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Connectedness in the time of COVID-19: Reddit as a source of support for coping with suicidal thinking

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ABSTRACT

The COVID-19 pandemic is adversely impacting suicidality at a population level, with consequences resulting from a variety of pandemic-driven disruptions, including social activities and connectedness. This paper uses a single case study design to explore how members of the Reddit *r/COVID19.support* community create a sense of connectedness among those who have suicidal thoughts due to the pandemic. Data were gathered from posts to the *r/COVID19.support* subreddit forum from February 2020 through December 2020. The second step of Klonsky and May's (2015) Three-Step Theory (3ST) of suicide, *connectedness as a key protective factor*, was used as the theoretical framework. This study explored *r/COVID19.support*'s constructed environment, users' dialogical interactions, and the four primary tenets of connectedness as proposed by Klonsky and May – Purpose and Meaning, Relationships, Religiosity, and Employment. Findings demonstrate a deep sense of connectedness for online community members. Relationships and Purpose and Meaning featured as the most salient sources of connectedness within this subreddit, whereas Religiosity was rarely discussed, and Employment was often spoken of in negative terms (i.e., creating mental distress, rather than facilitating connectedness). Contributors' responses offered various opportunities for connectedness both on- and off-line. Safe online spaces, such as *r/COVID19.support*, can serve as a protective factor amid suicidality, facilitating connectedness, and thereby helping to curtail suicidal thoughts from advancing to suicidal actions. This subreddit and similar online spaces can benefit specific populations who may otherwise find it challenging to access services or who wish to remain anonymous.

1. Introduction

Suicide is a leading public health issue, accounting for nearly 800,000 deaths worldwide each year (World Health Organization, 2014). Concerningly, morbidity related to suicidality is increasing in the current global context, as the COVID-19 pandemic and associated public health restrictions are adversely impacting population-level mental health (Salari et al., 2020; Schluter et al., 2022; Xiong et al., 2020). However, evidence of changes in suicide mortality amid the pandemic remains limited (Efstathiou et al., 2022; Pirkis et al., 2021) and researchers have cautioned that death by suicide is a lagging indicator, often showing an uptick in the years following a health crisis or environmental disaster (Botchway & Fazel, 2021, p. P552). There is also an established literature base demonstrating an association between COVID-19 and suicidal

thoughts, which in and of itself is cause for concern and a strong indicator of population-level mental health morbidity (Jenkins et al., 2021; McAuliffe et al., 2021; Fitzpatrick et al., 2020; Xiong et al., 2020). These emerging insights are further substantiated through theoretical explorations and knowledge syntheses pertaining to pandemic-related drivers of suicidality, including social isolation, unemployment, barriers to mental health care, and overall greater levels of stress and worry (Banerjee et al., 2021; Kahil et al., 2021; Niederkrotenthaler et al., 2020). Although still evolving, this evidence is compelling and has included calls for action to prevent suicide and promote mental health amid the COVID-19 pandemic.

Public health restrictions to control COVID-19 have had unintended consequences on population-level mental health (Daly et al., 2020). These mental health consequences are produced, in part, through physical

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distancing guidelines and the closure of schools, workplaces, and community spaces. While necessary to quell virus spread, these closures restrict opportunities for social activity and operate as a barrier to connectedness with others and to one's overall sense of purpose in life, including with respect to interests/hobbies, employment, and future hopes and prospects (Moutier, 2020; Niederkrotenthaler et al., 2020). Connectedness is vital to health and social wellbeing (Haslam et al., 2015) and, taken in the context of suicide, is theorized to be a key moderator in preventing suicidal thoughts from progressing to suicidal behaviours and attempts (Klonsky & May 2015; Zareian & Klonsky, 2020, pp. 135–158). Indeed, a substantial body of evidence has demonstrated that social isolation and loneliness deleteriously impact mental wellbeing and can contribute to and/or exacerbate experiences of suicidality – i.e., inclusive of suicidal thoughts, plans, and attempts (Calati et al., 2019). Public health messaging has therefore increasingly encouraged people to stay virtually connected during the pandemic, such as through interactions over telephone, social media, and virtual platforms.

Social media platforms and online forums offer valuable, alternative mediums for connection and support related to mental health. While perceived anonymity in online social spaces has been shown at times to negatively impact perceived relatedness (Yoon & Rolland, 2012), it has also been shown to have distinct utility when facilitating self-disclosure and open discussion of stigmatized health concerns, including mental distress and suicidality (De Choudhury & De, 2014; O'Leary & Murphy, 2019; Sharma et al., 2016). Reddit is one such platform and is among the most visited websites in the world (Reddit Inc., 2020; Sharma et al., 2016). Within Reddit, users (i.e., “Redditors”) create community forums, called “subreddits,” which serve as virtual spaces for information sharing, discussion, and support related to a breadth of community-identified topics (Sharma et al., 2016). Reddit's nearly global reach and semi-anonymous design (De Choudhury & De, 2014) make it well-suited for engagement about geographically widespread and/or stigmatized issues. This has contributed to its increased utilization as a data source through which to investigate the mental health impacts of the COVID-19 pandemic (Jenkins et al., 2021; Low et al., 2020; Zhen et al., 2021). Of particular relevance to the current study, recent quantitative research identified a sharp increase in forum posts and comments related to suicidality and health anxiety within the subreddit *r/COVID19_support* (Low et al., 2020). Our team has since qualitatively analyzed user data from this subreddit, characterizing the ways in which the pandemic and associated stressors are contributing to experiences of mental distress and suicidality (McAuliffe et al., 2021).

Discussion about mental health with others, including via online platforms, can help people to feel more supported and less stressed in times of crisis (De Choudhury & De, 2014; Smith-Merry et al., 2019). Psychological benefits of online discussion about mental distress can be derived from relating one's own experiences to those of others, receiving support and guidance through peers, and engaging with others in similar situations, including through the reciprocal sharing of information about coping and self-care strategies (De Choudhury & De, 2014; Zhen et al., 2021). Despite these known benefits, there is limited research exploring how individuals experiencing mental distress and suicidality are being supported – and supporting one another – via online platforms amid the COVID-19 pandemic. Consistent with critiques of the deficit-focused nature of suicidology (White et al., 2016), research within the current pandemic context has tended to focus on determinants, risk factors, and morbidity and mortality related to suicidality, with far less attention directed to individual and community strategies used to prevent suicide and promote mental health. Qualitative approaches hold great potential for addressing this evidence gap, as the open-ended nature of qualitative research is well suited to generating rich, highly contextualized understandings of the social processes by which individuals and communities support one another through complex health emergencies, such as COVID-19, social isolation, and suicidality (Johnson & Vindrola-Padros, 2017; Teti et al., 2020). Responsive to evidence of the adverse mental health impacts of the pandemic, data indicating poor uptake of “formal”

virtual mental health supports (Daly et al., 2020), and wider uptake of “informal” online supports (Low et al., 2020), this study provides a targeted examination of suicide-related data from the subreddit *r/COVID19_support*. Specifically, the objective of this paper is to explore how members of the *r/COVID19_support* community create or provide a sense of “connectedness”, a factor that is known to have key protective qualities against suicide.

2. Methods

2.1. Study context

This single case study draws on multiple sources of data from the *r/COVID19_support* subreddit (also referred to as “sub”) community, a semi-anonymous, virtual mental health support space, to explore in-depth the phenomenon of connectedness in relation to suicidal thinking within the context of COVID-19 (Yin, 1999). This design (Stake, 2005) was adopted due to the intentional construction and moderation of this sub, which differentiated this online space from other subreddit communities. To address contextual shifts that occur within a case study approach, we captured a distinct period in time (February 2020–December 2020) with appreciation and attention to contextual changes throughout (Yin, 1999). The forum *r/COVID19_support* was created on February 12, 2020, in response to concerns about growing mental health challenges due to the COVID-19 pandemic. After reviewing multiple subreddits related to COVID-19 for their purpose, size, and guidelines, *r/COVID19_support* was the only identified sub with the stated purpose to provide support to users and that was moderated. The sub identifies itself as a place “for people who need support in navigating the pandemic – advice on safe behaviour, support for difficult times, and resources for getting through.” Moderators within this sub actively remove content that creates divisiveness, judgement, or incites fear, in an attempt to create a safe space. As of December 31, 2020, *r/COVID19_support* had roughly 33,300 community members. For extended details about this case selection, please see our first publication (Slemon et al., 2021).

2.2. Data collection

Data were collected using NVivo Version 12 qualitative data management software's NCapture tool to gather available original posts and subsequent comments, made between the initiation of the sub on February 12, 2020, and the beginning of our analysis on December 31, 2020, about experiences of suicidal thoughts or feelings related to the COVID-19 pandemic. To capture original posts identifying suicidal thoughts, we employed Reddit's search function using the term “suicide”, including variations (e.g., “suicidal”), within the *r/COVID19_support* sub. Any mention of the search terms within the original post, including the title and subsequent comments were identified. Testing of similar search terms, such as “kill myself” or “end it”, did not yield identification of further posts; thus, additional search terms were not used. We excluded posts where the original poster referenced suicidal experiences unrelated to COVID-19 or related to someone other than themselves, expressed mental health challenges without explicit mention of suicidal thoughts, or where suicide was not mentioned in the original post (i.e., only in the comments). A total of 122 original posts were identified of which 83 met inclusion criteria. From the 83 included posts, there were 1992 total comments (see Fig. 1). These data were uploaded to NVivo to facilitate analysis.

Curated document sources were identified to achieve multiple comparisons within our case study, including community descriptions, rules and guidelines, and posts providing updates to the community (Stake, 2005). This includes three welcome posts published on March 26, May 25, and August 5, 2020, which provided a greeting to new members, explained how to get approved to post, and identification of new rules. Quotations of data in this paper are presented verbatim, with grammatical errors corrected to improve readability, or summarized where appropriate to limit identifiability.

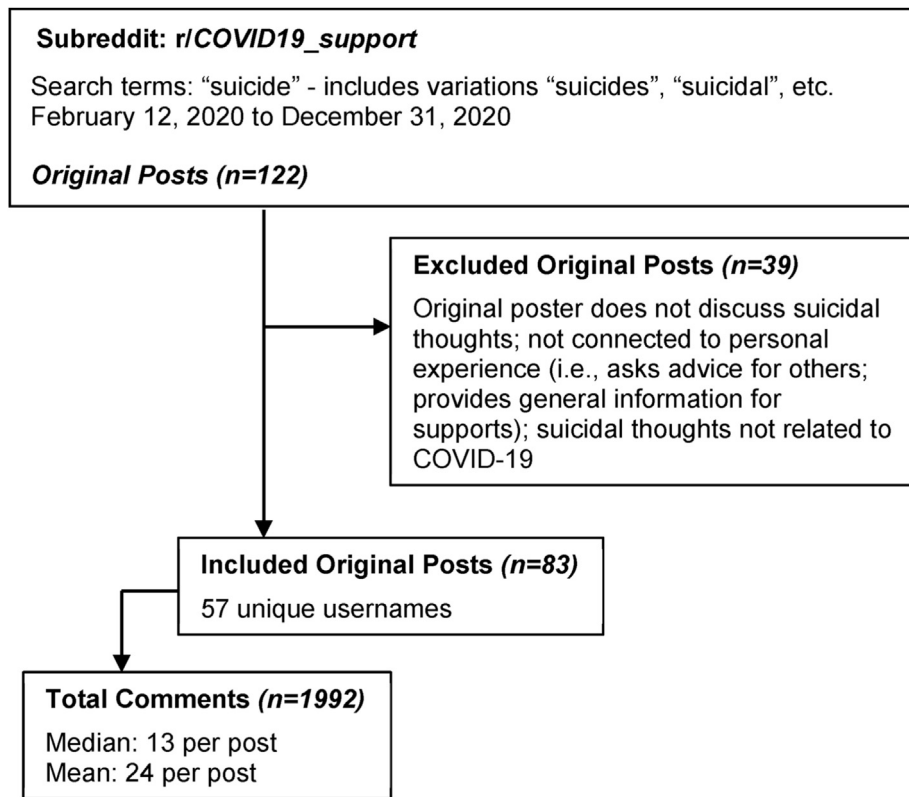


Fig. 1. Data inclusion and exclusion.

2.3. Data analysis

Following on our previous work (Slemon et al., 2021), which provided a preliminary descriptive analysis of original posters' experiences of suicidal thoughts amid the COVID-19 pandemic within the *r/COVID19_support* sub, we reviewed multiple theoretical framings of suicide for this manuscript. High levels of *pain and hopelessness* were identified within our team's inductive analysis (Slemon et al., 2021), which aligned to the first step of Klonsky and May's (2015) Three-Step Theory (3ST) on suicide. Therefore, we adopted this framework to offer a focused analysis. Applied to our data set, this study specifically focuses on the second step of the 3ST of suicide, *connectedness as a key protective factor*, which includes connectedness to other people, as well as "to a job, project, role, interest, or any sense of perceived purpose or meaning that keeps one invested in living" (Klonsky & May 2015, p. 117). Moreover, our analysis identified environmental and contextual conditions that directly related to how connectedness was built and sustained within the sub.

Through a constructivist lens (Stake, 2005) and the 3ST of suicide framework (Klonsky & May 2015), our primary analytic aim was to examine how members of the Reddit *r/COVID19_support* community create and provide a sense of connectedness within responses to posts that endorsed an individual's experience of suicidal thoughts. The foundation of the 3ST is rooted in the Ideation-to-Action framework and posits that

suicide ideation results from the combination of pain (usually psychological pain) and hopelessness. Second, among those experiencing both pain and hopelessness, connectedness is a key protective factor against escalating ideation. Third, the theory views the progression from ideation to attempts as facilitated by dispositional, acquired, and practical contributors to the capacity to attempt suicide (Klonsky & May 2015, 114).

Analysis focused on a deep, iterative narrative reading of the dataset rather than individual themes to identify the four tenets of connectedness. This included thorough (re)reading of the data and connecting

comments back to the original post in an understanding of dialogical relationships. Categorical aggregation and direct interpretation were employed as analytical tools (Stake, 2005). We used the four primary tenets of connectedness (Table 1) as a framework, alongside coding and exploration of the data. These tenets evolved from the 3ST and include Purpose and Meaning, Relationships, Religiosity, and Employment, which are factors that protect against suicide (Klonsky & May 2015; Zareian & Klonsky, 2020, pp. 135–158). According to Zareian and Klonsky (2020, pp. 135–158), a sense of Purpose and Meaning in life is derived through wellbeing, self-actualization, one's mission or work, and relationships. Of note, however, is that relationships, while part of Purpose and Meaning, are also identified as one of the four primary tenets. As a primary tenet, Relationships extend to social, therapeutic, and familial supports. Furthermore, Religiosity and Employment, which can increase social connectedness, are also ways in which people find or create Purpose and Meaning within their lives.

2.4. Ethics

Upon consultation with the University of British Columbia Behavioural Research Ethics Board, it was determined that this study did not require institutional ethical approval because the included data are publicly available. We nonetheless recognize that analysis of publicly

Table 1
Four primary tenets of connectedness (Zareian & Klonsky, 2020, pp. 135–158).

Purpose and Meaning	wellbeing, self-actualization, one's mission or work, and relationships
Relationships	social (e.g., friends, colleagues), therapeutic (e.g., counselor, clinicians), familial (e.g., partner, children)
Religiosity	social connectedness, fear of punishment or moral objection to suicide, meaning and purpose, God representation, religious salience, frequency of attendance and prayer
Employment	currently employed, type of occupation and skill, job security, connection to job

available social media data is an emerging and rapidly changing field of study with evolving ethical challenges and considerations (Ravn et al., 2020). Thus, we opted not to report usernames or original posts' titles, and we present the data in intentional ways (e.g., summary versus verbatim quotes where appropriate) to limit the potential of identifiability.

3. Results

The *r/COVID19support* subreddit demonstrates the potential that online forums have for offering connectedness and support for people struggling with mental health challenges and suicidal thoughts. Derived from our data collected, we identified the importance of the constructed environment and the context of participant exchanges offered within this sub. Moderators and Redditors created an environment conducive to connection, respect, and support, as evidenced by rich, interactive dialogue in response to many of the original posts that address suicidal thoughts. Moderators [MOD] have deeply engaged with the formulation and structure of this sub, while contributors [CTBR] have responded to posts with empathy and kindness, in apparent attempts to make original posters [OP] feel heard and validated. Focused on this specific sub, data show the generation of meaningful interactions and connections, including explicit comments of gratitude from original posters and specifics for how these comments have helped them. Drawing on the 3ST framework, we further explored this sub's constructed environment and the depth in which engaged dialogue takes place between users as underpinning the tenets of connectedness. We recognize that the primary tenets of the 3ST are not fully distinct nor separate categories but, rather, a holistic framing to better understand how connectedness facilitates suicide protection. Thus, while we present our findings sequentially, we also emphasize that movement between and through these tenets is non-linear. The interconnectedness of these findings reflects the ability for connectedness, as described in the 3ST, to protect against advancement to suicidal behaviours.

3.1. Environmental descriptors and context

3.1.1. Constructed environment

The environment within *r/COVID19support* is a primary function of how this sub acts in a supportive and compassionate manner for original posters and contributors to discuss experiences of suicidal thoughts. Community guidelines and posts by the moderators (who include a licensed therapist, nurse, and professor, among others) demonstrate various ways in which this community serves as a safe, supportive, and attentive space to those seeking connection from others related to COVID-19 stressors.

[MOD01] *The current situation is not going to last forever - just hang in there and remember that the sub is here whenever and wherever you need somewhere to talk.*

[OP01] *Awww thanks. Your words were sweet and calm. Definitely made me feel better!*

[MOD01] *Glad it helped. Don't ever think you're alone out there - this sub is pretty active 24/7. There will always be someone here you can connect with.*

Moderators created community rules and guidelines (Table 2) that evolved and responded to the needs of this sub and safety for its members, identified through three welcome posts. In comments beneath these posts, moderators also mentioned additional supports (e.g., video chats, counseling, etc.) outside of this Reddit forum. While there were limited data within these posts/threads on who or how people participated in these sessions, the offers in and of themselves constructed a supportive environment.

Table 2

Community Rules and Guidelines for participation in *r/COVID19support*.

Community Rules	
Rules that visitors must follow to participate. They can be used as reasons to report or ban posts, comments, and users.	
1. Be kind and reassuring	6. Be civil
2. Do not increase anxiety	7. Please do not ask for donations
3. Topic matter inappropriate for this subreddit	8. Posts regarding the wearing, purchasing or making of masks may be removed.
4. Offer support, not opinions	9. Do not ask users to contact you off reddit
5. No rants, shaming or complaining about others' behaviour	
Guidelines	
<ul style="list-style-type: none"> This is a safe space. If you see anything insulting or slanderous in a post, comment, or PM, please message the moderators. Anything that's not a direct, personal, supportive response to the OP is usually flagged and if you cannot post, message the moderators and we'll get you sorted out. We do not have the ability to trace the source of any posts, and we can't guarantee immediate responses. We offer non-judgmental peer support not necessarily professional advice. You can check out rules and guidelines for more. Surveys and research participation requests must be pre-approved by the mod team. This is separate from mental health subs like <i>r/depression</i>, <i>r/SuicideWatch</i> and <i>r/anxiety</i> but some information from there will be cross posted here and those subs are always open for additional help. This is all volunteer and any mod abuse will not be tolerated and will result in a ban. 	
<i>Added May 25</i>	
<ul style="list-style-type: none"> Anyone encouraging people to join 'end lockdown' protests, riots or other civil action on this subreddit will be immediately banned. Anyone who seems to be more interested in pushing their point of view, attacking other users for having a different one or bringing up policies/politics not directly related to the post will have their posts and comments removed. Persistent offenders' risk being banned. 	

[CTBR02]: *I've reached out to you via Jami [messaging and audio-visual platform] as mentioned on the website. I'm looking for any form of counselling but I'm having trouble find anything locally I can afford. Please let me know what would be the best way to get involved in one of your available group sessions.*

[MOD02]: *Oh so sorry for the late reply! I'll get on Jami but it hasn't been working that well. I've been slacking with getting together a new zoom meeting or something that works better for people but I'll probably see who is keen over the next week. I might have some time available tomorrow if you want to have an informal chat though.*

Moreover, the rules and guidelines created by the moderators fostered a sense of community building, support, and safety by identifying which types of comments get deleted, as well as how individuals could be temporarily or permanently banned from the sub for violating rules. Contributors also built a supportive community atmosphere by suggesting other safe spaces both on and off Reddit to seek support, while correspondingly flagging online spaces that they perceived to be unsafe.

[CTBR25]: *The only advice I can provide is to stay off *r/Coronavirus*, avoid it like, the *Coronavirus*.*

The moderators mobilized a set of community rules and guidelines (Table 2) to remove inappropriate content in efforts to keep the sub safe for all contributors. Here, community members also tagged moderators to flag content that they feel may be problematic. Users could also delete their own comments if they felt compelled. Deleted comments were identified as such, and at times, moderators would either comment on why material was deleted or highlight which rule had been violated.

[Comment removed by moderator]

[MOD03]: **r/COVID19support* is a safe place for people to come when they feel anxious and uncertain. Your comments came across as unkind*

and insensitive to the anxiety many here are feeling and have been removed.

Reddit is also influenced by non-human bots that can be created by any user to perform specified tasks. The most common examples of these bots within *r/COVID19_support* were the *u/hotlinehelpbot*, offering information on suicide crisis lines and websites, and the *u/remindmebot*, which sends users a reminder of what they said. The *u/remindmebot* was used by some contributors as a way to encourage original posters to “stick around” so they could be reminded in a specified timeframe about how far they had come or that things had indeed dramatically changed. Within *r/COVID19_support*, Redditors do not tend to engage with bots as if they are human users, but rather use them when beneficial.

3.1.2. Dialogue

The depth to which connectivity was created within *r/COVID19_support* is visible through the back-and-forth discussions between original posters and contributors, as well as between multiple contributors within comment threads following an original post (further explored within the connectedness tenet of relationships below). At times, moderators also posted comments, but connections were most frequently made between the original poster and community contributors. Fig. 2 provides a visual example of how a dialogue exchange appeared, started by the original poster's initial post and subsequently followed by comments and responses from contributors, as well as replies from the original poster. This post includes an activation of the *u/hotlinehelpbot*, as well as a comment deleted by a moderator. With $n = 20$ comments, this post is representative of the mean ($n = 24$) number of comments to original posts included in this dataset.

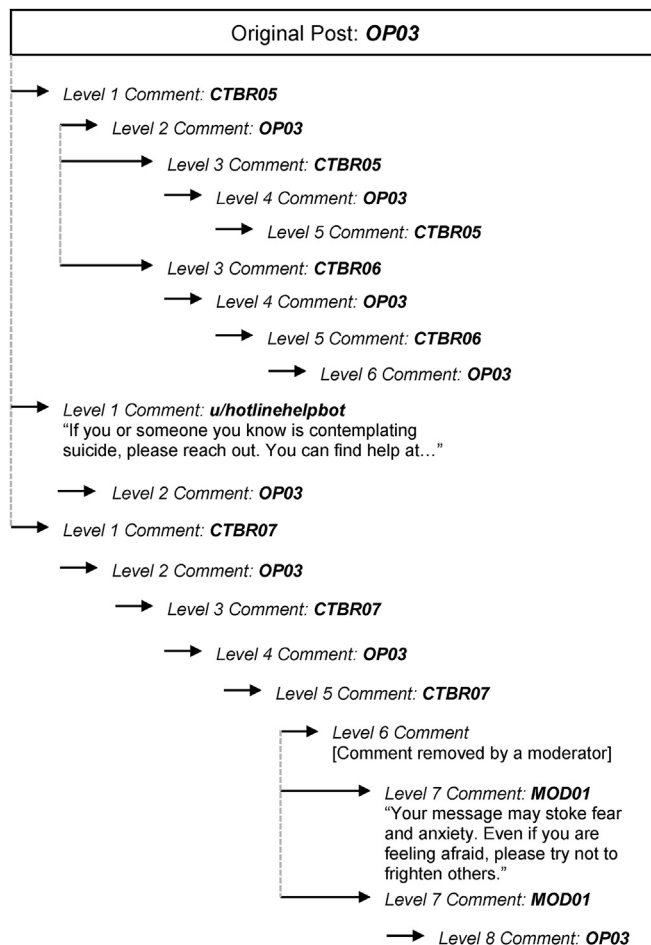


Fig. 2. Example of interactional dialogue exchange.

3.2. Four primary tenets of connectedness

3.2.1. Purpose and meaning

Within this sub, contributors suggested various ways in which original posters might derive, create, or recognize purpose and meaning from their lives. Suggestions included looking towards the future (especially for younger/teenage posters), volunteering, trying or creating something new, pursuing hobbies, recognizing one's connection to the wider world, and caring for pets, plants, or other people in their lives. In one exchange, a contributor offered some compassionate words before providing suggestions that could introduce further purpose and meaning to the original poster:

[CTBR04] : *I am sorry that you are feeling this way. I saw that you are looking forward to your photos being ready. Are there any other “small” things you can schedule ahead of time to give you something to look forward to? Do you like to read or watch series?*

[OP03] : *I've actually been living all this time creating reasons to stay out of thin air, currently there are some small things for 10 days or so, both something to look forward to and something that I owe other people, like now I have to submit a couple of articles for the local music magazine or give out the pictures I shoot for money, etc.*

Original posters often engaged with these suggestions either with gratitude or by stating why they might not be possible to enact, with many contributors following up with additional ideas. Community members often acknowledged and empathized with the stress and disruptions caused by COVID-19, accompanying this with a sincere effort to support the original poster in helping connect them to purpose and meaning-making.

[CTBR03] : *I can't honestly imagine what it's like to spend the first part of your life being hyped up for the best of your high school years only to have it taken away. I won't pretend to know what that's like ... when you have the bad days, you'll be able to look back with all the strength in your heart to know you survived it. Not for anyone else but for you. There's a whole life ahead of you unknown ... the endless opportunities to go out and make the most of the time you have is not permanently void because of a temporary obstacle like the pandemic. Look forward to the moment the quarantine is lifted ... so that not even the darkness can take away the angst and hunger you have for life, for the things you've yet to do.*

Contributors and original posters identified various ways in which purpose and meaning were being cultivated through daily activities, in addition to projecting these ideas into the future. Contributors helped original posters to find connection in various aspects of their current lives, as well as to identify novel ways to foster purpose and meaning moving forward.

3.2.2. Relationships

Relationships were the most common form of connectedness identified in the *r/COVID19_support* sub. The development of this sub intentionally created a supportive space for people experiencing challenges related to COVID-19, with relationships appearing to be derived as a result of this atmosphere and demonstrated through the tone and quality in which community members interacted. Overall, there was a general sense of welcome to anyone struggling and seeking support due to the COVID-19 pandemic. Contributors offered relational connection to the original poster, as well as to one another, through direct messages within the Reddit platform, phone calls, video chats, multi-player online gaming, creating online Zoom support groups, and, in one case, even offering to send someone a birthday present.

[CTBR09] : *This may not be your territory, but have you considered playing Minecraft for example? They currently have positive and useful messages displayed and it may distract you a bit. I'm your age so maybe we could meet up in Minecraft?*

Interestingly, a rule was added on September 14, 2020, *Rule #9: Do not ask users to contact you off reddit* (see [Table 2](#)). However, many contributors continued to suggest ways of connecting outside of the Reddit platform, most often through alternative online channels, suggesting that this was a meaningful way for users to connect.

Connection was often fostered between individuals with shared interests, experiences, and social locations. For example, CTBR15 identified with OP10's age, challenges with working from home (Wfh), and deep loneliness, *"I'm in the same boat 25M [male]. Living alone and haven't seen anyone in months. Wfh too. Feel free to message me if you need to vent."* Similarly, we noted this exchange between self-identified queer and trans (transgender) contributors who bonded over having faced similar challenges, such as living at home with non-affirming families and being unable to move due to economic challenges:

[CTBR10]: *Hey, friend, I'm trans too and in a similar situation with family. It's rough, it's very very hard to hear someone say "it'll all be ok!" when you really don't agree with that. But please stick around. Your trans siblings want you here with us!! If you kill yourself, you will never get to experience the joy of leaving your shitty parents behind. That's what's keeping me around, anyway.*

[CTBR11]: *Hi [name], fellow super depressed queer here if you'd like to talk.*

[CTBR12]: *Please please please hang on. Just hang on. I'll be your friend Call 1-800-SUICIDE or text or call your local crisis line!*

[CTBR13]: *I've been where you are, also queer and been suicidal often. please pm [private message] me if you want to talk.*

Contributors also suggested options for therapeutic mental health relationships and supports through posting support line information (including international numbers and websites), suggesting help and/or medication from a clinical provider (therapist, doctor, psychiatrist, etc.), ideas to visit the emergency room (ER), or to contemplate inpatient mental health treatment to keep the original poster safe.

[OP04]: *I always had this weird feeling about going to the emergency room for mental health reasons, kind of like "I don't need it, I can't be THAT sick". Reading your comment helped me clear my mind about it. Thankfully I didn't need to, but I will be less reluctant when I feel suicidal again.*

[CTBR14]: *That's good. Make a specific plan—which ER, how to get there, what to say—so you don't have to think on the fly in the middle of a suicidal crisis.*

These suggestions included affordable, accessible options for those struggling to find supports. Contributors offered additional ideas for how to connect with online and social media-oriented support groups, websites that offered free resources and tools (e.g., mental health workbooks), and other resources from US-based nationally recognized organizations (e.g., National Alliance for Mental Health).

Within the responses, there were conversations in relation to COVID-19 and physical distancing restrictions regarding ideas for how original posters could safely see others in-person, recognizing the importance of in-person contact to protect mental health. These conversations illustrated complex navigation of physical versus mental health and social priorities, particularly as users described their decisions about how strictly to follow (or not follow) public health orders.

[CTBR16]: *Please continue seeing your friend. Ideally, we'd all be able to avoid getting sick. But when the alternative is putting your mental health in the place it sounds like it currently is in, you're better off seeing someone, imo [in my opinion]. Mental health shouldn't be put aside just because there's a slightly higher physical health risk going around.*

The ability for original posters to recognize the value of connecting to existing relationships supported relational connectedness offline. For

example, after a high school student [OP04] expressed her depression, isolation, and suicidal urges related to her school's closure, a high school teacher [CTBR08] inquired as to whether she had access to a counselor or any family members that could help support her during this time. CTBR08's advice helped OP04 to recognize, *"My mom asked me if I would like to watch a movie or a cartoon with her. I refused because I was just too frustrated and sad, but maybe we can do it today."* This suggestion appeared to help shift OP04's outlook and offered a tangible way in which she could connect to her mother.

Relationships were also often seen in the simple act of reaching out to one another, to check in consistently, and to make sure the original poster was doing okay.

[CTBR17]: *How are you feeling? I hope you're feeling better.*

[OP05]: *Maybe a little. thanks*

[CTBR18]: *We have to help each other through this. I'm here for friendship if anyone else feels like this. Just PM me.*

[CTBR19]: *Just checking in to let you know that I am thinking about you*

[OP05]: *Thank you ... I appreciate it.*

[CTBR20]: *Please let us know that you're ok.*

[OP05]: *Yeah I'm still here. sorry*

[CTBR20]: *Yayyy!!! No need to apologize, sweet pea. I'm just glad to know that you're hanging in there!*

In response to one particular post, CTBR23 offered empathic validation to OP07 in response to the original poster's concerns that her situation was only going to continue to get worse, and signed her post, *"Your accepting, loving, Reddit Mom"*. While contributors were the ones most often giving support, many times the original poster also responded to these contributors to check in about how they were managing their own respective challenges.

3.2.3. Religiosity

While the topic of religion and faith was not common on this specific sub, a few original posts directly addressed religion as an important aspect of connectedness and relationships in their lives, while some contributors further referenced religion in response to an original post. It is likely that most original posters who were looking to connect with religious supports would have been more likely post on other more relevant subreddits. For example, one original poster mentioned *"Note: I posted this on r/Christianity but didn't get any response so that's why I mention my faith a lot fyi [for your information]."* Overall contributors offered ideas on how to stay connected to one's faith-based groups while adhering to physical distance mandates, alongside opportunities to help neighbors, volunteer within their community, and maintain connection with and trust in their faith.

[OP21]: *I just joined a community service group but our meetings for the month are canceled ... I am Catholic and went to church today, but I fear soon churches will be the next thing shuttered and I won't even have my faith or the comfort of attending physical Masses. (Yes I know some churches live stream and you can watch TV Mass in my area from the diocese cathedral but it doesn't compare to being in a church with a community.) I have struggled with suicidal thoughts and worst case thinking before, and now I want to die all over again.*

[CTBR06]: *Re[garding] community service, lots of elderly need our help right now. I see lots of stories about them not being able to get groceries. Maybe check in on neighbours and see if they need help. Made me feel like a hero bringing toilet paper like a poop faerie ... Praying for you to keep being strong and to find some mental peace in these chaotic times.*

[CTBR22]: *Please stay and have faith. I know things look grim now but many of us are in this together, and we can try to stay strong and support*

each other. God loves you, and Jesus, His son, died for you so that you might live life more abundantly. Having faith and trusting in Him has helped me throughout so many of my own problems. May God be with you and give you peace

While religious connection seemed particularly helpful to original posters looking for support around their faith, messages related to religiosity did not resonate with all original posters. For example, after one contributor discussed their faith in an effort to inspire a sense of hope, the original poster responded curtly with, “*I’m an atheist*” [OP09]. Further efforts to connect on a religious level by contributors included sharing bible verses and identifying ways to facilitate connection with faith-based communities, such as through online services and meetings, or taking walks or sitting outside near the church.

3.2.4. Employment

While employment is one of the primary tenets of connectedness, it was most often discussed in this sub as a stressor to mental health, especially in relation to financial strains and work from home orders. While some people mentioned how grateful they were to be employed during this period of time, there were also many discussions about loneliness and stress that working from home was causing. Connectedness around the topic of employment, most often came in the form of contributors offering advice on how to communicate stressors with supervisors or other work colleagues, as well as suggestions for how to reduce negative mental health impacts of employment.

[CTBR16]: *I do wonder, however, if there aren't some things you can try first. Have you talked to your boss about it? Are they the kind of person who you can have that sort of conversation with? If not, do you think it would be easier if you got a few coworkers to bring it up at the same time? It's harder to ignore multiple people, and I can't imagine you're the only one feeling that way ... If that doesn't help, what do you think would happen if you just slowed down?*

[OP08]: *Yeah you're right. I'm going to schedule and talk soon with management and at least hear them out, but in the end I just don't see any way our team's situation can be helped. If I don't complete my daily workload, I can potentially cost the company thousands of dollars in a single day. So that extra pressure is really fun ... Just thinking about that gives me anxiety.*

[CTBR16]: *Ultimately, you have to do what's right for you, and your coworkers have to do the same. You can't save anyone else while you're drowning.*

While employment appears to be a stressor in the above exchange, CTBR16 offered suggestions of relational connectedness to ease OP08's challenges. Furthermore, posters commented about feeling over-worked, whether they should quit or stay at their job, and the economic impacts of these decisions. Contributors offered validation, support, and advice, while identifying that while “*you need a job to survive economically that doesn't mean that your job has to define your worth or you have to base your whole happiness on it*” [CTBR24]. Similar to religiosity, discussion about employment was more infrequent within this sub, with relationships, alongside purpose and meaning, being the key focal points of connectedness in most discussions.

4. Discussion

This study drew on data from the *r/COVID19_support* subreddit to qualitatively examine mental health in the context of the COVID-19 pandemic. The findings demonstrate that online forums can foster connectedness, a known protective factor against suicide. Our analysis was informed by Klonsky and May's (2015) 3ST of suicide, centering four primary tenets of *connectedness* – meaning in life and a sense of purpose, relationships, religiosity, and employment – which are derived from research that provides evidence of their protective effects against suicidal

thinking and behaviours (Zareian & Klonsky, 2020). Given the nature of the data, we have presented these tenets of connectedness as separate themes; however, in life, the ideas and experiences captured within these different aspects of connectedness often intersect. For example, *employment* may provide a *sense of meaning or purpose in life*, which may feel even stronger due to close collegial *relationships*. Interestingly, within Reddit users' dialogues within this sub, there were times when all four tenets converged, although most commonly two or three tenets were broached within a single conversation thread.

Much of the current literature regarding suicidality during COVID-19 is focused on whether rates of suicide attempts/deaths have increased or decreased. Yet, the majority of people who develop suicidal thinking never attempt suicide. The 3ST posits that a major factor in mitigating the escalation of suicidal thinking (high pain and hopelessness) to action is grounded within one's sense of connectedness being stronger than one's pain (Klonsky et al., 2016). Nevertheless, suicidal thinking – regardless of whether or not it advances to suicidal behaviours – causes high levels of population-level mental health morbidity (Jobs & Joiner, 2019). Safe online spaces, such as *r/COVID19_support*, offer an environment that can foster connectedness, a key protective factor against suicidal behaviours. Overall, much of the connectedness within this sub is derived from the ways in which the community was developed, built, and moderated, alongside active and engaged users offering their time, energy, and willingness to connect with others. Safe Reddit spaces often remain more supportive due to increased community monitoring (e.g., post deletions, temporary banning for not following community rules/guidelines), such is the case with this sub (Gibson, 2019).

Within the primary tenets of connectedness, *relationships* and *meaning and purpose* featured as the most salient sources of connectedness within this sub, whereas *religiosity* was rarely discussed, and *employment* was more often spoken of in a negative light (i.e., creating mental distress, rather than facilitating connectedness). According to the 3ST, employment is often protective, though impacted by the type of occupation and skills required, job security, as well as connection to one's job. However, much strife that was discussed in this sub was related to employment and having to work from home, potentially restricting one's social circles, as well as feelings of connectedness to co-workers and career. Thus, it appears that the COVID-19 pandemic has disrupted some of these protective conditions within employment. Contributors' responses to these stressors in this supportive Reddit environment offered various opportunities for connectedness, though more often related to relationships or purpose and meaning.

Within *r/COVID-19_support*, the development of connectedness appears to be driven by how this forum was created and moderated. Individual subs tend to have their own culture and standards (Triggs et al., 2021). Users' comments captured in this study highlight how safe and supportive users felt *r/COVID-19_support* was, compared to other subs, many of which tended to stoke fear and anxiety related to the COVID-19 virus and repercussions. The structure of Reddit offers an alternative forum and space, different from other online social media settings, in its semi-anonymous structure, including throw away accounts or multiple usernames (Shelton et al., 2015). This further includes the capacity to not only stay anonymous through use of pseudonyms, but to also “silently lurk” on forums without needing to create a user account or indicate one's presence (De Choudhury & De, 2014; Triggs et al., 2021). Unfortunately, due to the nature of Reddit, being able to ascertain any potential extended benefits to “lurkers” is particularly challenging. However, in a space like *r/COVID19_support*, those who are uncomfortable or uninterested in posting, estimated to be around 90% of Reddit users (Hargittai & Walejko, 2008; Squirrel, 2019), still have the ability to derive benefit from suggestions of how to derive connectedness in offline contexts.

The ability to remove most of one's identifiability supports some users' willingness “to discuss uninhibited feelings, sensitive information, or socially unacceptable thoughts momentarily; information otherwise considered unsuitable for the mainstream” (De Choudhury & De, 2014, p. 1). In our study, this openness is seen within users' comments identifying

that they have no one else with whom to share their suicidal thoughts or feelings of loneliness. With the assumption that comments cannot be directly tied back to them, users may be more likely to disclose sentiments, such as suicidal thoughts and mental health challenges, than they would likely share elsewhere (Shelton et al., 2015). Of note, as seen with users of this sub, some users appear unconcerned with maintaining their anonymity, attempting to further connect and relate with others in non-anonymous and/or in more connective spaces (e.g., direct messaging, video and/or phone calls, multi-player online gaming, etc.). Anonymity within online spaces is a dynamic process (O'Leary & Murphy, 2019). While a lack of connectedness within anonymous spaces can occur (Yoon & Rolland, 2012), research has also found that anonymity can lead to more authentic engagement and interaction, which can be especially supportive within a mental health context (O'Leary & Murphy, 2019). Online sharing has been shown to help people connect with others facing similar experiences (De Choudhury & De, 2014; Eysenbach et al., 2004), and is "known to foster well-being, a sense of control, self-confidence, social interactions, and improved feelings" (De Choudhury & De, 2014, p. 2). Furthermore, social support is positively related to authentic self-disclosure and linked to promoting positive behaviour change (De Choudhury & De, 2014; De Choudhury & Kiciman, 2017; Munson et al., 2010, pp. 27–39). Thus, this specific forum not only offers space for those who wish to remain anonymous or 'lurk', but also provides an avenue (although against community guidance) for building relationships in which parties choose to be more identifiable.

Many contributors offered suggestions for alternative, affordable, and accessible supports in response to concerns that in-person social supports have diminished, which has been a source of worsening mental health within the context of the pandemic (Jenkins et al., 2021). Due to the reduction of these face-to-face services and supports, it has "become common for people to share their struggle with depression, anxiety, suicidal thoughts, and substance use disorders" on social media platforms (Alambo et al., 2020, p. 21). Further, the often-costly nature of in-person clinical interventions (Fraga et al., 2018, pp. 568–573) makes social media spaces valuable as alternative sources of social support and connection that are convenient and more accessible for some (Low et al., 2020). Spaces like *r/COVID19support* offer a place to discuss mental distress (De Choudhury et al., 2016, pp. 2098–2110; Mason et al., 2021), which has been on the rise during the pandemic, including a noticeably high amount of suicidality posts from *r/COVID19support* (Low et al., 2020; Slemmon et al., 2021). In response, Reddit now sends a Crisis Text Line (text-based suicide prevention hotline) link to any user who has a post flagged for potential self-harm (Reader, 2020).

This sub's foundation has allowed for deep, interactional dialogue, that appears to offer empathy, authenticity, and supportive advice for original posters and contributors alike. Aligned with research by De Choudhury and De (2014), feedback from contributors appeared to be of high quality and ranged from emotional to informational. In this online space, connectedness appeared to go beyond support for an original poster, with some contributors receiving support from other contributors or even reciprocal support from the original poster. This is akin to offline relationships, in which some form of reciprocity is required as opposed to 'typical' online posting, where no such mutuality is obligatory. Moreover, connectedness takes place beyond just a shared relational quality, with contributors suggesting ways for the original poster to connect and access existing supports and relationships (e.g., crisis help lines, mental health practitioners, employment supports, religious communities, etc.) in their offline environments.

4.1. Strengths and limitations

This research is one of the first of its kind to look at how Redditors create or experience connectedness, a protective factor for those who have suicidal thoughts. Through use of a theory-driven case study, we were able to deeply explore one specific sub, *r/COVID19support*, allowing us to identify ways in which the construction of this online

environment shaped and influenced users' posts and comments. However, this created an inability to compare this sub to other subs or similar online spaces outside of Reddit, which would be valuable future research. Future research would benefit from exploring connectedness beyond the four tenets put forth by Klonsky and May (2015). The case study methodology was of particular value, as some may see Reddit data as qualitatively "thin" due to the lack of long soliloquy type posts or, at times, lack of responses (Howard et al., 2021). To address this, we approached these data narratively rather than thematically, incorporating additional data sources (e.g., environmental influences from moderators, rules, bots) to construct and contextualize key findings. A further limitation was that our search strategy may not have captured every post within this sub expressing suicidal thoughts; however, an exhaustive search was not the goal of this study. Additionally, our research was limited by the constraints of Reddit and an inability to draw context (e.g., demographic and geographic variation) as users remain anonymous. Thus, our findings may prove most helpful for specific sub-populations over others. Finally, due to moderating practices across Reddit, we were unable to ascertain if specific posts about suicidal thinking were deleted or edited by moderators or original posters prior to data collection.

5. Conclusions

The COVID-19 pandemic has caused high rates of suicidal thinking and mental health challenges worldwide. In-person resources and supports have been affected, with low uptake of virtual options. Many people have turned to social media to receive social support and guidance as they share their mental health experiences and struggles. Safe online spaces, such as *r/COVID19support* can have protective effects, facilitating connectedness and thereby helping to curtail suicidal ideation from advancing to suicidal behaviours. Furthermore, this sub and spaces like it hold the potential to benefit groups or populations who may otherwise find it challenging to access services or who wish to remain anonymous.

Ethics statement

Upon consultation with the University of British Columbia's Behavioural Research Ethics Board, it was determined that this study did not require institutional ethical approval because the included data are publicly available. We nonetheless recognize that analysis of publicly available social media data is an emerging and rapidly changing field of study with evolving ethical challenges and considerations (Ravn et al., 2020). Thus, we opted not to report usernames or original posts' titles, and we present the data in intentional ways (e.g., summary versus verbatim quotes where appropriate) to limit the potential of identifiability.

Declaration of competing interest

None declared.

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CM, AS, and EJ co-led conceptualization of the study. CM and AS contributed to data collection and analysis. CM led design of the methodology and manuscript preparation. AS, TG, and EJ contributed to data interpretation and writing and editing of the manuscript. LM and ES contributed to review and editing of the manuscript. All authors approved the final manuscript. EJ is the primary investigator and lead researcher on this study and associated studies assessing the mental health impact of COVID-19.

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