

Online mental health peer support forums and rural resilience

A research summary showing how online forums support resilience-building for rural people with lived experiences of mental ill-health

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PROJECT OVERVIEW



Identifying and optimising the roles of online communities in building rural resilience

Australian Research Council funded Discovery Project: DP200100419

This report addresses one question set by the project, to explore: *Do online communities build individuals' resilience, and if so, how?* The project ran from 2020 to 2023.

Resilience has been described as the ability to respond to shocks and upheaval. In this project, we were particularly interested in resilience as the combined resources that individuals and communities need in order to adapt and thrive. While there is no single agreed 'measure' of resilience, consensus suggests it involves a set of social assets previously proven to be significant to social capacity - including social capital, self-efficacy, sense of belonging to community, capacity to recover, and access to ongoing learning opportunities.

In the project, we focused particularly on the role of online communities – or online forums – for and co-created by people experiencing mental health conditions. We focused on people living in rural areas in Australia as multiple research reports and government reviews consistently show that rural people, generally, are more likely to experience a range of adversities when compared with urban residents. For people experiencing mental ill-health, prominent among these adversities are challenges in reaching a range of services, accessing services in a crisis and alongside this, social challenges of isolation and stigma.

Data collection and analysis for the overall project occurred during the Covid pandemic which, to some extent, had effects – e.g. the non-profit organisations we were working with were, rightly, focused on other priorities sometimes, and forum users were more, or less, interested to participate – depending on stages of lockdowns.

The project used anonymised forum data and interviews with forum users. Project researchers were from multiple disciplines including health, regional development, psychology, geography and communications. We also had advice from a lived experience researcher and a researcher aged <24 years. Both of these people provided really insightful perspectives that enlightened the project findings.

Other aspects of the overall project addressed other objectives, including understanding how forum use influences daily life of rural people experiencing mental health conditions and how forum data can be used as a novel source of data to inform service design. A full range of journal articles generated – to date - is provided later in this report.



KEY MESSAGES

Resilience

This research summary looks at the extent to which online peer support mental health forums help to build resilience for the rural people with lived experience of mental ill-health who use them.

Resilience was conceptualised as having the dimensions captured in Figure 1 (over the page) - drawing on the work of Berkes and Ross (2013) who take an ‘integrated’ community development and psychological approach to resilience. We focused specifically on individual resilience in our study, while contextualising this in the unique community dynamics and relationships built through participation in online peer support forums.



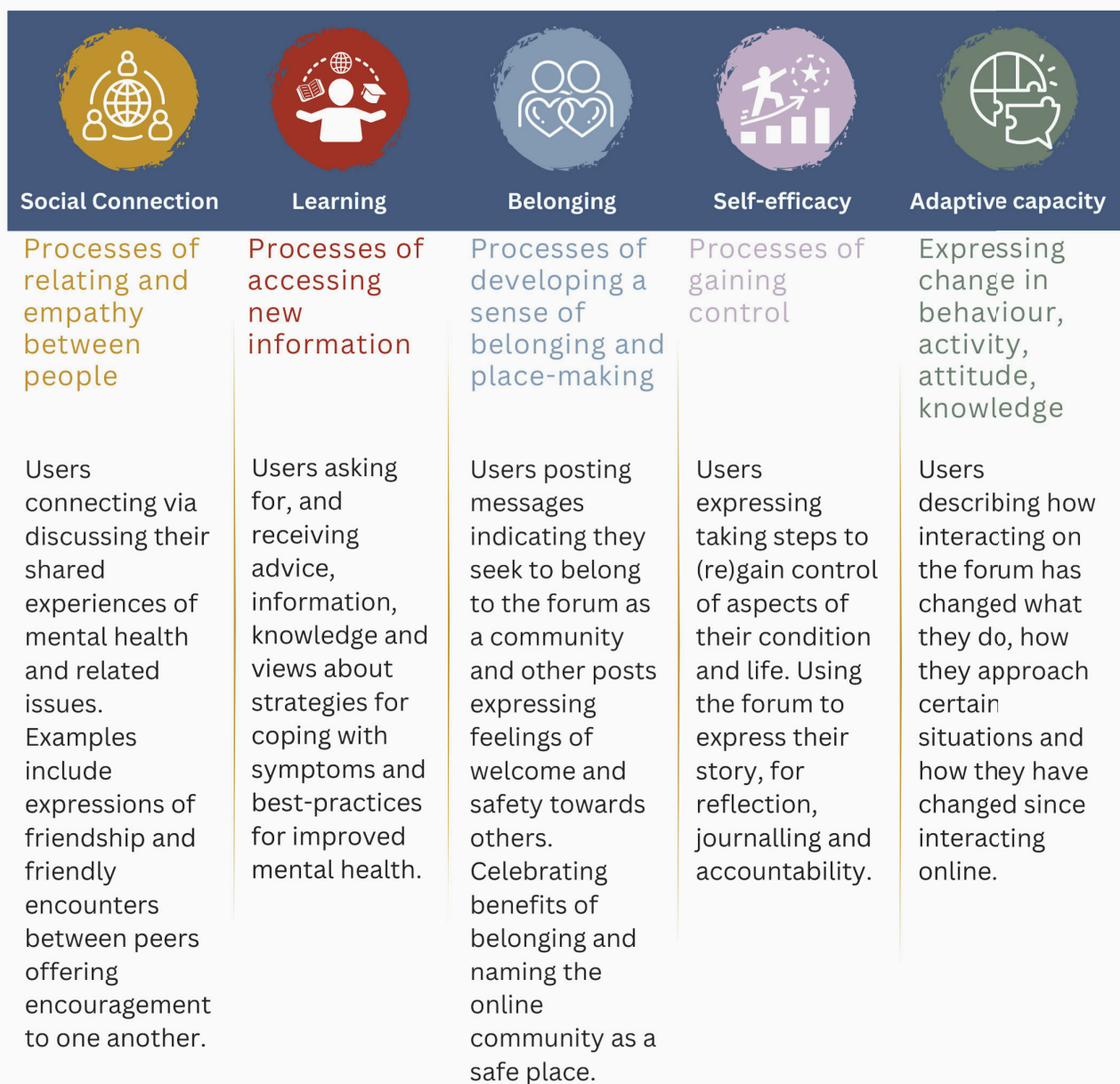


Figure 1 - Rural Resilience Theoretical Framework - components and how they were understood in relation to study data

Overall

This study found that online mental health forums help generate resilience among people with lived experience of mental ill-health, and provide support to fill gaps in the mental health system. Findings help to illuminate mechanisms of forums in building resilience and this evidence can be used by forum host organisations to develop their services for improving resilience – perhaps particularly amongst rural users; and to show their impact to funders. Findings inform those developing rural mental health systems about the role of forums and about the gaps in formal public services they appear to fill.

Specific Findings

1

Analysis of 3,000 posts by rural users of Beyond Blue, SANE Australia and ReachOut peer support mental health forums suggest users gain access to social connection, learning, feelings of belonging, self-efficacy and adaptive capacity, from their forum use.

2

These findings were confirmed in interviews with 30 rural forum users who reported social connection, learning, feelings of belonging to a community and self-efficacy from using the forums. Instances given of how these resources had impacted beneficially on their everyday lives gave further evidence of adaptive capacity built from using forums. Examples of impacts on daily life were: increased confidence to connect with neighbours, and the social interactions on the forum providing enough of a ‘crutch’ to enable some isolated users to leave their house and engage in their local communities.

3

There was also evidence that resilience building was experienced as a kind of journey for forum users. From initially feeling anxious or confused about a new diagnosis or being in a crisis, users accrued useful information to formulate their own strategies for coping and felt self-worth from giving advice and support to other users. Many users interact sporadically, perhaps returning for support if they experienced a set-back, crisis or new type of need. Users remained anonymous to each other, potentially easing the moving in and out of the forum, as needed.

4

The study shows that resilience from using forums can be ‘measured’ through using anonymised forum data and applying an evaluation framework – here the Resilience Theoretical Framework. This research shows a new way that the labour and beneficial strengths-based outcomes of forums may be communicated to users, practice, policymakers and funders instead of considering forums to be a place where users’ risks are to be managed.

5

Attention should be given to raising awareness within the broader health system of the roles of online mental health forums delivered by reputable organisations such as SANE, Beyond Blue and ReachOut – perhaps particularly for rural users. Providing more information to health practitioners about the resilience effects of the forums may lead more practitioners to recommend using peer support forums to clients.

PROJECT OUTPUTS

This report provides a short research summary of findings relating to resilience-building. Other published outputs from this project so far (October 2023) are below:

Kamstra, P., Farmer, J., McCosker, A., Gardiner, F., Dalton, H., Perkins, D., Salvador-Carulla, L., & Bagheri, N. (2022). **A novel mixed methods approach for integrating not-for-profit service data via qualitative Geographic Information System to explore authentic experiences of ill-health: A case study of rural mental health.** *Journal of Mixed Methods Research*, 17(4), 419-442

Abstract: Meeting the mental health needs of rural populations is challenging internationally, with few methods and scarce data available to inform site-specific planning. We developed a mixed methods approach that integrates Not-for-profit (NFP) organization data in a Geographic Information System (GIS) to explore interrelated understandings of mental health experiences in rural places. Integrating qualitative experience data from online forums with quantitative data from service search and emergency pickup locations via GIS demonstrates how NFP health service data can be ethically sourced, reused, integrated, analysed, and ground-truthed to explore how mental health is experienced in rural places. This article contributes to the mixed methods literature an ethical approach that utilizes NFP health service datasets to inform research in contexts of data scarcity.

Kang, Y.B., McCosker, A., Kamstra, P., & Farmer, J. (2022). **Resilience in web-based mental health communities: Building a resilience dictionary with semiautomatic text analysis.** *JMIR Formative Research*, 6(9): e39013.

Abstract: Resilience is an accepted strengths-based concept that responds to change, adversity, and crises. This concept underpins both personal and community-based preventive approaches to mental health issues and shapes digital interventions. Online mental health peer-support forums have played a prominent role in enhancing resilience by providing accessible places for sharing lived experiences of mental issues and finding support. However, little research has been conducted on whether and how resilience is realized, hindering service providers' ability to optimize resilience outcomes.

This study aimed to create a resilience dictionary that reflects the characteristics and realization of resilience within online mental health peer-support forums. The findings can be used to guide further analysis and improve resilience outcomes in mental health forums through targeted moderation and management.

A semiautomatic approach to creating a resilience dictionary was proposed using topic modelling and qualitative content analysis. We present a systematic 4-phase analysis pipeline that pre-processes raw forum posts, discovers core themes, conceptualizes resilience components, and generates a resilience dictionary. Our approach was applied to a mental health forum run by SANE Australia, with 70,179 forum posts between 2018 and 2020 by 2357 users being analysed.

The resilience dictionary and taxonomy developed in this study, reveal how resilience components (i.e., “social capital,” “belonging,” “learning,” “adaptive capacity,” and “self-efficacy”) are characterized by themes commonly discussed in the forums; each theme’s top 10 most relevant descriptive terms and their synonyms; and the relatedness of resilience, reflecting a taxonomy of components that are more comprehensive (or compound) and more likely to facilitate the realization of others. The study showed that the resilience components “learning,” “belonging,” and “social capital” were more commonly realized, and “belonging” and “learning” served as foundations for “social capital” and “adaptive capacity” across the 2-year study period.

This study presents a resilience dictionary that improves our understanding of how aspects of resilience are realized in web-based mental health forums. The dictionary provides novel guidance on how to improve training to support and enhance automated systems for moderating mental health forum discussions.

Kilpatrick, S., Emery, S., Farmer, J., & Kamstra, P. (2022). **Wellness impacts of social capital built in online peer support forums.** *International Journal of Environmental Research and Public Health*, 19(23), 15427.

Abstract: The study reported in this paper sought to explore whether and how social capital resources were generated on online peer support mental health forums, and how they were used by rural users to influence mental health outcomes. Interviews with rural users of three Australian online peer support mental health forums were analysed to identify interactions that accessed social capital resources and mental wellness outcomes that flowed from these.

Analysis drew on a model of simultaneous building and using of social capital to uncover the nature of the social capital resources present on the forum and how they were built. Findings show that forums were sites for building ‘knowledge resources’ including archives of users’ experiences of navigating mental illness and the mental health service system; and ‘identity resources’ including a willingness to contribute in line with forum values. The knowledge and identity resources built and available to rural users on the forums are facilitated by forum characteristics, which can be viewed as affordances of technology and institutional affordances. Operation by trusted organisations, moderation, a large network of users and anonymity created a safe space that encouraged reciprocity and where users exchanged information and social support that helped them maintain better mental wellness.

Kilpatrick, S., Farmer, J., Emery, S., Kamstra, P., Steiner, A., McCosker, A., & Carlisle, K. (2023). **Community transformed? Exploring interactions between online and rural geographical community life for people with mental health conditions.** *Journal of Rural Studies*, 99, 167-175

Abstract: Since the onset of COVID-19, the benefits of online platforms to enhance rural service accessibility are more acknowledged. However, questions remain about the interconnected roles of geographical community and online digital communities in enhancing rural life – particularly for marginalised groups. In this study, we examine one Australian non-profit's online peer support forums as technology enabling transformed community experiences for rural people with mental health conditions.

Interviews exploring forum use were conducted with 20 rural forum users in 2021. We found technology affordances were appropriated to target rural service and social interaction gaps, giving people resources used online, and also enabling coping in their geographical community. The study illustrates the benefits of understanding what rural people do with different technologies that can illuminate how apparently “one-size-fits-all” technologies can be appropriated to fill certain rural structural holes in social and service systems.

Steiner, A., Farmer, J., Kamstra, P., Carlisle, K., McCosker, A., & Kilpatrick, S. (2023). **Online mental health forums and rural resilience in Australia: a mixed methods study and logic model.** *JMIR Mental Health*, 10: e47459

Abstract: This paper identifies and examines pathways by which online peer support mental health forums assist in building the resilience of rural residents by addressing individual challenges with mental health. We accomplish this by using a resilience theory, developing a Theoretical Resilience Framework and applying it to empirical qualitative data from three Australian online health forums as well as interviews with rural forum users.

Using thematic analysis and an abductive approach to generating new knowledge, we develop a logic model illustrating links between factors influencing personal resilience, enabling features and spaces facilitating resilience, resilience resources generated through the intervention and its outcomes. Our study demonstrates that online forums make valuable contributions to ongoing and timely support services to rural people experiencing mental ill-health as well as support them to cope with stressors and a range of challenges (i.e., resilience). Embedded in a rural setting, the paper adds to the understanding of the role of online forums in addressing geographical isolation. Ultimately, our work helps to develop new sources of knowledge about rural resilience and supporting mental health service provision in rural places.

McCosker, A., Kamstra, P., & Farmer, J. (2023). **Moderating mental health: Addressing the human-machine alignment problem through an adaptive logic of care.** *New Media & Society*, 14614448231186800.

Abstract: Covid-19 deepened the need for digital-based support for people experiencing mental ill-health. Discussion platforms have long filled gaps in health service provision and access, offering peer-based support usually maintained by a mix of professional and volunteer peer moderators. Even on dedicated support platforms, however, mental health content poses difficulties for human and machine moderation. While automated systems are considered essential for maintaining safety, research is lagging in understanding how human and machine moderation interacts when addressing mental health content.

Working with three digital mental health services, we examine the interaction between human and automated moderation of discussion platforms, contrasting 'reactive' and 'adaptive' moderation practices. Presenting ways forward for improving digital mental health services, we argue that an integrated 'adaptive logic of care' can help manage the interaction between human and machine moderators as they address a tacit 'risk matrix' when dealing with sensitive mental health content.



INTRODUCTION

This study explores the extent to which using online mental health peer support forums helps rural users to build resilience.

Online mental health peer support forums (henceforth, forums) are intended to enable individuals with experiences of mental ill-health to post information and to discuss strategies, opinions and experiences for managing their mental health and wellbeing. Forums often target end-users experiencing acute health and social challenges (McCosker, 2017, 2018; Tucker & Goodings, 2017, 2018). This study relates to forums hosted by the Australian non-profit mental health organisations Beyond Blue, SANE Australia and ReachOut (see below for a description of these forums).

The forums at the centre of this study might be understood as co-created mental-health peer support services that complement those services provided by the formal public mental health system. This is through forums enabling timely access to ‘lay’ (i.e., peer-to-peer) information, including about first-hand experiences that is unavailable from health practitioner-supplied services. Research has shown online forums offer benefits to rural users including finding social connection and learning practical advice from others (Smith-Merry et al., 2019). In the course of generating supportive services for each other, forum users experience friendship and camaraderie from learning and giving their advice (Prescott et al., 2017). Few studies have explored how online forums can help rural people experiencing mental ill-health to cope with isolation and service accessibility deficits (Kamstra et al., 2022; Kang et al., 2022).

In the study, we considered whether forums could be shown to help build resilience resources for rural users, with building resilience suggested as significant for rural people in dealing with adversity they experience due to isolated contexts (Lawrence-Bourne et al., 2020).

In Australia, there are well-known urban-rural disparities in mental health outcomes including around suicide and emergencies (Hickie et al., 2019). For example, the rate of suicide among young men (aged 15-29 years) is twice as high in rural areas compared with major cities (Hickie et al., 2019). Distance to a range of specialist services, lack of provider choice, and high turnover of skilled local mental health practitioners are some problems persistently noted as associated with poor rural mental health outcomes (Parliament of Australia, 2018; Victoria State Government, 2020).

Resilience is a term that is used within different discipline and policy perspectives and is engaged in different debates (e.g., in relation to economies, health and wellbeing and ecological systems). This contributes to it being regarded as a fuzzy term (Steiner et al., 2018). However, its malleability brings advantages and disadvantages – it is simultaneously useful as an umbrella term or ‘integrated concept’ (Berkes & Ross, 2013) and problematic because it isn’t universally defined and measured. Aside from the many topic areas that resilience thinking is applied to, different interpretations of resilience are discussed. One perspective suggests resilience is about sustaining and returning to a stable position after adversity, while another suggests it is about adapting and evolving to new circumstances after adversity (Berkes & Ross, 2013). We take the over-arching perspective of resilience as being about building strength to deal with adversity and to overcome vulnerabilities (Buikstra et al., 2010).

To explore if and how resilience might build through participation in online mental health forums, our project first analysed rural forum post data against a Resilience Theoretical Framework of components derived from relevant research and theory (e.g., Buikstra et al., 2010). See Appendix 1 for a discussion of how the framework was developed. Interviews with rural forum users were conducted to verify analysis of forum posts and to extend understandings about how resilience resources build and how users apply these resources in their daily lives.

THE FORUMS

The forums of three organisations are featured in this study



Beyond Blue was established in 2000 to address issues associated with mental health conditions. Beyond Blue hosts a suite of online peer support mental health forums including forums focusing on anxiety, depression, grief, post-traumatic stress disorder, suicide, and youth forums; all of which were used as a source of data in this project.



SANE Australia was established in 1986 to impact the lives of people affected by complex mental health issues through support, research, and advocacy. SANE Australia has two forums: one is designed for Australians aged 18 years or older who have some connection to complex mental health issues; another is for carers and supporters of people experiencing mental ill-health. Both forums were included as a source of data in this project.



ReachOut was established in 1998 to deliver innovative e-mental health services that enable young people to take control of their mental health and wellbeing. ReachOut hosts an online peer support mental health forum for young people aged 14-25 years inclusive. This forum was used as a data source for the project.

Online forums are ‘open access’, meaning anyone with an internet connection can navigate to the above organisations’ websites and view the forums. To post, users must register and select a pseudonym by which they become known. During registration, users may also volunteer their postcode. This allows organisations to know the geographical distribution of users, which is typically used to inform service provision strategy.

Forum posts can vary from five to over 500 words. This allows users to anonymously share short and more detailed stories and experiences. Typical content of posts includes - for example - information about a specific experience, a request for information, or comments on an experience. Many posts also ‘tag’ other users to view their post. This functionality enables forum communities to develop

social networks and engage in peer-to-peer support. Posts can also be organised into ‘threads’, which represent an overarching theme of a set of posts, similar to an ongoing conversation about a specific topic.

Forums are moderated by paid staff and volunteer peer moderators. The responsibilities of a paid moderator include ensuring: forums are a safe space for all users, community guidelines are adhered to, safe conversations about sensitive topics (e.g., suicide, self-harm, trauma), and that users do not disclose personal information. Moderators also remove spam content, and prevent prescriptive advice or abusive and triggering language from reaching the forums.

Volunteers typically engage with forum users who post potentially triggering material and try to steer them, via conversations, from what may become a harmful narrative into a more constructive one. For example, conversations around eating disorders and exercise are encouraged on the forums, however, prescriptive advice (e.g., how much food should be eaten) will be moderated out. For a more detailed account of moderation practices see McCosker et al. (2023).

METHODS

Australian rural residents were the focus of this study as they experience combined adversities including limited access to services, isolation and experiences of stigma and lack of confidentiality.

The study considered use of forums hosted by three Australian mental health non-profit organisations: Beyond Blue, SANE Australia and ReachOut. Data collected was forum posts of rural users and data from rural user interviews. These were analysed against the Resilience Theoretical Framework.

Samples of one thousand posts made on each organisation’s forums (total = 3,000 posts) were analysed against a Rural Resilience Theoretical Framework (Figure 1). Evidence of resilience dimensions was found, suggesting using forums helps to build resilience for rural forum users.

Thirty interviews were conducted with rural forum users to assess whether evidence about resilience from the previously conducted forum post analysis was borne out in self-reports of forum users and to extend information about impacts of forum use.

Ethical approval was granted by Swinburne University Ethics Committee (R/2019/033).

Forum post data

A 29-month sample of geo-located and time-stamped forum posts (August 2018 - December 2020 inclusive) was obtained as follows: from SANE Australia (n = 68,634 posts); ReachOut (n = 80,174 posts); and Beyond Blue (n = 44,458 posts). These were then ‘cleaned’ for analysis, meaning we removed place identifiers and any unwanted syntax (e.g., ^,>, \,) resulting in a total of n = 193,356 cleaned posts for analysis.

To isolate the posts made by people living in rural Australia, we first defined rural areas as all those areas outside of ‘Major Cities’ and ‘Inner Regional’ areas according to the Australian Statistical Geography Standard (ASGS) Remoteness Structure (Australian Bureau of Statistics, 2018). Ultimately, the rural sample was of posts by users living in Very Remote, Remote and Outer Regional areas (see Figure 2).

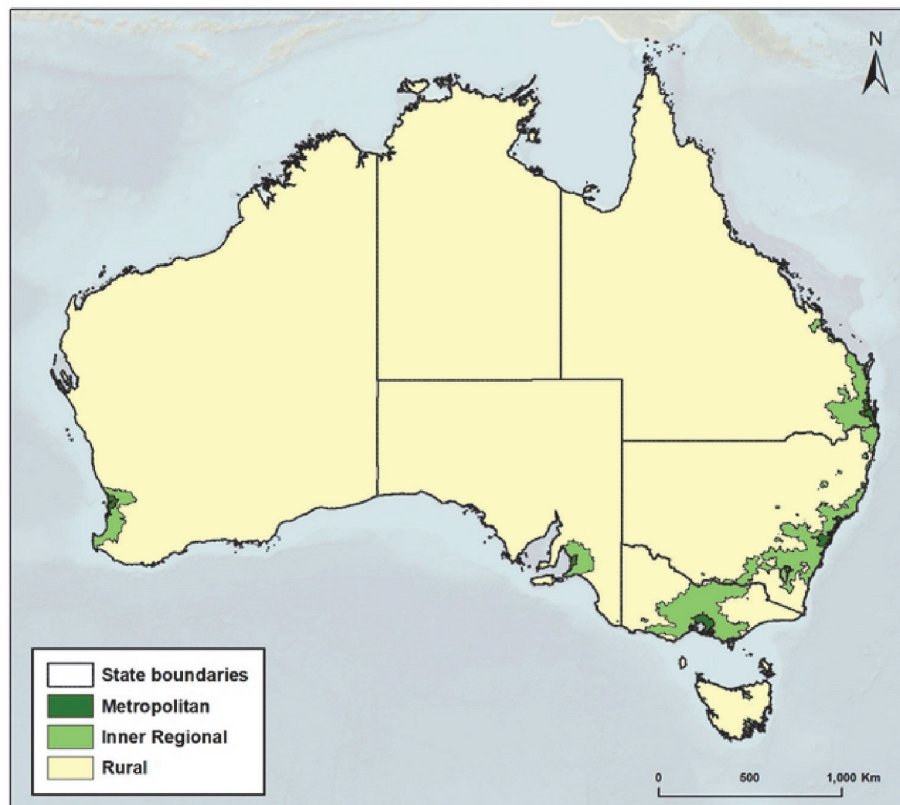


Figure 2 - Map of Australia showing areas categorised according to the Australian Statistical Geography Standard (ASGS) Remoteness Structure, with ‘Outer Regional’, ‘Remote’ and ‘Very Remote’ areas grouped together as rural (yellow) for this analysis.

Using postcodes given by people when they signed up as users, we then selected all rural posts (Table 1).

Table 1 - Number of posts and authors by rural location

Organisations	Total Posts	Total Authors	Rural Posts	Rural Authors
SANE Australia	68,634	2,322	12,032	251
Reach Out	80,174	1,351	11,905	121
Beyond Blue	51,323	7,945	5,027	684

To generate a manageable sample of post data for thematic analysis (given our resource constraints), a sample of 1,000 posts from each organisation was selected (total n for analysis = 3,000). We focused on including the ‘most rural’ areas and consequently the sample includes 269 posts from ‘Very Remote’ areas, 410 posts from ‘Remote’ areas and a random sample of 2,321 posts from ‘Outer regional’ areas (selected using the random function in Excel).

For a full description of the process of extracting forum post data see Kamstra et al. (2022).

Interview data

Interviewees were recruited via a message posted on forums once approval from the organisations’ community management teams was acquired. This message described the aims of the study and invited rural people interested in being interviewed to contact the project team via an online expression of interest form. Interviewees were told they would receive a gift voucher for \$50 AUD (around \$35US). Inclusion criteria were that participants should be users of online forums and live in rural Australia. Thus, the sample of interviewees comprised of users who proactively responded to the expression of interest message. This method was successful in recruiting participants from SANE Australia (n=20) and Beyond Blue (n=6). Four interviewees were eventually recruited from ReachOut forums, although it took a long time to attract participants.

The gender and age breakdown of interviewees appears in Table 2.






Table 2 - Forum user interviewees

Age	Beyond Blue		ReachOut		SANE Australia		Totals
	Self-Reported						
	Female	Male	Female	Male	Female	Male	
18-25			3	1	1		5
35-44		1			4	1	6
45-54	1	1			5	2	9
55-64	1				2	3	6
65+	1	1			1	1	4
Sub-Total	3	3	3	1	13	7	30
Total	6		4		20		30

Data analysis

Forum posts were analysed deductively against the Resilience Theoretical Framework. Explanation of topics in data and its coding to themes is shown in Table 3.

Table 3 - Data coded to resilience components

Resilience Components	Description of data coded to this resilience component
 <p>Social Connection</p>	<p>Included descriptions of social connection, relatedness or empathy between people e.g., expressions of friendship and friendly encounters such as peers offering encouragement to each other, referring to each other as friends, thanking peers for trusted friendships and describing the value of these friendships.</p>
 <p>Learning & Knowledge</p>	<p>Included: i) giving knowledge e.g. strategies for coping with symptoms, including from lived experiences; ii) requests for advice or information e.g. how to access services; iii) sharing online resources.</p>
 <p>Sense of belonging</p>	<p>Included: i) people joining and posting messages seeking to belong to this community e.g. introducing themselves, telling their story; ii) posts that tell others they belong and feel included; iii) posts that reference the forum as a beneficial place perhaps discussing features of the forum as though it is a physical place and testimonials about forum benefits.</p>
 <p>Self-efficacy</p>	<p>Included descriptions relating to control/loss of control, i.e.: i) expressions relating to using the forum as a step to (re)gain control; ii) asking others on the forum to 'hold them accountable'; iii) where people tell their story to unload, sometimes with discussion suggesting that this helps to move on.</p>
 <p>Adaptive Capacity</p>	<p>Included: descriptions of how interacting on the forum has changed their activity, attitude, feeling or knowledge.</p>

Interview data was analysed using the components that were identified in the forum post analysis – that is, did interviewees think they gained social connection, learning, belonging, self-efficacy and adaptive capacity from using the forum? (Note: The wording of the interview questions was designed using plain language to make these constructs accessible to interviewees).

We were also open to emergent topics throughout analysis, but this was challenging to do in relation to resilience due to it being a fuzzy and multiply defined concept. Therefore, we focused attention on the resilience themes in the theoretical framework. As a result, this report mainly considers whether the established resilience themes were found in the data rather than exploring other conceptualisations of resilience and how those might manifest through use of the forums.



FINDINGS

1 - Realising resilience: forum posts

This section applies the Rural Resilience Theoretical Framework deductively to analyse forum data for themes about building resilience from forum use. Figure 3 summarises the numbers of coded posts by rural forum users according to resilience components and host organisation.

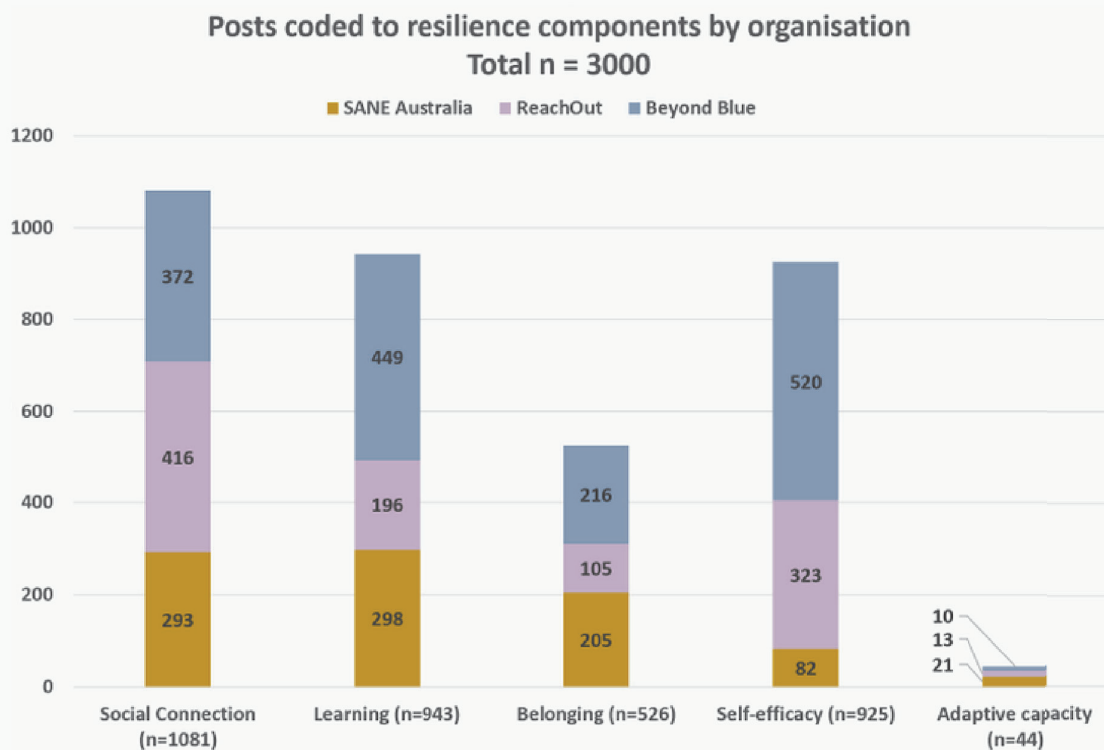


Figure 3 - Posts by resilience components and organisation

Figure 3 shows that social connection (n=1,081), learning (n=943) and self-efficacy (n=925) had the highest numbers of posts, with fewer posts coded as belonging (n=526) and much fewer coded as adaptive capacity (n=44). Given the limited sample size, conclusions shouldn't be drawn as to the relative numbers of posts per theme by the different organisations' forums – rather, we suggest it is interesting to see there are examples of all resilience themes despite the varying groups targeted by the different host organisations. Table 4 below gives a sample of the nature of the posts by the resilience components.

Table 4 - Examples of posts coded to the resilience components

RESILIENCE COMPONENT

SANE AUSTRALIA

BEYOND BLUE

REACHOUT



Social Connection

Processes of relating and empathy between people

“ How was your day? I've been flicking through some of the other threads, I've been so absorbed in myself I didn't realise you had been unwell. I hope you are feeling better today and get the chance to recover more over the weekend. (#1)

“ It's quite a scary time for me at the moment coming to terms with this and I haven't confided in anyone outside of my mental health GP and nurse practitioner (I am in an isolated setting so sometimes we have a GP other time only the nurse practitioner is here. (#455)

“ I can't believe this thread is already eight pages long!!! I'm about to head out of Forum Land for the night and I am a little bit terrified to see what this thread may have turned into by the time I reappear tomorrow. (#6)

“ You would not believe how many times I have heard your story in one shape or form. I've had anxiety for a long time, getting worse, have doctor who is doing nothing so on so on. (#442)

“ How did your birthday go? Did you catch up with your friend? Looks like I won't get to catch up with my gorgeous friend. Covid and H's fears are going to keep us at home. Although there is a chance, she might come up... I hope the numbers keep on going down. Hope you're well. (#101)

“ First, I want you to know that you're not alone in this world. It may not feel like it, but you have many people who love you, very very much- you just can't see it. You are a wonderful person, with an amazing life - you raised children, had a long relationship. (#100)

“ I'm glad things are starting to feel a little better for you and hope they continue that way. How is the assignment coming along? How amazing is it going to be when we're all finished for the year?! I know I cannot bloody wait! (#37)

“ Loving your responses So many amazing things to be grateful for. (#545)

“ Hey, I just wanted to check in and see how you're doing? I'm hoping your absence means you've just been busy baking Christmas cookies and your rice bubble slices!! Sending you some positive vibes - you've got this. (#15)



Learning & Knowledge

Processes of accessing new information

“ I have spoken to a doctor and she has put me on anti-depressants. But I still just don't feel okay. So that brings me back to my question, am I okay? Or am I just overreacting. (#25)

“ I feel overwhelmed by small adult tasks and I am a huge stress head over almost everything. Please tell me it gets better? Or that I am at least not the only one? (#75)

“ Another option is a Police and Ambulance Intervention Plan. This is a document that can be created to record what strategies would be useful for the police or ambulance officers attending to you in a mental health crisis. (#117)

“ Do you have someone you trust who you feel that you can be yourself around and discuss how you're feeling? Or are you eligible for a mental health plan to speak to a professional for help? Is there something you can do at the end of the workday to de-stress to help you re-coup for the next day? (#45)

“ There, I'm super new and only posted the first time tonight as well! But reading this I thought I could offer some reassurance from my own experiences. At the very least I can describe my similar sensations in the hope it feels less unusual/isolating. (#636)

“ We know that negative thoughts cause feelings of frustration. As a result, the negative outlook creates more difficulties in your way, and you find it even more difficult to deal with your routine challenges. As a result, moving forward becomes an impossible task for you. (#18)

“ I'm worried about that too! Do you have the option to take exams on campus if you want to? I know with my university you could register to sit them on campus, and they have rooms set up with social distancing and stuff in place. I ended up applying for it because I already don't do well with exams so needed to keep things as normal as possible so am very thankful my university has those measures in place! Could be worth checking out? (#362)



Sense of belonging

Processes of developing a sense of belonging and place-making



Self-efficacy

“

Use aromatherapy and lavender is very calming. I have used it in a diffuser on my skin and on the palms of my hands rubbed together and inhaled it but never heard of the capsules. Would be interested to hear how they go. (#237)

“

“ You are not alone now and never will be. (#38)
“ That is the beautiful thing about this forum. You can just be yourself with no judgement. There are so many people in the world who are suffering from mental illness and you have just found a place where you can feel safe. (#69)

“ My GP does seem to want help she referred me to the councillor and that was the end of it. So on the hunt for a new one I think. I don't really have a support network. I live away from my family and have no friends. Because of this I can't get out and meet people. But reading on here and knowing I'm not alone and I can come on here and talk to people who have or are going through the same as me has helped already. (#400)

“ Hey, welcome to ReachOut! I wanted to pop in and say how brave you are sharing your story here [forums]. I find here is a good place to seek support from others and chat in a safe and non-judgemental place. (#491)

“ I know you are here. Thank you for saying it...even though I already knew it (#8)

“ Arghhhh it's all too much hey, and I am so greatly comforted to find friends here. Of course we haven't forgotten and I'm not alone. Take care everyone. (#999)

“ Hehe don't worry about the long posts; I tend to ramble on and on too! And I find that it's super easy when you're in a safe supportive place to do so (#698)

“

“ Big hugs. I'm just going to sit silently in support at this time. My two sisters, you are awesome, and awesome support for each other. And both of you so supportive of everyone else here also. It blows me away. (#102)

“ I think just knowing I can come on here and chat to like-minded people has been my favourite wellbeing activity this year. I am so glad I found this community because there is no other like it and for once I feel like I am supported and can speak out about how I'm truly feeling so thank you to everyone on here!! You are all amazing in your own ways. (#10)

“ I was starting to lose hope that it can and will get better, but I have to try remain positive that I can overcome this and give the medication time to fix the chemical imbalance as well as wait until I can see a mental health professional to learn coping strategies. (#14)

“ Hello again friends, the weekend has been a tough weekend for me, but I think I'm through the other side. Partly my struggle has been the fact that my psychologist is away on holiday, and I panicked. The problem with panicking is that you stop processing and thinking logically. (#14)

“ I practiced self-care by having a nap this afternoon when my head really hurt. (#268)
“ She lives 2 hours away so it's a bit hard to sit down and talk to her. I tried calling her to explain and sort stuff out but she wasn't interested in hearing it. (#7)

Processes of gaining control

“ I don't know how I am going to do it but I'm going to find a way. (# 11)

“ I was able to control it, express it alone in a safe way, and establish some clear boundaries around my relationship with her. Including no contact for a while. (#400)

“ Lost 3 important people this year 3 months apart from each other. Living in a small Aboriginal community it's hard to find someone who's not a family member to just chat to. It's hard to chat with family because they grieve too. I don't know how to feel better anymore, and I think it is starting to affect my home life and my work. I just wanted to be heard. (#115)

“ I have been suffering with panic disorder since I was 19, it began when I started having sex with my partner, and every month I would be sent into a spiral of worry, panic and panic attacks over the idea I might be pregnant.... (#316)

“ Today I practiced self-care by waking up relatively early and I'll try not to stay up late. (#9)



Adaptive Capacity

Expressing change in behaviour, activity, attitude, knowledge

“ I ordered this book as soon as I got your reply, hopefully they arrive soon but in the meantime my partner has had his first session with a psychologist and guess what book she recommended. (#5)

“ I had been wanting to go to a class for a super long time but was too scared. Doing it together but not with [@username] made it a bit less scary. (#2)

“ I have found comfort posting on this forum. It's made me feel not so alone and also given me some good ideas. Some of the things which have helped me now are, going for a walk, singing in the car, meditating, relaxation tapes, breathing exercises and talking to a friend. I hope you can find something that helps you too. (#311)

“ Hi [username], thanks for your reply. Yep, life seems to be picking up for me. Made a decision last week to leave the station - been here 3 yrs on my own - going back to family farm (#79)

“ Reading back through my threads and taking note of all the wonderful suggestions and advice this community has shared with me. (#268)

“ I appreciate your, help, and so much, and I did talk to my boyfriend about it and I feel so much better. We are working together to sort it out. I'm here for all of you if you ever need any help. Thank you again! (#18)

2 - Confirming resilience impacts: user interviews

In this section, we show that interviews with forum users confirmed their experiences of building the resilience resources - social connection, learning, belonging and self-efficacy - from forum use. If we think about examples of adaptive capacity, this aligns with what interviewees said about how having these resources, from using forums, impacts on their daily lives. This section uses data from 30 interviews with forum users living in rural places.

Resilience resources confirmed

Across the three organisations' forums, interviewees said they found social connection through talking online with others with shared experiences. They experienced learning by accessing new information that answered questions. Interviewees experienced a sense of belonging to the online community. They experienced self-efficacy by feeling empowered to move forward with their mental health journey. In moving forward and taking actions to support their mental health they demonstrated adaptive capacity.

This evidence from interviews, then, confirmed that interviewees acknowledged they obtained the types of resilience resources we focused on, from their interactions on forums.

Social Connection

The most notable feature of the forums is that they are spaces of social connection. Users interact with each other in ways that contain some elements of community and friendship, despite the forums being anonymous, as the following comments show.

“ I've now established some, and I know they're online friendships, which are different to real life friendships. Because we don't know one another's real names or anything. But yeah, there are people who I still stay in touch with. And we post stuff and add one another in and stuff like that.

(SANE Participant #10)

“ I'm not too far from town, but I'm far enough that it's difficult to go in and socialise. So I can go ages without speaking to anyone outside of my family. Yeah, so having the forum. It was good to kind of just break out of that loop. Yeah, get out of my own head.

(ReachOut Participant #1)

“ Personally, for me, [anonymity] really does [matter] because I don't want somebody knowing the intricate details of what I might be going through, I like to try and pretend that I'm okay. So, I don't want my name splashed everywhere. So, I do like being anonymous, but I also feel like that can create those relationships between people.

(ReachOut Participant #4)

For many people, life in rural communities can be lonely and at times social relations become difficult. The forums offer some sense of social connection or an alternative supportive space.

“ I don't have a whole lot of friends really. I was kind of looking for something to feel connected with when I joined something like this. I don't really have a life in a rural community amongst other people at all.

(Beyond Blue Participant #4)

The forums offer opportunities to take part in everyday human interactions of receiving and giving support and encouragement to other people.

“ The thing I do like about being on forums is actually just encouraging people, you know, and being nice to people. So, I thought, well, I'll look for a forum that's not Facebook, where I can maybe just talk to people, and you know, maybe just spread some kindness in the world.

(Beyond Blue Participant #2)

Learning & Knowledge

The forums offer opportunities to take part in everyday human interactions of receiving and giving support and encouragement to other people.

“*People talk about medications. People talk about treatments. People, that’s the thing. It’s really wonderful that you can tap into other people’s experience and knowledge. And that’s the wonderful thing about it.*

(SANE Participant #7)

“*Being on the forums I get assistance from other people. So they might tell me, you know, what worked for them or where to look for some answers. So I’ll sort of go there. I know, there’s a lot of mentors, you would say, on that forum. So they do assist a lot of people. Even in my case, where I do know, quite a lot of what’s going on with the mind and body, they can still help to give a perspective that maybe I haven’t thought of, especially in, I guess, the time of need.*

(Beyond Blue Participant #5)

For some users, the information to which they gain access from using the forum helps them to actually identify what they are experiencing, as the following account shows.

“*Learning I was in a domestic violence relationship that was extremely significant. You’re reading other people and reading things that you think that is normal, but when you see other people’s responses, that it’s not. The more you read and the more you hear, the less confusion you have. If it wasn’t for that, I wouldn’t know all the other resources and sought help.*

(SANE Participant #3)

The process of understanding mental health conditions is not simple and straightforward. The following comment reveals how the forum enables people to continue to ask questions as their understandings unfold and to feel validated in the process.

“ It's really, it's a mixture of everything sort of coming together, because you might have one question, and then the next day have another question that's kind of not related. But the answers you get, give you a way forward, a bit of hope and that sort of thing.

(Beyond Blue Participant #5)

“ I've actually had anxiety myself, which I was diagnosed with three years ago. And so in that time, I was looking all over the place for information and support and things like that. And I found online was more helpful for me because I didn't know anybody.

(ReachOut Participant #4)

“ I think the feedback's personal. It's um you know, you kind of get validated.

(ReachOut Participant #5)

Belonging

Users explained how they experienced the forum as a place where they felt included and that it was a community of which they could be part. Their comments reveal the multi-faceted ways that the forums become woven into their lives, supplementing other supports and sometimes making up for the absence of support.

“ There's a lot to be said about being included. And I've got two special needs children. And that sort of isolation... I can't even write about it. I can't explain it. So, the forum allows me to be part of something. So, there's an inclusion there.

(SANE Participant #1)

“ I live in a rural town that doesn't have a lot of, I guess, we're not very cultural. But online, you could find other people online to talk about that you will find in the [forum] community, which is really good.

(ReachOut Participant #2)

The feelings of inclusion and belonging generated on the forum extended to users feeling safe to trust in the online community.

“ I actually trust the forum community more than I trust my local community. ... it's because - well - there's not much here in this town. It has about 200 people, but I don't know them. And there are very few services for mental health here and like the psychiatrist comes once every couple of months, so the forum is really important in between times ... it's just that I've built that trust over time. Because they've been there for me for so long.

(Beyond Blue Participant #5)

“ I think being part of the online community, even though it's anonymous, it feels a bit more friendly. Especially for a person who's quite introverted. And going out in public here can be a bit anxious.

(Beyond Blue Participant #2)

In this way, the forum became another community that users could belong to, as the following participants explained.

“ Like, I can go to my family when I'm ruminating or down about something or I've got a problem. But I don't want to cross their boundaries either. Yeah, so that's why it's good to have kind of two communities that can support me there.

(ReachOut Participant #2)

“ You know sometimes if things don't go right in one area, like, if people are judging you and passing rumours around in my physical community, well, you know you've got somewhere else that none of that's going on. You don't have all of that stuff happening. That you can be a totally different person and yeah, sort of start fresh, sort of thing. And you don't have that judgement and that stuff going on.

(SANE participant #7)

For people who experienced particular adverse events such as bushfires and floods, the forum offered access to a community of users who had shared in that experience.

“ In my day-to-day life there's not that many people you can talk to. I joined on a bushfire recovery [thread/section of the forum], like a special real life experienced...[group]. That's why I joined because of that.

(SANE Participant #1)

Self-Efficacy

In the interviews, users indicate the numerous ways the forums support them to exercise some control over their lives, whether through participating with peers or holding themselves accountable for improving their circumstances, as the following quotes depict.

“ It gave me an opportunity to participate in discussions. And I think that that’s really important to mental health.

(SANE Participant #6)

“ [The forum] probably made me a bit more accountable to myself. People will say, oh, you sound better than you did the other week. I was going to do this course, blah, blah, blah. And then I had a bit of a think about it while they were talking and realised that I’d been telling myself that for 7 years. Anyway, somehow, despite myself, I’ve managed to enrol in it and it’s actually happening.

(SANE Participant #19)

Taking part in forum discussions and engaging with others with shared experiences helped some users to cope better.

“ It helps to know that there are other people out there who’ve been struggling as long as I have. And it’s okay not to be cured yet. It’s a day-by-day thing, you try to get through each day the best you can. And you’re not failing because you’re having a bad day.

(Beyond Blue Participant #6)

“ I think it’s more that sort of short term - there’s something that’s really bothering me at the time, and I can’t move past it. [Using the forum] just kind of helps get me over that.

(ReachOut Participant #3)

While there are many benefits of taking part in shared discussions, there can also be downsides to engaging with the experiences shared by others as the following comment reveals.

“ I think it’s, it feels good, being able to talk about things that maybe you don’t feel comfortable talking about in real life, I say. But it can also like, it definitely goes both ways. Because it can also be upsetting. And like, you feel extremely vulnerable with reading other people’s stories and not being able to do a lot about it. So yeah, it definitely goes both ways.

(ReachOut Participant #5)

Adaptive Capacity

Interview findings demonstrate the diversity of ways forum users build out from their experiences of using the forum and translate resilience resources into positive and tangible impacts on their lives. We refer to this as building adaptive capacity. The quotes below reveal how some users are able to interact more within their local community.

“Because [of the forum], I’m out of the house more often. You know, that’s, because I’ve got that crutch there, I don’t sink to that point where I don’t want to leave the house. You know, I’m actually out. For instance, I went and had my nails done yesterday, which is something unusual for me. So, an elevation of my mood has allowed me to get back out into my community more.

(SANE Participant #7)

“When I first started [on the forum] back in 2017, I never left the house. I wouldn’t leave the house at all. Then with help from suggestions people made on the forum, I went to the GP and got a mental health care plan. And also I read in some of the information that people posted about what can help with depression is that volunteering might help. So, I thought, Okay. I started to volunteer two days a week at St. Vincent DePaul. And that’s something I never would have thought of doing, if it wasn’t for someone suggesting it on the forum.

(Beyond Blue Participant #2)

Another user explained how the forum helped prompt her to take action to support her own mental health.

“[The forum is] not a cure all. It’s not kind of – I can’t just post on the forum and leave it at that. I’ve got to actually do some work myself, do the CBT or go speak to someone face to face. It’s just kind of that initial helping me get to that point. But yeh, it’s not a cure all.

(ReachOut Participant #3)

SUMMARY TAKEAWAYS

A journey of forum use: a process of building resilience

Data from forums and interviews suggests that forum use typically follows a pattern or journey. We've tried to depict this in the flow chart in Figure 4 over page.

Use might begin following a diagnosis or a crisis that prompts action. A search for help from a platform or a prompt from a health or social care practitioner might lead the user to a forum. Initially, users might not be looking for other people, shared experience or a community, rather they might be looking for help. And initially they might be on the forum just observing, looking at how it works and perhaps searching the repository of existing posts and threads for information that addresses their issues and questions. Over time, they will pluck up the courage to make their own posts – often stating this is their first post, or that they are new. They might start to post their own questions and get into dialogues with people where they can obtain customised responses, in language they understand and use.

As use progresses, users may come to appreciate the community aspects of the forum – find particular 'friends' or supporters and feel part of a community of shared experience. Writing on the forum can be therapeutic in itself and people may make statements showing they are exercising control in their own lives or acknowledging areas where they want to exercise control. This sets up a kind of accountability to themselves via the accountability they set up with empathetic peers.

While use may ebb and flow once users' immediate needs have stabilised, they start to offer their support to others and gain self-value from what they are sharing, particularly when others acknowledge that their support has helped them in a time of need. The confidence and value gained from this function, along with the resources gained from the social connection, learning, belonging and support for self-efficacy might help people to make observable changes in their lives that they link directly to forum use.

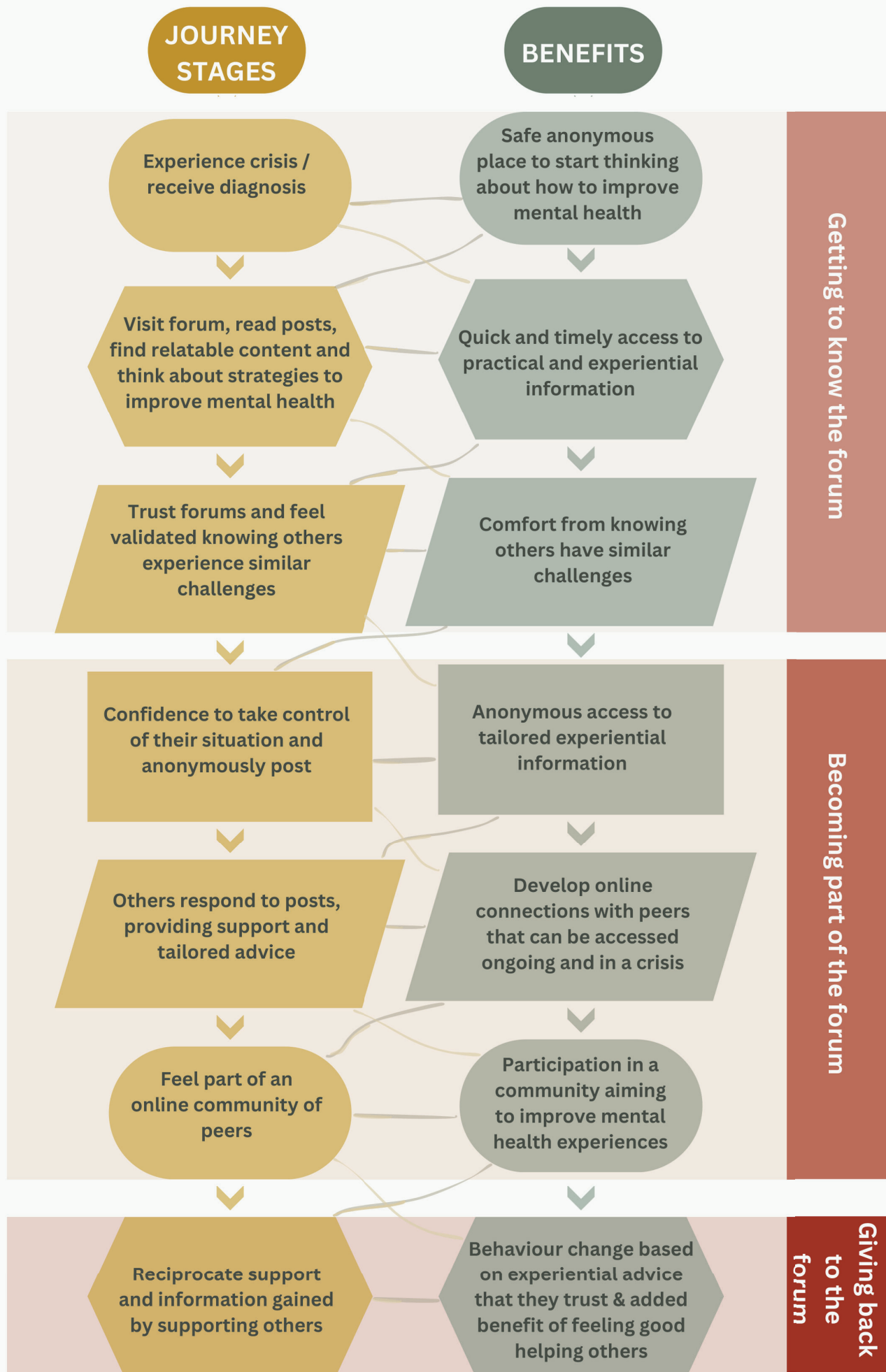


Figure 4 - Resilience built over a journey of forum use

What to take-away

Below we suggest some things to take away from this study, point to how findings build on existing evidence and we highlight strengths and weaknesses.

What can we say, based on findings?

We analysed data from posts made by rural users across forums of three Australian mental health non-profits to look for evidence of resilience-building. Consistent evidence was found, across the forums, of resilience resources being built. From this, we state that forums are supporting their rural users to build resilience.

Resilience-building is highlighted as significant for rural people as they have to deal with multiple types of adversity. It is even more significant for rural people with experiences of mental ill-health who often encounter stigma and lack of confidentiality as well as isolation and less access to services when compared to their urban counterparts.

The findings of this study accord with findings of previous research by Smith-Merry et al. (2019) and Prescott et al. (2017) that demonstrate that online mental health forums help people find social connection and access information and practical advice about mental health. For many, life in rural communities is isolating (Lawrence-Bourne et al., 2020) and additional supports are necessary to help rural people to thrive. Previous evaluations of forums, including studies specific to rural users, have shown benefits. For example, Smith-Merry et al. (2019) found that some rural users of SANE Australia Forums (including the forums in our study) identified social isolation and stigma as being reduced through forum use.

Online mental health forums are an important part of the health and support ecosystem for the rural people who use them and should be promoted for their benefits as well as taken into account in assessments and reviews of rural services. The contribution of this study is that it examines forums specifically in terms of how they build resilience amongst rural users.

Practice take-aways from the study

- Online mental health forums help to build resilience among people with lived experience of mental ill-health, and they provide support and fill gaps in the mental health system
- This research has helped to illuminate mechanisms of forums that can be used by forum host organisations to build resilience amongst rural users.

- The rural resilience components that this study identified include: social connection, learning, belonging, self-efficacy and adaptive capacity.
- The findings of this study can inform those developing rural mental health systems about the role of forums and about the gaps in formal public services they appear to fill.
- Forums constitute a service to support resilience and their contribution can be evaluated through using the data generated on the forums. We have shown here how such assessment can be done, using a sample of data from across more than two years for each of the forums and applying a theoretical frame of resilience components.
- It is possible to ‘measure’ the impacts of mental health peer support forums in terms of their resilience effects. Depicting benefits of forums as contributing to a desired outcome – resilience – could be useful as a way of showing impacts of the forums to funders.
- Attention should be given to raising awareness within the broader health system of the benefits of online mental health forums delivered by reputable organisations such as SANE, Beyond Blue and ReachOut – perhaps particularly for rural users. Providing more information to health practitioners about the resilience effects of the forums may lead more practitioners to recommend the forums to clients.

Strengths and weaknesses

In this study we limited our analysis to using one framing of resilience. Coding was undertaken according to our interpretation of resilience theory and a framework developed for this study. There are other interpretations and frameworks of resilience, however we outline the reasoning behind our choice of framework in Appendix 1.

Our interpretation of resilience was based on the selected resilience theoretical framework. The boundaries between the different components of the framework were often blurry, and some data could be coded to more than one component. The coding decisions were based on words used in the forum posts, and the ‘tone’ conveyed, which can be difficult to read into decontextualised forum posts. The interview data helped to verify and extend upon these aspects of the analysis.

Previous research has found that moderators and forum volunteers are important contributors to the tone and content of forums (McCosker, 2023) however this was not a central focus of the study reported here.

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APPENDIX 1 - Resilience theoretical framework

How we developed an initial theoretical frame of resilience

Step 1: finding the right theoretical ‘space’

In relation to resilience and discipline perspectives, our situation necessarily drew on two topic areas in which resilience thinking is applied. We were interested in the extent to which using forums assists people with mental health conditions who live in rural contexts to ‘be resilient’. Given the topic area, the framework developed by Buikstra et al. (2010) of ‘resilience promoting variables’ offered an ideal starting point for our context and purpose.

Buikstra et al. (2010) sought to address a gap in resilience thinking in bringing together an established concept in mental health with related thinking in ‘community development and social impact literature’ (p.975). One issue the researchers sought to address was understanding the associations between individual-level and community-level resilience. Noting that, as a discipline, psychology tends to focus on individuals while community development focuses on collectives, they sought to understand the interplay between these disciplinary perspectives on resilience and how this operates practically in rural places. Studies by Leite et al. (2019) and Berkes and Ross (2013) examine interplays between multiple systems levels (e.g. individuals, communities, groups, households, states) in generating resilience. A conclusion of Ross’s later work is that people and contexts are ‘coupled, interdependent and coevolving’, but associations between levels and variables of resilience is inconsistent (Berkes & Ross, 2013, p.7).

Step 2: Thinking about levels of resilience and individuals as our unit of analysis

In our study, the main unit of analysis was individuals (forum users) and our objective was to understand how being on the forums might assist in promoting their resilience. Consequently, we focused on looking at individual-level resilience. Individual resilience has been described as coming from ‘interactions and adjustments of the individual with both social and physical environments, alongside particular personal, emotional, and cognitive attributes’ (Luthar et al., 2006; Schoon, 2006).

While adopting a focus on individuals, however, we were also interested in the place-context of forum members (i.e., we selected posts that were made by rural users) and the idea that the forum itself may be understood as a form of community. Thus, we needed to be alert to the ideas of community-level resilience as well.

Step 3: Generating an initial framework of what to look for in the data

The Buikstra et al. (2010) framework has 11 components (see Table 5 below) and built on previous research about ‘shapers of resilience’ in rural communities by some of the team (Hegney et al., 2007). We checked for updates or additions to the framework by Buikstra and colleagues with a particular focus on any additions that related to individual resilience since that was the level of our analysis. We undertook a search in Google Scholar for all papers that cited Buikstra et al. (2010) or were defined as ‘related to’ their paper. We found 307 that cited Buikstra et al. (2010) and 46 termed ‘related papers’. We read the abstracts of all of these and found no papers that suggested additional components of rural individual resilience. Many of the papers focused on rural community-level resilience.

In later work, Berkes and Ross (2013) propose resilience components that they suggest operate in an individual-community interplay, helping to generate ‘agency and self-organising’ (p.14) as an intermediate attribute sitting between the resilience components,

and resilience as adaptive capacity. Berkes and Ross consider adaptive capacity to be ‘a latent property, which can be activated when people exercise their agency’ (p. 15).

In their 2019 study, Leite, Ross and Berkes move to discussing resilience components as ‘protective factors’ that can assist rural people to deal with adversity. The authors depict resilience building as involving interactions and adjustments in relation to the wider environment and varying with an individual’s personal attributes and vulnerabilities.

Table 5 below summarises the evolution of the selected reference studies identifying resilience components.

Table 5 - Studies identifying components of resilience

How components are defined in relation to resilience	Resilience components	Levels
Hegney, D.G., Buikstra, E., Baker, P., Rogers-Clark, C., Pearce, S., Ross, H., King, C., & Watson-Luke, A. (2007). Individual resilience in rural people: a Queensland study, Australia. <i>Rural and remote health</i>, 7(4), pp.1-13.		
Shapers of resilience	The environment Connection with land Family Culture Being part of a rural community and community spirit	Individual
Buikstra, E., Ross, H., King, C.A., Baker, P.G., Hegney, D., McLachlan, K., & Rogers-Clark, C. (2010). The components of resilience—Perceptions of an Australian rural community. <i>Journal of Community Psychology</i>, 38(8), pp.975-991.		
Resilience promoting factors	Social networks and support Positive outlook Learning Early experience Environment and lifestyle Infrastructure and support services Sense of purpose Diverse and innovative economy Embracing differences Beliefs Leadership	Individual & community
Berkes, F., & Ross, H. (2013). Community resilience: toward an integrated approach. <i>Society & Natural Resources</i>, 26(1), pp.5-20.		
Resilience concepts or components	Social capital and networks Sense of place Values Social identity	Individual & community
Maclean, K., Cuthill, M., & Ross, H. (2014). Six attributes of social resilience. <i>Journal of Environmental Planning and Management</i>, 57(1), pp.144-156.		
Social resilience attributes	Knowledge, skills and learning Community networks People-place connections Community infrastructure Diverse and innovative economy Engaged governance	Individuals, communities and wider society
Leite, M., Ross, H., & Berkes, F. (2019). Interactions between individual, household, and fishing community resilience in southeast Brazil. <i>Ecology and Society</i>, 24(3).		
Protective factors or resilience features (individual level given in next column)	Formal education Local knowledge Autonomy Family support Social capital and networks of support (friendship ties, church circles) Psychological counselling An ‘invigorating environment’	Individuals, households, communities

From Table 5, we generated an initial theoretical framework of components to look for in the data by grouping the resilience components. In Table 6, we loosely categorised components as *generally relating to people* and *generally relating to context*. Clearly all of the components listed as relating to people can relate to individuals as well as communities.

Table 6 - Grouping resilience components

Our initial framework of resilience components to look for in the data	Didn't look for these themes as they related to context
Relating to people	Relating to context and structures
Connection to place, sense of place	Environment
Social connections, social support, social networks, social capital	Infrastructure and support services
Culture, values	Diverse and innovative economy
Positive outlook	Psychological counselling
Learning, knowledge, skills, education	'Invigorating environment' (in relation to having things to do that are engaging)
Social identity	
Early experience	
Sense of purpose	
Embracing differences	
Beliefs	
Leadership	
Engaged governance	
Autonomy	
Outcomes	
Agency, self-efficacy, self-organising (as intermediate component)	
Adaptive capacity (possibly equals resilience)	

Given our focus on resilience of people using the forums, we focused on the column of components relating to people. We also took from the above reference literature, two outcomes to look for – i) agency, self-efficacy, self-organising as a potential 'intermediate variable' and ii) adaptive capacity as potentially translating to resilience.

Using an abductive process to generate a final coding framework

At this point, we adopted an abductive approach to work towards generating a 'final' theoretical framework of resilience against which to analyse our forum data. Ideally, we wanted to find out if the forum data showed evidence of i) resilience components, and ii) resilience outcomes. As explained by Timmermans and Tavory (2012) 'theory construction' using abductive analysis to identify what the phenomenon you are studying 'is a case of' requires a 'dialectic between data and generalisation as a way to account for empirical findings' (p.168).

That is, it involves a ‘back and forth between data and theory’ (p.169) to establish whether the data is a case of x – in this case resilience components – and/or whether ‘anomalous and surprising empirical findings’ (p.169) are found. Taking the framework we developed above, we applied it to analyse a sample of 1000 posts from an initial forum post dataset, choosing the SANE forum dataset as this was the one we obtained first.

We used a thematic analysis process following Braun and Clarke (2014). Three researchers familiarised themselves with the post data, noting initial deductive analysis against components in the resilience theoretical frame. The researchers then coded forum posts using NVivo 12 (QSR International) (phase 2). Coders consistently found evidence of three resilience components in the data that relate to: social connection, learning and sense of belonging to community/place-making. We also found evidence of using the forum in ways for gaining control which we interpret as self-efficacy and for adaptive capacity. Coded material was then discussed by the researchers to reach consensus and consistency. Grouped codes were used to create a coding book for the resilience components.

This initial abductive exercise led to development of our resilience coding framework which was then applied across the three forum datasets and used to inform development of an interview schedule (Appendix 2).



APPENDIX 2 - Interview questions

Introduction:

Hello [INTERVIEWEE],

Thank you so much for taking the time to be interviewed. My name is [RESEARCHER] and my preferred pronoun is she / her. Can I ask what your preferred pronoun is?

What I am going to do today is ask you a few questions about your experiences while using the online communities. For example, I will ask you about how and why you started using online communities and what your experiences of using the forums has been like.

This should take around 40 min.

Is it okay if I record this conversation, just so I can listen to what you are saying and don't have to take notes (VERBAL CONSENT)? Do you have any questions?

Duty of care prompt:

Before we get started, it's worth pointing out that whilst this interview is not focused on distressing topics, you may still find that things may come up for you.

It might be a good idea to take a moment to check in with yourself and how you're feeling right now.

We would also recommend that you take some time to think about your support network. Who could you reach out to if you needed some support? Do you need to let them know that you might be in touch with them later today?

Remember, if anytime you feel uncomfortable or would like to take a break or stop that is completely fine. Please let me know if that is the case as there are confidential, 24/7 supports available to listen and help you out. Are you ready to begin?

Opening / warm-up questions

- Why did you agree to participate in this study?
- How long have you been using the online communities?
- What prompts you to go on and use the online communities?
- Do you use it in different ways now, to how you used it when you first joined?
- Are there any other places you go online when you're having a tough time?

Impacts on your life

- So now I am going to ask you about some more specific experiences you may or may not have had on the online communities:
- While using the online communities, have you developed any **ongoing connections** with other forum users – or not?
- How would you describe your relationship to these people?
- How do you feel about these connections? Are they helpful/unhelpful?
- How do you use the online communities – e.g. just read, reply to others, start your own threads, etc?
- How often do you use the online communities?
- How does it make you feel (what's it like) when you're on the online communities and sharing information or stories with some of your peers who are having similar experiences (i.e., **belonging**)? (A further prompt can be 'do you feel connected to the online community? Why/why not?').

- How would you describe the role that the online community plays in your life?
- Has the forum helped you access **new information or things you haven't heard of before** – or not at all? Has it provided you with any new information?
- Has any information you got helped you access any supports or services that you wouldn't have if you were not on the online communities?
- Have your experiences on the forum helped you to think about or do anything differently? Or not at all?
- How has using the online communities made you feel? (Prompt: Better or worse?)
- Have the online communities ever felt like a **particular place** or a shared space between other users for you? How would you describe that (place)? If no response, give the example of 'oh well some people have said it feels like the ocean, where we are all riding the waves together'. Anything like that resonate with you?
- Does the fact that you are anonymous impact how you use the online community?
- If you had to name one standout moment in your time on the online communities, or something good or bad, what would that be? Could you tell me about it? Probes – example, difference made, how did that make you feel, what happened after that? Etc.
- Are there any negatives about the online communities? Has anything impacted you negatively?

Duty of care prompt: We are almost done but before I ask you the last set of questions, are you feeling okay enough to continue? If not, I can email you a list of services that are there to listen and help you out. They are free, confidential and available 24/7. Do you feel okay enough to continue?

Forum life and local community

- What are the benefits online vs face-to-face communities?
- What are the drawbacks of online vs face-to-face communities?
- Are there things that the online communities are better for, compared with your local community?
- Do you think that your rural community and online forum community are linked? If so, how?
- What services and supports are the online communities good for, compared with your local community and services that you can get there?

Final things (if time and they are enjoying this)

- Obviously, the whole of society has had to deal with some big issues lately – bushfire, floods, the pandemic.
- Has your use of the online communities changed in relation to these big issues?
- Have you noticed things changing in conversation on the online communities?
- Is there anything at all that we have missed that you'd like to mention – about your experience on the online communities?
- Would you be open to having a further follow-up chat with us in future about this topic?
- Duty of care prompt: If anything that was discussed today brought up negative thoughts or feelings, I will now email you a list of services that are there to listen and help you out. They are free, confidential and available 24/7. Please see your email now for those services (EMAIL them Help seeking Handout before hanging up)

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