner:

Extract 10:

> *'…it's through the activity that you then start to form those relationships…young people will gravitate towards certain members of staff…and they then start to open up…. and you start to unpeel that onion…they might say, 'I was on Google, and I typed this in and it led me to this online group and I got chatting with this person…'*
>
> (David, Youth Worker)

Extract 10 illustrates how the investment of time in forming relationships between the community and individual level can pay dividends in relation to increasing the capacity of children with disabilities to access community digital resilience. Simultaneously, this shows how, from a community level, investing in stronger ties with those at an individual level also enables information flow. Furthermore, this demonstrates how information flow about the connected lives of children with disabilities cannot be expected to only be present in specifically online-focused spaces. That is, relationship-

building must be viewed holistically as part of wider life experiences encompassing an online/offline continuum rather than a binary, where relationships across levels are key. Investment of time in these activities could contribute to closing the 'feedback loop' where online and offline inequalities are mutually exacerbating. Extract 11 indicates how investment of time to allow the flow of information and access to the expertise of community actors across different groups within the community level also pays dividends for the individual:

Extract 11:

> *'…the reality is, a lot of school staff don't have much time and weren't given training to specifically work with young people experiencing mental health issues, issues around drugs and alcohol, issues online, so sometimes it's not always about making teachers do more… it's about everyone working together - it's that 'It takes a village to raise a child' thing… it's all the services in the community that could also facilitate and help…'*
>
> (Pippa, Speech and Language Therapist)

Calling for a simple investment of time when research indicates that time pressures and workloads on educators are at an all-time high and growing (Warnes et al., 2022; Jerrim and Sims, 2021) is short-sighted and insensitive to the context from which this data was collected. To increase digital community resilience, however, there is a need to demonstrate how a consistent investment of time can lead to resilience dividends. This begins to be articulated within extract 12.

Extract 12:

> *'…a one-off conversation is not going to make a significant difference to our pupils, it's about having a tailored but also layered approach…'*
>
> (Naomi, Assistant Headteacher, Secondary School)

Educators spend a disproportionate amount of time dealing with unforeseen safeguarding events and/or sudden disciplinary issues, a key contributor to high and stressful workloads (Department for Education, 2018), while additional time allocated to collaboration and relationship-building may lead to a reduction in stress (Jerrim and Sims, 2021). So, while we must be careful in advocating for increased time allocation in a profession already overworked, investing in tasks associated with building networks and developing social capital could pay greater dividends than those focused elsewhere. Evidence also illustrates a disconnect between the level of support offered for children with disabilities in comparison to their peers (Livingstone et al., 2017). Despite data which illustrates that children with disabilities will encounter more online risks and have these escalate more quickly than their peers (Katz and El Asam, 2019; El-Asam et al., 2021), they have fewer resources to activate in times of need (Vissenberg et al., 2022; Vandoninck et al., 2013). Perhaps then, this is about trying to redistribute time invested to address structural holes that are likely to pay dividends

in other areas and activating other community members. For example, drawing on research outlining multiagency safeguarding arrangements for children at risk (Driscoll et al., 2020), the idea of resilience dividends derived from the re-arrangement or creation of weak ties resonates:

Extract 13:

> *'If you have Parent Reps in the different communities and then you have people genuinely within the community which can pay dividends…I was very lucky, I was in [place name] as the infrastructure was already there… but it took maintenance…'*
>
> (Masie, Secondary School Teacher)

Schools are increasingly at the heart of communities. Operating within and beyond these spaces are educators who are increasingly tasked with raising digital citizens. Clearly, educators do not operate within a vacuum and there is shared responsibility for all stakeholders (OECD, 2020). The role of educators as connection brokers enabling the flow of information across and within dynamic and changing contexts offers important ways to proceed.

Discussion

This ~~article~~ paper illustrates how educators operate to cultivate and activate community resilience in ways that transcend individual, home, community, and society. The three themes presented above construct a representation of how the connected lives of children with disabilities were experienced by educators in the UK. Theme 1, '*The role of educators as connection brokers'*, outlines how educators are well positioned to enable the flow of information within and beyond the community level. Theme 2, '*Structural holes within and beyond the community level'*, indicates the complexity of work undertaken by educators to address structural holes. The final theme, '*The resilience dividend'*, links the connection broker position to addressing structural holes within and beyond the community level articulated within the first two themes. For practice, the need to invest time in cultivating community resilience is likely to operate differently in different contexts. However, what does not vary is the need to encourage educators and the communities within which they operate to cultivate community digital resilience.

Contribution and implications

This paper ~~advances knowledge of~~shows how educators support (or not) the connected lives of children with disabilities. It~~s~~ begins ~~ings~~ to address the ~~lacuna~~ lack of research examining how digital resilience can operate at the community level. Adding to a growing body of work utilising a socio-ecological lens through which to examine the ubiquity of digital media (Navarro and Tudge, 2022; Patel and Quan-Haase, 2023; MacDonald et al., 2022; Author's, B; Neumann et al., 2022), this paper highlights issues of socio-digital inequalities and digital resilience alongside how intersectionality can come to operate in relation to how community systems affect the

connected lives of children with disabilities. The paper also indicates the importance of social capital as a key component of digital resilience at a community level. The integration of social capital into a socio-ecological informed understanding of digital resilience permits greater understanding of how digital resilience operates within communities to be gained. Hence, by positing the usefulness of identifying and mapping out relationships between educators as a network, and attempting to draw out key individuals, groups within the network and/or associations between these individuals within networks, researchers seeking to utilise a socio-ecological lens have a useable mechanism to negotiate the inherent complexities of the model and its components.

The paper's practical implications illustrate the need to cultivate resources within communities capable of operating to support the connected lives of children with disabilities. As we discussed in this paper, this operates within and beyond the physical boundaries of the school. Hence, in seeking to better support the connected lives of children with disabilities, it is important to examine how different levels of stakeholders engage in this challenge and how educators, positioned as connection brokers, may be well placed to compose the flow of information and how this is likely to pay dividends within and beyond the schools and communities within which they operate. This challenges the idea of professionalised isedboundaries, placing onus on the networks within which individual professionals operate as opposed to the individual themselves. With clear safeguarding and data sharing implications. For communities to be greater than the sum of their parts, responsibility needs to be defused yet ownership collective. A thorny but not impossible task and one likely to pay dividends.

Limitations and areas for future research

This research offers insights gleaned at a community level only. Whilst we have triangulated the insights of children with disabilities and their parents/guardians in other areas of this topic in other publications (Author's, C), the voices of these groups are conspicuous by their absence in this paper. Importantly, educators must bear in mind that qualitative generalization should be considered as related to the phenomenon, not the population (Levitt, 2021). In this way, the paper's findings may resonate but educators should examine community resources, assets, and connection brokers which may impact on the resilience dividend prior to investment.

The need to develop richer understandings of how digital resilience operates within and beyond the community level, and of the ways in which children with disabilities activate assets at this level, is urgent. Similarly, the need to map the types of social capital and information sought by children with disabilities in relation to the roles of supportive adults within their lives across a socio-ecological understanding of digital resilience is timely and requires further attention (Author's, A; Author's, B; Author's, C). By mapping how children with disabilities seek to activate digital resilience at the community level, researchers can begin to equip professionals operating within these spaces with resources to share with this group of children. Moreover, this suggests ways in which the finite resources of educators have canmay be redirected and

reinvested to ensure that the connected lives of children with disabilities are supported in targeted and tailored ways. The potential of ~~social~~ Social ~~network~~ Network ~~analysis~~ Analysis as a method to begin this mapping exercise, as well as recent research calling for the development of a validated psychometric measure of digital resilience able to illustrate strengths and deficits across individual, home, community and society levels (Author's, D), also offers fruitful ways to progress and enable children with disabilities to thrive as digital citizens across their life course.

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Table 1: Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
A professional who works with and/or supports young people between the ages of 8-16 years old, who may be identified, or who may self-identify as disabled in one or more of the following ways:	Professional does not speak English.
Experiencing a long-term physical, mental, intellectual, or sensory impairment	Professional has not supported young people between the ages of 8-16 years old in last 12 months.

Table 2: Participant demographics

Pseudonym	Age	Gender	Ethnicity	Role
Reed	49	Male	White British	Deputy Head - Secondary Independent
Toby	40	Male	White British	Secondary School Teacher - Secondary Independent
Max	34	Male	White British	Residential Social Care Manager
Natalie	53	Female	White British	Psychotherapist
Dean	47	Male	White British	Primary School Teacher – State
Angela	37	Female	White British	Primary School Teacher – State
Stephanie	62	Female	White British	Special Educational Needs Teaching and Safeguarding Lead - State Secondary
Masie	55	Female	White British	Secondary School Teacher – State
Anneka	40	Female	White British	Behavioural Support Officer – Secondary State
Coral	46	Female	White British	Primary School Teacher – State School
Mia	41	Female	White British	Special Educational Needs Co-ordinator – Secondary State
Morgan	28	Female	White British	Senior Youth Mental Health Worker
Anna	27	Female	White British	Mental Health Worker
Leah	33	Female	White British	Deputy Head Teacher & Safeguarding Lead - State Secondary
Dorian	40	Male	White Asian	Assistant Educational Psychologist
Sasha	53	Female	Other	Special Educational Needs Education Consultant
Justin	38	Male	White British	Secondary School Teacher – State
David	45	Male	White British	Youth Worker
Evie	32	Female	White British	Assistant Psychologist
Opal	29	Female	White British	Speech & Language Therapist
Alfie	48	Male	Black or Black British-Caribbean	Senior Lead Advisory Teacher for Care Experienced Young People

Jo	38	Female	White Irish	Social Work Team Manager
Mara	50	Female	Black or Black British - African	Social Worker
Selena	39	Female	Other – South African British	Assistant Head Teacher & Safeguard Lead – State Autism School
Naomi	55	Female	White British	Assistant Head Teacher – State Autism School
Ajay	33	Male	Other White Background	Special Educational Needs Teacher – State Secondary School
Amelia	51	Female	Asian or Asian British – Indian	Inclusion Manager & Designated Safeguard lead – State Secondary School
Nanette	54	Female	Black or Black British – African	Consultant Psychiatrist
Ava	48	Female	Black or Black British – Caribbean	Child, Adolescent, and Family Counsellor
Pippa	50	Female	White British	Speech & Language Therapist