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Online peer-to-peer sobriety support: a conceptualization of the peer to peer social support mechanisms in an online "Stop Drinking" community

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Abstract

Online communities allow problem drinkers to seek help anonymously without the judgement present in the face-to-face world. This article investigates peer to peer online support in an online community of self-identified problem drinkers. A content analysis was performed on a "Stop Drinking" Reddit.com community and 26 themes of interaction, belonging to 9 categories were identified as key interactions likely to provide value to those seeking to instantiate or maintain sobriety. These themes were arranged into a conceptual model consisting of three dimensions of interaction namely: goal-based interaction; relationship-based interactions; and platform-interactions. The conceptual model created by this research should help those in recovery utilize online communities more effectively and provide insight into how peer to peer online social support can be deliberately utilized to promote sobriety.

Keywords

Sobriety, Alcoholism, Social Media, Online Communities

1   Introduction

Alcohol is consumed widely in Australia, and the direct and indirect costs of this consumption is high. According to the Australian Institute of Health and Welfare (2016), in 2013, 18.2% of Australians consumed enough alcohol to place them at lifetime risk of disease or injury, while 26% consumed enough alcohol to place them at risk of harm on a single occasion, at least monthly. In addition to this, 26% of Australians aged 14 or over reported being the victim of an alcohol-related incident (Australian Institute of Health and Welfare, 2016). The financial costs of alcohol use are also severe. It is estimated that around AUD $2 billion was lost in productivity during 2013 as a result of absenteeism caused by alcohol (Australian Institute of Health and Welfare, 2016). A National Drug and Alcohol Research Centre (Shanahan & Ritter, 2013) study approximated that a total of AUD $1.7 billion was spent on drug regulation and treatment. Of this, over AUD $316 million was spent by federal and state governments to treat alcohol and other drug treatments, while over AUD $156 million was spent on drug abuse prevention and over AUD $1.12 billion was spent on enforcing drug laws (Shanahan & Ritter, 2013).

While formal treatments are a key part of combating alcohol addiction and dependency, they can be complemented by less formal support. Social support is defined as the support that is gained from relationships with others (Lin, Ensel, Simeone, & Kuo, 1979). In particular, social support provided specifically in an alcohol abuse recovery context can greatly improve recovery and empower patients (Cleveland, Harris, Baker, Herbert, & Dean, 2007). Therefore, it is important to consider the roles of social support in recovery, generally, but also in alcohol-specific contexts. While social support alone is unlikely to foster recovery, it has been shown to enhance formal treatments if provided properly (Scheurer, Choudry, Swanton, Matlin, & Shrank, 2012). Certain kinds of support, for example, must be provided by an individual with specific qualifications and/or experiences to be of benefit (Thoits, 1986).

To this end, an online community, dedicated to providing social support for those suffering from alcohol abuse and dependency, will be analysed. It is hoped that specific and useful patterns and categories of interaction, as well as any obvious effects on individuals and the community as a whole can be better understood. Similar online communities have been shown to be accessible and beneficial to those in the early stages of recovery, who are more vulnerable to relapse (Sowles, Kraus, Gebremedhn, & Cavazos-Rehg, 2017). Most peer-to-peer online communities have some positive effect on community members, though not always to a significant extent (Maher et al., 2014). If such patterns and effects can be identified, they could be used to improve or enhance treatments. If it is possible to replicate the positive interactions that occur in such communities while reducing the negative interactions, it may be possible to complement more formal treatment types with social support. Understanding the different patterns of communication within these communities could also improve our understanding of the less obvious needs of individuals who are batting alcohol addiction and dependency.

2   Literature Review

The purpose of this literature review is to identify factors, particularly related to social support and social support in the online environment, that affect an individual's recovery from alcohol dependency. It is hoped that this information can provide an insight into how social support can be deliberately utilised to further promote recovery. Social support has long been theorised to influence an individual's health. Lin, Ensel, Simeone and Kuo (1979) define social support as, "...support accessible to an individual through social ties to other individuals, groups and the larger community." Certain types of social support are more likely to encourage recovery by promoting medication adherence and therapy. Practical support encompasses all forms of support that enable an individual's recovery, such as buying medication, providing transport and taking a share of other responsibilities. This form of support was found to be most likely improve medication adherence, and hence, recovery (Scheurer et al., 2012).

Emotional support was also shown to promote recovery, "...when it involved meeting unmet needs or having close friend." (Scheurer et al., 2012) Emotional support received from peers or medical professionals are not as effective (Scheurer et al., 2012). Thoits (1986) agrees that those who are socially similar to an individual and/or have been in the same or similar situations are most likely to provide effective support. This is likely because, in the first case, any support provided is likely to be considered as appropriate by the individuals, or, in the latter case, likely to be effective. Support provided by social circles has been shown to enhance alcohol addiction and dependency treatments. Alcohol-specific support, in particular, has been shown to be particularly effective (Cleveland et al., 2007). Individual differences appear to have little to no effect on the benefits of these social support programs. Religion, gender, ethnicity and pre-existing disorders and health conditions, and even prior participation do not seem to affect the results of participation in these programs (Kelly, Stout, Zywiak, & Schneider, 2006).

2.1 Online Peer-to-Peer Social Support

Differences between individuals are less apparent online, which contributes to the disinhibition effect. Barak, Boniel-Nissim and Suler (2008) define the disinhibition effect as the loss of inhibitions when interacting with others online. It may have positive effects, with participants choosing to disclose person anecdotes and ideas they may not choose to do offline. Alternatively, it may lead to increased anti-social behaviour, such as rudeness, threats, altercations and negative emotions (Barak et al., 2008).

Varied perspectives are available in an online platform, as participants likely interact with geographically and demographically diverse individuals. They are able to share experiences with others, often in a safe place with no criticism or judgement (Barak et al., 2008). These interactions may also be therapeutic, providing an emotional outlet and reducing feelings of isolation (Høybye, Johansen, & Tjørnhøj-Thomsen, 2005), or a sense of belonging to a community (Sowles et al., 2017). Information is a key part of promoting recovery through online groups and interactions in online support groups can allow an individual to better understand themselves and their situations to decrease negative emotions (Barak et al., 2008). Individuals needing informational support often only participate long enough to gather the required information, while those requiring emotional support participate over the longer term (Wang, Kraut, & Levine, 2015). It has been suggested that these peer-to-peer communities could also benefit medical practitioners, by providing a platform in which practitioners can better understand their clients and the perceived barriers that they face (Sowles et al., 2017).

However, these support groups may not always be helpful. Participants may not be able to identify with those too dissimilar to them and are also often concerned with misinformation and harmful information (Barak et al., 2008). Generally, information provided in online groups are factual, but completely rejecting all professional knowledge or facts can be counterintuitive (Barak et al., 2008). If information provided in an unmoderated online community is erroneous or harmful (Sowles et al., 2017), individuals requiring informational support may choose not to participate, reducing the perspectives available to the other participants (Wang et al., 2015).

Overall, participation in online support groups can stimulate feelings of empowerment, which translates into their offline life. Personally sourcing information from other individuals, rather than from organisations, can lead an individual to feel more emboldened (Barak et al., 2008). Høybye et al.'s (2005) study of women in a breast cancer mailing list found that participants were empowered by the sense of control gained through their access to resources and knowledge within the mailing list. Building relationships with other participants often develops into contact outside of the group and allows an individual gain a mentor, which increases integration into the group, rather than the opposite (Barak et al., 2008). This leads directly to the individual becoming more knowledgeable and confident, and in turn, becoming mentors within the support group. This further increases the feelings of empowerment in an individual and contributes to their recovery. By taking action, rather than being passively acted upon by their illness, individuals gain a sense of empowerment (Høybye et al., 2005). Individuals known as "lurkers", who view the information presented in such communities without taking part, are also empowered to a certain extent in taking control, and often disseminate information from within the community outside of the community (Turner-McGrievy & Tate, 2013).

Retention and engagement have repeatedly been identified as issues which may reduce the efficacy of these groups. Interestingly, it has been found that communities on health-focused websites face retention and engagement problems when compared to communities that operated on more generalised platforms, such as Facebook and Twitter (Maher et al., 2014). But, it has been detected that participation decreases over time even on the more popular, mainstream platforms (Turner-McGrievy & Tate, 2013). This is a vital issue as it was found in a weight loss support Reddit community that participants who openly declared their BMI, i.e. admitting their problem, and were most active and engaged lost most weight, suggesting that engagement and trust within a community is crucial to an individual's success (Pappa et al., 2017).

2.2 Online Peer-to-Peer Social Support

For the most part, messages posted on online support forums dealt with use and effects of alcohol. Coulson (2014) identified these messages as being one of three interrelated categories: sharing, support and sobriety. Messages associated with "sharing" often involved anecdotes of experiences with alcohol, while "support" messages seemed to be more constructive, and "sobriety" was generally associated with recovery (Coulson, 2014).

Sharing was generally associated with introductions and requesting support. An individual's experiences with alcohol; their current relationship with alcohol; the origins of their drinking problem and their

failures in maintaining abstinence may all be the subject of their posts (Coulson, 2014). In addition to this, Cunningham, van Mierlo and Fournier (2008) identified success stories as commonly being shared. These posts often prompt a reaction from other users (Coulson, 2014), and in some cases, the original poster may directly request information or advice (Cunningham et al., 2008). Messages of support are often a response to sharing. These messages typically convey a sense of understanding and empathy, as well as offering hope or encouragement. This is usually achieved by providing examples of similar situations faced by other users to reassure an individual or to assist them in making or re-evaluating decisions (Coulson, 2014). General encouragement and experiential advice is also commonly provided (Cunningham et al., 2008), as is more factual information (Coulson, 2014). Sobriety is often a shared goal among the participants, with sharing and supporting used to promote sobriety. Posts associated with sobriety generally emphasise personal choice and willpower as a factor in maintaining abstinence and may be presented as a request for or a discussion of different avenues of support (Coulson, 2014). Cunnigham, van Mierlo and Fournier (2008) identified 10% of content on a particular platform as being related to goals and motivations for recovery, and a further 10% as being related to fears regarding urges to drink and future challenges.

These discussions are likely to have many benefits, several of which are similar to the benefits of online support groups in general and offline alcohol support groups. The accessibility of an online platform permits a wide range of participants from around the world. As a result, there is often support available for an individual at any time of day (Hall & Tidwell, 2003). Coulson (2014) suggests that the shared understanding of issues faced by those in the group, as well as shared support and advice empowers individuals to address their problems. In addition to this, online platforms are likely to permit anonymity and convenience while still providing effective support (Coulson, 2014). The sharing of experiences is likely to be therapeutic, and the presence of a moderator or other informed individual or expert would prevent the spread of misinformation (Cunningham et al., 2008).

In summary, social support is likely to promote recovery from alcohol addiction and dependency, and technological tools can be used to facilitate this support. Alcohol support groups have been shown to affect abstinence and recovery. It seems likely an individual may choose to participate in groups that contain members who are similar to them. Such differences are less apparent online, encouraging diversity within online communities. This, in addition to the disinhibition effect, provides a variety of perspectives for an individual to draw on. This and other factors have turned online communities into a powerful tool in battling alcohol dependency and abuse. Interactions within alcohol-specific online support groups generally follow a pattern. An individual may share their experiences or request information, prompting support from other members. These interactions can be linked back to a shared goal of sobriety, or abstinence. The shared understanding of issues they face empowers individuals and reduces isolation.

Much of the research into online alcohol-specific communities has produced generalised results regarding patterns of communication. There has been little insight into how specific queries, experiences and communications are dealt with in these online communities, nor into the significance of such interaction on the community as a whole.

3   Research Approach

A content analysis was performed on an online community used to provide social support to recovering alcoholics. According Hsieh and Shannon (2005), "Conventional content analysis is generally used with a study design whose aim is to describe a phenomenon…" Qualitative content analysis is typically used to analyse the context and underlying concepts in a text to form an understanding of the categories of themes within the text (Hsieh & Shannon, 2005), and to describe or define the contents or context of data (Drisko & Maschi, 2015). In this case, an online community providing alcohol-specific social support will be analysed to understand the typical interactions that occur within the community and the significance of these interactions in providing social support.

The community analysed was the /r/stopdrinking group on the Reddit forum website. Reddit allows users to post forum threads that others can comment on, grouped under specific topics or themes. Ten moderators oversee the /r/stopdrinking community, which is described as, "…a place to motivate each other to control or stop drinking." As of November 2015, 32 000 Reddit users subscribed to the community, 85% of whom were of North American origin. It has been noted in past studies that Reddit communities are easily accessible, particularly for those new to the recovery process (Sowles et al., 2017).

Twenty threads from the community were downloaded and analysed for the content analysis of the website. The twenty threads posted in the month before 13 December 2016 which had the most

comments on that day were downloaded for analysis, excluding the "Daily Check-In" posts, which encouraged users to check in every day, to ensure diversity within the posts. The "Daily Check-In" posts are submitted daily by a member of the community who has volunteered for the task, and allows community members to reinforce their decision to not drink by interacting with other members of the community.

The selected posts were downloaded using the PRAW tool, which allowed them to be converted into text containing the required information. PRAW is an add-on Python module which allows information to be downloaded from Reddit threads as required by a user (bboe, 2017). In this case, for each thread, the original post, the comments and replies to the post, the users who posted these, and any reports or removal reasons attached to the comments were all downloaded, formatted and converted into a HTML file.

The output from this process was uploaded into NVivo and thematically coded by the primary author. NVivo allows data to be coded, annotated and analysed for both qualitative and quantitative results. The meanings, natures and patterns that occurred within the posts were coded. The initial result of 96 codes were merged and grouped into 26 themes that belong to one of 9 categories, by all authors. These findings were verified by an expert panel of experienced coders.

4   Findings and discussion

Twenty-six themes of interaction belonging to nine categories were identified through the analysis as being key interactions likely to provide value to those seeking to instantiate or maintain sobriety. These were arranged into a conceptual model consisting of three dimensions of interaction namely: goal-based interaction; relationship-based interactions; and platform-interactions, see figure 1. The sequence of interaction types as they occurred over the course of the threads is also identified in figure 1. For the most part, interactions began with an expression of emotional difficulty or a request for information and progressed to other types of interaction. The progression of the interaction types is identified by unidirectional arrows. Bidirectional arrows indicate interaction types that often occur simultaneously. For example, when P4 related an experience in which others insisted they drink a beer, P23 provided attempted to reduce their isolation (emotional support) by relating their own experience and strategies (informational support).

The nine major categories of interactions are discussed below with selected examples.

4.1   Emotional Support

Members of the community clearly provided support of an emotional nature, including providing encouragement, a sense of belonging and reassurance to other members in the community. Participants often ***encouraged others*** to continue and ensured that they maintained their self-confidence. For example, one member may simply tell another that they are doing well or wish them good luck. In some cases, they specified reaching a certain goal, such as saying, "Now please get to six months [of sobriety]." (P2). Members created a sense of belonging that ***reduced isolation*** within the community by ensuring that everyone felt welcome. New members were often welcomed to post and, "Keep in touch." When a member posted an emotionally significant post, they were frequently thanked for posting. In many cases, participants shared information about themselves and attempted to find a common ground that would encourage a sense of belonging. For example, when P7, a new member, talked about being hung over and the effects being excessively drunk the day before, many other members shared their own experiences. Participants in the community often ***used humour*** as a tool for encouraging and making other users feel comfortable, although some posts contained more humour than others. For example, P16 jokingly posted a thread entitled, "Dear Anyone New, get yourself some carbonated water. Sincerely, Almost Everyone Here." The post contained plenty of humour, with many commenters light-heartedly expressing that carbonated water had become their new addiction. Although humour was less explicit on more serious posts, it was sometimes still present. When P1 posted a thread expressing their shame at relapsing, P19 replied with a quote from the movie *Batman Begins*, cheering up P1. In many cases, particularly when an individual expressed emotional difficulty, participants responded with ***optimism*** i.e. what someone is lucky to have, or the bright side of a situation. For example, when P1 discussed relapsing, P20 responded, "I'm sure you've learned some lessons, and had a ton of non-drinking victories that will bring you back to the other side… think of the alcohol you DIDN'T DRINK for 2 months of time! That's crazy productive!" The data clearly showed that participants expressed sympathy or empathy for another participant's situation and provided compassion and reassurance to others that they are welcome to share their troubles.
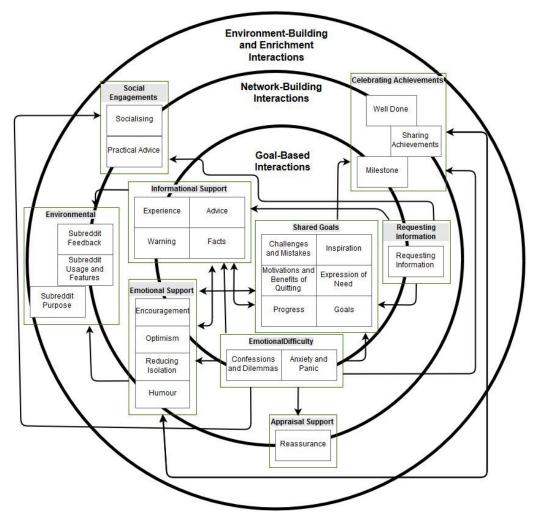
Figure 1: Peer to peer online support interactions present in an online "stop drinking" community

4.2 Informational Support

Members in the community often provided others with information about maintaining sobriety. Members provided anecdotes of their own ***experience*** and the situations they faced, and the strategies that were effective in such situations. For example, when commenting on new member P21's post, P22 recalled their own experience in the early days of sobriety and that, "Playing a lot of online chess and indulging in less bad habits helped me a lot." Often, when one individual shared their experience, another would disclose a similar situation that they faced, their actions in the situation and the outcomes of these actions. In their post, P4 recounted a recent experience where an individual insisted that P4 drink a beer. P23 replied with responses that that helped them in similar situations. Unsurprisingly, ***facts*** related to drinking were discussed often and in detail. This included an individual's drinking patterns and habits, why they developed a drinking problem, the effects of excessive drinking and addiction and moderation. For example, when P24 discussed quitting after 50 years of excessive drinking, P25 asked about and compared their drinking patterns to understand the difficulty of quitting. Individuals also often shared their reasons behind excessive drinking. P1 discussed relapsing in a thread and P26 showed an understanding of their situation by explaining why they wanted to drink. In many threads, individuals discussed the effects of their drinking. For example, P27 shared that they had been living in their car so that they could afford to keep drinking, and several others, including P24 and P1, discussed hangovers and other physical effects of alcohol. In several threads, participants discussed what was "normal" when it came to drinking, as well as the nature of addiction and whether moderation was possible, with many participants expressing their inability to moderate when drinking alcohol, although P29 and P30 claimed that they could moderate their drinking. Participants in the group often shared specific and non-specific ***advice*** about maintaining sobriety. For example, P7 was advised by P31 to, "Just be aware that part of the process may involve substituting "addictions", but that too will

pass." P32 provided a more specific strategy of, "Try stocking up on your favorite ice cream or candy to help with cravings." Advice often included discussions of alternatives to alcohol, as well as helpful resources and avenues of support outside of the community. Specific examples were often provided when discussing strategies. **Warnings** were typically provided by experienced members to those with less experience. For example, when P28 shared that they went to a bar and resisted drinking alcohol, P33, P34, P35, P36 and P37 warned putting themselves in the way of temptation could cause them to relapse. Warnings were sometimes provided for situations that did not directly involve alcohol. When P38 shared images of themselves, P39, P40 and P41 warned that such images were often taken from Subreddit and used in other websites.

4.3 Shared Goals

Shared goals related to sobriety was often discussed within the community with members in the community often discussing why they wanted to quit, as well as their progress and obstacles faced. As stated by Høybye et al (2005), this outlet of information can be empowering and reduce feelings of isolation for the members of the community, as well as providing a wealth of experiences for other members to draw upon (Barak et al., 2008). Discussions of the **challenges and mistakes** made were prevalent within the community. In some cases, participants discussed obstacles they are currently facing, whereas in other, participants discussed challenges they have overcome or mistakes they have made. For example, P5 posted that in the month after they stopped drinking, they felt as though they had also stopped having fun, but slowly realised that was not true. In another case, P1 shared the mistakes they had made that caused them to relapse, and ten other participants (P13, P36, P46, P47, P48, P49, P50, P51, P52 and P53) all responded that the original poster's experiences were helpful in maintaining their own sobriety. Individuals also shared the **motivations and benefits of quitting** that had inspired them to overcome these challenges. Once again, experiences were widely shared when discussing the benefits of quitting. These future benefits of quitting as experienced by those who have been sober longer seemed to act as motivation for newer members. For example, when P3 asked others to motivate them to stay sober, P54 responded, "Since I stopped using alcohol as a stress reliever, I have found myself more and more able to face my fears day by day." The ultimate goal shared by all of its members was to make **progress** towards sobriety. Frequently, particularly when encouraging each other, members would say, "I won't drink today," or, "I won't drink with you today," and expressed that it was easier to achieve the goal day by day rather than over the long term. P55 told P7, a new member, "I have no idea what it's like to not drink for the rest of my life, I know what it's like to not drink today though. Hopefully tomorrow too, but I don't control that." Some members also set milestones as goals, such as P7, who said, "It's been years since I was able to go a full week without drinking." Participants in the community often received **inspiration** from other members, particularly when the obstacles were perceived to be significant. For example, when P24, a participant aged in their late sixties, achieved sobriety for five months, several other members (P25, P56, P57, P58, P59, P60, P61, P62, P63, P64, P65, P66, P67, P68 and P69) expressed that they were impressed and inspired by the original poster's breaking of a lifetime habit. Members often specified an **expression of need** for certain things that facilitate, or would facilitate, their own and others' sobriety. These ranged from specific strategies to goals to types of support from others, and some stated the types of support that they would like from the community. For example, during a detailed discussion of alternative drinks, P72 remarked on their need for "practical tips." Member shared their **goals**. For example, P1 shared the experience of a nasty relapse and stated that they hoped their experience would discourage themselves and others from drinking again. In another thread, P73 stated that they hoped interacting with the community would, "...help me stay confident in all my decisions."

4.4 Celebrating Achievements

The community shared and celebrated the achievements of its members to foster a sense of belonging and self-confidence. Participants in the community were often found **sharing their achievements**, regardless of whether they were related to sobriety. For example, on a post asking users to share their recent triumphs, P74 stated that posting on the group for the first time was a triumph. P75 stated that they had finally admitted to themselves and others that they were alcoholics and P76, 77, 79 and 81 all testified that they avoided alcohol when it was available to them. When achievements were shared, other members typically congratulated them and wished them **well done**. This fostered a sense of belonging and improved self-confidence. Some members also shared that they were proud of them or were happy for them, further increasing a sense of belonging. In response to P7's post about their decision to become sober, several individuals praised her for being brave enough to change her life. The achievement of a **milestone** was commonly shared and celebrated, providing encouragement to remain sober and achieve further milestones. After congratulating an individual on achieving a milestone, community members often encouraged them to go further. Some shared their own milestones and otherwise

indicated that the individual was not alone. For example, when P82 commented on P78's progress being similar to their own, P78 responded, "High five sober twin!" In some cases, when an individual was close to a milestone, other members encouraged them to reach it, such as when P38 told P84, "...congrats you almost got your year!!"

4.5   Social Engagements

A significant amount of interaction within the community was not, in fact, related to drinking, but rather meaningful social engagements. This included both simple socialising, and the sharing of practical advice and decisions. These conversations allowed members to form bonds with each other than fostered sense of belonging. Participants occasionally shared ***practical advice*** and strategies that applied to situations not directly related to alcohol, but that appeared to foster trust. Participants were found to engage in ***socializing*** with each other. The individuals in the community also formed bonds and fostered a sense of belonging within the community by discussing various topics not directly related to alcohol, such as their interests. For example, in one post, P7, the original poster, quoted a comedian, resulting in the fans of the comedian talking about P7's reference or about the comedian's works, which was unrelated to the original post (P44, P90, P91, P92, P93, P94, P95, P96, P97, P98, P99, P100). Although this post was not related to drinking, it allowed the participants to form relationships with each other, and existing relationships were evident in the thread.

4.6   Appraisal Support

Members were found to frequently provide ***reassurance*** to others. This differed from emotional support in that when providing reassurance members went beyond simply providing empathy or sympathy but also included an assessment of the situation of the user. For example, when P1 shared their shame as relapsing, P60 replied, "Ashamed?! ... you put in SO much work - I see it all the time when you post and comment here." P20, P111, P112, P113 and P114 emphasised that P1 had already been sober for two months prior to the relapse, and that they clearly had the strength to become sober again.

4.7   Environmental

The subreddit platform was used to create a safe space that allows the community members to interact. By discussing the platform and community, they were able to improve this space for their use. Users often provided ***subreddit feedback*** regarding the community, particularly when discussing strategies or avenues of support. Many simply provided their opinion of the community, such as, "SD makes all the difference for me," (P24). In some cases, users shared their experiences and how the community helped them. For example, when talking to P21 (a new user), P60 suggested, "When you're feeling scared or uncomfortable, you may want to check in here or hang out and chat (IRC link is in the sidebar). It's saved me countless times!". Users also deliberated ***subreddit usage and features***. For example, P3 advised, "Later tonight, when the thought passes to consider filling my glass with something I don't want to have, I'll be here. I invite you come back, too!" P24 suggested checking into the community every day to interact with others. Individuals often asked questions about the features of the platform and how they could be used. For example, the badge and flair system was questioned by P30 and P8, and P112, P115 and P116 requested help with general Reddit features, such as private messaging and formatting. Questions regarding the ***subreddit purpose*** were also discussed. In one case, P117, a (presumably) new user expressed confusion regarding the purpose of the community and compared it to Alcoholics Anonymous. P107, one of the community moderators replied to the comment to describe the subreddit and provided a hyperlink to the group's rules.

4.8   Emotional Difficulty

Many users express emotional difficulty in public posts, which often seems to be an indirect request for emotional and appraisal support. Sharing emotional difficulty often results in other users providing encouragement or reassurance. For example, in the case P1, who posted about their relapse, many users responded by assuring the user that they had not failed by drinking again and encouraging them to remain sober. Some users were found to share ***confessions and dilemmas***. For example, P42 spent $19 000 during a binge drinking spree and asked other users whether it would be ethical to hide this from his wife. Users also often expressed feelings of ***anxiety or panic*** or other feelings of inadequacy in their posts. This was often related to drinking, such as P4, who expressed frustration at their ability to moderate their drinks and be, "...normal like these people [at a party]." In other cases, these feelings were not related, or were only indirectly related, to alcohol. Particularly in the posts asking users to vent their difficulties or share their struggles, users were more likely to post about situations not directly related to alcohol.

4.9   Requesting Information

Unlike requests for emotional support, members were very direct with ***requesting information*** when in need of informational support. Users directly asked questions to others, often regarding their experience. For example, P112 asked P24, an older and more experienced member of the community, about his experience with nerve pain caused by excessive alcohol consumption. In another case, when P112 specified meditation as a strategy for maintaining sobriety, P120 requested advice and information about the resources they use for meditation. Occasionally, one individual may ask another to clarify their statement.

4.10 Dimensions of interaction

The output of 26 themes, sorted under the nine categories of providing and eliciting support, can be grouped across three dimensions of interaction that are marked as circles in figure 1. There were many **goal-based interactions** related to sobriety. This included support provided and received. All themes categorised as "Shared Goals" were related to alcohol. Encouragement provided was often concerned with sobriety, and much of the informational support provided was also about alcohol. Milestones regarding alcohol-drinking and sobriety were discussed and celebrated. Support elicited, whether informational, emotional or appraisal, was also often related to alcohol, though not always. We also found **network-building interactions** that allowed individuals to form trusted relationships and networks that provided with better social support. These interactions typically took the form of discussions, disclosures, queries and celebrations that were often unrelated to alcohol. Although often not directly maintaining sobriety, such interactions allowed participants in the community to build trust and form relationships that resulted in the building of relationships that resulted in improved support. As stated by Thoits (1986), better understanding of a person and their experiences and values is more likely to produce support that they consider to be both appropriate and useful. Most of the categories of interaction on the forum were related in some way to this dimension. Eliciting support from others, social engagements and experiences shared as part of informational support allowed individuals to better understand each other. By celebrating achievements and sharing experiences and warnings and providing emotional and appraisal support, individuals fostered trust and built relationships. There were also **environment-building and enrichment interactions** that assisted individuals with feeling safe and welcome to interact with others. These interactions communicated both implicit and explicit rules for interactions generally, which in turn contributed to the culture and nature of the community. Although, once again, directly not related to alcohol, this dimension of interaction allowed the participants in the community to create an environment where effective support could be elicited and received, and where trusted networks could be built.

4.11 Patterns of communication

Certain patterns of communication occurred within the environment, usually related to the responses for certain types of communication. Particular categories of interaction usually elicited a response from or was often used in conjunction with specific other categories. It was also not unusual for several themes from the same category to occur in the same comment. For example, an individual discussing their progress may also state their motivations for sobriety, or certain challenges they have or are trying to overcome. Similarly, an individual providing encouragement may also attempt to reduce another participant's feelings of isolation. These relationships are depicted as the arrows in figure 1. For example, with the interaction category **Requesting Information** it was found that when one individual posted a request for information, the responses were likely to provide informational support, reinforce shared goals or be social engagements. Generally, a request for information is responded to with informational support. This was easily most common response to a request for information. For example, in the middle of a discussion about celebrities in the AA program, P134 asked another user to clarify a statement they had made about the release of information to press and promoting the program. P5 replied to P134 and clarified the existence and purpose of the rule. Often, the information requested was not related to alcohol or sobriety, so the responses were typically categorised as social engagements. For example, in P112's thread detailing the progress in using meditation to aid sobriety, P135 briefly mentioned yoga, and a book that their yoga instructor had mentioned. P112 requesting more information about the book and P135's experiences with yoga began a short discussion about the book and the merits of yoga. Requests for information also often resulted in conversations that reinforced the shared goals of the community. For example, when P136 described their experiences of relapsing and quitting again, P137 asked when and how they were able to become sober again. P136 replied with their motivation. According to Wang et al (2015), requests for information not only generally elicits an informational response, it often reduces the volume of emotional support responses. The other categories similarly showed the relationships between each other depicted by the arrows in the conceptual model.

5   Conclusion

The results of this study can be used to further sobriety by building effective social support networks. Knowing that certain types of interactions increase trust and understanding or enrich the community, leading to more effective support, can be used to create communities that are more valuable for recovering alcoholics. A deeper understanding of the benefits of a social support network, such as those that can be acquired through mutual-help communities, can provide encouragement for individuals to integrate into these communities, furthering abstinence.

One of the key findings of this paper is the dimensionalising of interactions and types of interaction identified that relate to trust- and network-building on online peer-to-peer support communities. With this understanding, such interactions can be actively encouraged and fostered to enrich the interactions between community members, by encouraging the types of interaction shown to foster trust. For example, community moderators could actively recognise contributions and achievements of community. The progression of interaction types over the course of a thread or conversation has also rarely been detailed in extant studies. Coulson (2014) identified three key, but generalised, themes present in such communities, and the progression of conversations from one theme to another, but not to the level of detail presented in this paper. An understanding of the progressions of types of interaction can assist community moderators in predicting the direction that a conversation may take and attempting to encourage the types of interaction that would be most beneficial for the situation.

5.1   Limitations

Although the paper presents a more detailed description of communications and communication patterns within an online community that provides social support to individuals attempting to maintain abstinence, there are some research gaps that can be addressed.

A comparatively small quantity of threads from a limited period of time were analysed for the purpose of this study. The period of time within which the threads originated includes Thanksgiving, a significant event in North America, from where the majority of participants originate. Several threads mentioned Thanksgiving and the upcoming holiday season as times when it was, or may be, harder to remain sober. It may be beneficial to source content from a longer period of time to understand how participant needs change seasonally. The effects of the online interactions, particularly in the long-term, are also unknown. While the threads allowed an analysis of the behaviour and communication patterns of participants in an online community for providing alcohol-specific social support, it is unclear how this affects short-term and long-term sobriety and wellbeing. Direct interviews and observations of the community participants may yield more significant insights into the value of alcohol-specific social support in online communities. An evaluation of the model by participants, in interviews or focus groups, may also be valuable.

All participants in the community were assumed to be equal and treated equally in the context of the analysis of the communications. It is unclear how certain characteristics, such as age, race, gender or affluence, affect the content, nature and effect of the interactions. While one of the benefits of anonymous online communication is the egalitarian nature of status neutralisation that allows participants to be more transparent and honest with each other (Barak et al., 2008), it does also make it harder to understand the true complexities and meanings behind interactions. It is also unclear if and how support and interactions differ between individuals who are vastly different.

As some comments within the group were removed, or simply missing, for various reasons, including breach of community rules and the deletion of a user's account, the meanings of some interactions are unclear. While the meaning of some can be derived or assumed from the context and replies, others are not so clear. In particular, replies such as, "Thank you. Same to you," (P1) can be a sincere response to a helpful comment, or a sarcastic reply to an inappropriate comment. Missing or deleted comments were rare, being a small portion of comments in 15 of the 20 threads analysed, but could have provided insights into unpopular perspectives or opinions and anti-social behaviour that moderators, and experts participating "official" communities, need to be aware of.

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