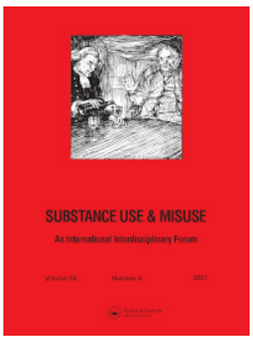

Substance Use & Misuse

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/isum20

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To cite this article: Hannah C. Rettie, Lee M. Hogan & W Miles. Cox (2021) Identifying the Main Components of Substance-Related Addiction Recovery Groups, Substance Use & Misuse, 56:6, 840-847, DOI: 10.1080/10826084.2021.1899228

To link to this article: https://doi.org/10.1080/10826084.2021.1899228

SUBSTANCE USE & MISUSE
2021, VOL. 56, NO. 6, 840–847
https://doi.org/10.1080/10826084.2021.1899228

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Identifying the Main Components of Substance-Related Addiction Recovery Groups

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ABSTRACT

Objectives: Mutual-aid groups are a central part of many individuals' recovery journeys from substance addiction, and this research aimed to identify the key ingredients of a diverse range of recovery groups. *Methods*: Individuals from 30 different substance addiction recovery groups across the UK ($N = 151$, 66% male, M age = 42.5 years) completed a survey, which asked participants to provide a narrative about their recovery group experiences. Participants were also asked to rate the extent to which theorized ingredients of addiction recovery groups were offered by their group, and how important each was to them. Both qualitative and quantitative data were collected and analyzed. *Results*: The results indicated that the recovery group components suggested in previous literature were both present and rated as important. Component ratings did not differ depending on the type of group, the length of time the person had been in recovery, nor the length of time they had been involved in the group. The qualitative results identified other important components of recovery groups that had not been identified in the previous literature: *presence of like-minded individuals* and *developing self-awareness and reflection skills*. An updated list of recovery group components was thereby created. *Conclusions*: Overall, the findings provide an in-depth, person-focused perspective on what makes an addiction recovery group successful. Asking group members directly about their experiences allowed us to refine and expand on previously theorized components. The updated components can be used as a template for developing future mutual-aid groups.

KEYWORDS

Addiction; recovery group; mutual aid; recovery; substance use

Introduction

Many individuals recovering from substance misuse attend mutual-aid groups. Groups are free to join, run by peers rather than professionals, and involve members reciprocally helping one another to progress and remain abstinent (Humphreys, 2004). One of the most well-known mutual aid groups is Alcoholics Anonymous (AA, Donovan et al., 2013; Wilson, 1953), which follows a 12-step philosophy to help its members achieve abstinence. Evidence for the effectiveness of 12-step groups has shown that they are as effective (non-manualized) or more effective (manualized) than other established treatments (e.g. cognitive behavioral therapy; Kelly et al., 2020) for increasing abstinence.

What is it about 12-step groups that makes them effective? A literature review by Moos (2008) identified probable active components of successful 12-step groups, which were derived from four key theories of addiction recovery. Table 1 provides a summary of these theories and their associated components. These components were derived from previous literature, and to date they have not been empirically validated. Moos suggested that determining the strength of each component should be a focus of future research.

Arguably, the best way of identifying the presence of these components is by asking the individuals who might have directly experienced them. Research exploring service users' perspectives often provides new insights that objective measures cannot capture (Laudet, 2007; Orford et al., 2006). Capturing these experiences could provide support for Moos' presumed active components, and it might also uncover additional aspects of groups that had not been considered.

Moos (2008) components are based primarily on research on AA groups. There are many other recovery groups that do not follow a 12-step approach. For example, SMART groups are structured, and they aim to increase self-efficacy through cognitive-behavioral and motivational interviewing approaches (Beck et al., 2017). In addition, there are unstructured, locally-led community groups that are based on social activities and developed on the basis of the community's needs (Rettie et al., 2020). Moos suspected that his components would be universal characteristics of recovery groups. However, groups are diverse (Humphreys, 2004), and groups that are not affiliated with a larger organization like AA are often unique and too small to have been previously extensively researched (Kelly & White, 2012; Kelly & Yeterian, 2007). Therefore it is difficult to predict how representative the components would be in these groups. Components may also become more or less important over time. Previous research exploring social-based recovery groups (Rettie et al., 2019) found that individuals in later

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stages of recovery reported relying less on the group as a source for support, potentially due to an increase in recovery-based strengths (i.e. recovery capital) that had developed over time (Groshkova et al., 2013).

Aims and objectives

This study sought to determine the extent to which Moos (2008) components are offered and considered important by participants attending a diverse range of addiction recovery groups. Offered and importance ratings were compared to determine whether different groups are offering components that participants consider important. Ratings were compared across different types of recovery groups to help determine the universality of components and whether ratings change as a function of group members' time in recovery. Finally, qualitative narratives of participant's recovery group experiences were analyzed to determine whether group members identified components beyond those that Moos (2008) suggested. Assessing group members' experiences both qualitatively and quantitatively should provide a comprehensive overview of the recovery group experience.

Materials and methods

Ethical approval

Bangor University's School of Psychology Research Ethics Committee granted ethical approval for the project.

Participants

Recruitment occurred through social media on recovery forums, flyers placed at national recovery-related events, and the first author's attendance at local recovery groups. Participants ($N = 151$) were recruited from 30 different recovery groups across the UK. The mean age of the participants was 42.5 years ($SD = 11.49$, range: 20-72 years). The majority of participants were white British (97%), with 47 (31%) females and 99 (66%) males. Five individuals did not disclose their gender. Fifty-one (34%) of the participants indicated that they had used alcohol problematically, 31 (20%) indicated that they had used drugs, and 68 (46%) had used both alcohol and drugs. Three types of group were identified: 12-step ($n = 48$), structured non-12-step ($n = 53$), and unstructured non-12-step ($n = 50$). The demographic characteristics of the groups is summarized in Table 2.

To participate in the study, individuals had to regularly attend an addiction recovery group, previously be drug or alcohol dependent, and currently abstinent from substances for at least a month. Participants had been involved in a recovery group for an average of 26.9 months ($SD = 56.60$, range: 1-462 months) and had been in recovery for an average of 32.2 months ($SD = 61.24$, range: 1-462 months). This information was self-reported, but 'in recovery' generally meant being abstinent from their substance of choice, and 'recovery group involvement' meant regularly attending their chosen group. Participants were given a £5 voucher for taking part.

Design

A mixed-methods design aimed to gain a broader understanding of a complex area (Creswell, 2013). All data were collected and then analyzed separately, and the results were 'mixed' at the discussion stage. Qualitative data were analyzed prior to the quantitative data, to ensure that quantitative findings would not influence the subjective coding process (Creswell, 2013). For the qualitative data, an

Table 1 Moos' (2008) important components of a 12-step recovery group based on four key theories in addiction.

Theory	Explanation	Related Components
Social Control	Strong bonds with significant others encourage individuals to maintain their recovery.	1. Bonding and support 2. Goal direction 3. Structure to follow
Social Learning	Having abstinent-oriented social networks provide individuals with people to follow and admire.	4. Observing and imitating norms and role-models 5. Expectations of positive and negative consequences
Behavioural Choice	Being involved in other rewarding pursuits such as social activities can be protective against the rewarding nature of substance misuse.	6. Involvement in protective activities 7. Effective rewards
Stress and Coping	Building an individual's skills will help them develop more adaptive coping strategies.	8. Identifying high-risk situations 9. Building self-efficacy and self-confidence 10. Developing coping skills

Table 2. Demographics characteristics of the three group types.

	Group Type		
Demographic	12-step	Structured non 12-step	Unstructured non 12-step
Age (*M*)	45.78	41.92	40.00
Gender (%)	52.1	66.0	78.0
Male	41.7	32.1	20.0
Female	6.3	1.9	2.0
Prefer not to say			
Previous Substance Used (%)	37.5	32.1	32.0
Alcohol	25.0	20.8	16.0
Drugs	37.5	47.2	52.0
Both			

inductive thematic analysis was used to analyze the stories that the participants had shared.

Measures

As part of a larger survey (Rettie et al., 2019), participants provided their demographics and were asked to provide a short narrative of their group experiences, by answering one of two open-ended questions. They were "If a friend was thinking of joining your recovery group, what story would you share about it?" and "Think about a recent experience you have had at recovery group that was helpful. What happened?". Sensemaker software was used to collect this data, which is an exploratory tool that uses narratives to try and understand complex systems within organizations (Browning & Boudès, 2005).

Next, participants were asked to think more generally about their recovery group, and to rate on a continuous rating scale how important each of Moos (2008) component was and the degree to which each one was a component of the group they were attending. Moos identified 10 active components, but the current study expanded the list of components to 12. The ingredient "observation and imitation of norms and role-models" was divided into "presence of role models" and "following a sober lifestyle," to determine whether it was specific role models or the overall goal of sobriety in the group that was more important for social learning. The ingredient "giving back to others" was also added, as Moos highlighted the importance of allowing group members to give back to others the benefits they had reaped (e.g. in AA when an individual acts as someone's sponsor). "Giving back" is consistent with several of the theories that were previously described. It can be a rewarding activity (i.e. according to behavioral choice theory) that can increase an individual's self-worth and sense of purpose (i.e. stress and coping theory).

Procedure

After reading the information sheet and providing consent, participants completed an online or paper version of the survey. This usually took between 15 and 30 min. Debriefing information was then provided, as were contact details in case participants had further questions.

Data analysis

|The continuous rating scale was answered on a scale from 0 to 100. Quantitative data analysis involved using inferential statistics such as product-moment correlation and ANOVA. To ensure that data assumptions were met and to improve normality, log 10 transformations were made when group differences were assessed. For cases where the sphericity assumption was violated, a Greenhouse-Geisser correction was applied.

For the qualitative analysis, Braun and Clarke (2006, 2019) six-step thematic analysis was used. First, researcher HCR familiarized herself with the data by reading through the narratives. Second, initial codes were generated from the stories. Third, themes were created by combining the codes derived in Stage Two. Mind-maps and theme documents were created, which included multiple data extractions for each theme. Fourth, HCR reviewed the codes within each theme, and she discussed and then resolved any discrepancies with LMH and WMC. This stage also involved re-reading all of the narratives to ensure no data had been omitted and that the themes accurately represented the dataset. The fifth stage involved naming, describing, and defining the themes, and the final, sixth stage involved writing up the results, using data extracts to highlight the rich story for each theme. Movement between stages was flexible and iterative (Braun & Clarke, 2006, 2019).

Results

Qualitative analysis

Seventy-two percent of participants answered the question about what they would tell a friend joining their recovery group, and the remaining 28% participants described a recent helpful experience.

Through thematic analysis of the stories five key themes were identified that were evident across the 151 stories shared. The themes included: perspective taking, being connected to others, developing skills, the value of group activities, and a change in self. These themes were apparent in stories that were shared about both 12-step and non-12-step groups. Thus, the two types of groups were not compared at this stage in the analysis.

Perspective taking

Participants often mentioned that in their groups they had opportunities to share stories about their addictions. This could involve participants bringing a related issue to the group, and working through it together with the other group members. This problem solving often helped participants gain a new perspective on a difficult situation.

> *To be able to share thoughts with peers at the time and get some perspective is very important as we don't always recognize the little things as leading up to big problems until it's too late.*

Discussing the issue prevented unnecessary escalation of the problem. Another participant spoke about how hearing feedback from others was *"humbling and gave me strength in my own problem"* and "*helped me delve into bigger demons I was carrying around without realising"*. It seems that the involvement of other members provided new depths and perspectives on individuals' stories, surpassing what the individual could achieve alone.

Identifying and working through problems requires a certain level of self-awareness, and several participants recognized that they had developed self-awareness within the group. This openness to exploring their own and others' viewpoints allowed participants to develop new perspectives on their addiction, as seen in this story:

> *When I went along to the group I met a few other people who were the same as me except they seemed okay. They had hope and talked about the future in a positive way. I found my hope that I could also do it and make my future a positive one. As I kept going I learned more about addiction and what I could do about it. I learned more about myself and gained some self-awareness of how I can grow and change*

Perspective taking was also apparent when participants highlighted the value of others' stories, and how these stories could often be related back to their own experiences. This was a positive experience for participants, as *"it's refreshing to know that you are not the only one with a head that thinks the way my head thinks"*. Hearing how others experienced similar difficulties and managed to overcome them was described by one participant as an *"empowering"* experience.

Being connected to others

In participants' stories, they often described the importance of being connected to other people. One participant suggested that if a friend were thinking of joining his group, "*I would tell them straight, recovery does not happen in isolation*". The idea that recovery is a united recovery journey and *"the overwhelming feeling that you are not alone"* seems to be highly significant in many individuals' experiences.

Participants identified the strong bonds and friendships that existed among group members. There was a sense of stability and longevity in these bonds, highlighted by one of the participants when he shared, *"I can honestly say that I have met some amazing people and built relationships with people that are truly special and I know now that I have got some true lifelong friends"*.

Something that helped these strong connections develop was the like-mindedness that group members shared. This helped participants feel that they were not alone in their recovery. The members were not going to judge them for their past or present actions, and this created a sense of safety: "*Group is a great way to connect with like-minded people. It's not a place of judgement, you feel relaxed and comfortable and with people from the same situation.*"

Connections made were often reciprocal. Some participants discussed receiving support from the group; some provided the support; and others recognized doing both. As one participant shared, "*being able to feel vulnerable around others, likewise being there for others when they're feeling vulnerable, are both liberating things*".

Developing skills

Regardless of whether the group provided a structured programme for participants, the majority of participants identified skills they had learnt directly, or as a by-product of group attendance. An interesting story shared by one participant revealed that he did not recognize the skills he had learnt until he temporarily quit going to the group.

> *I never realized how much of the group work I took in until I decided to quit and then noticed I was using the tools that they gave me without even noticing I was doing it: avoiding my triggers, finding hobbies, setting myself goals, being self-aware of high pressure situations.*

Participants mentioned that groups provided opportunities to learn about their addiction, for example by "*looking into your behaviours as an addict and how we can overcome thoughts and feelings we are now discovering in recovery that we had been masking with whichever substance we had been using*". Individuals recognized that their coping skills had improved and they had learned *"how to cope and deal with issues affecting us in everyday life without turning to substances"*. Replacing substances with alternative, more effective coping strategies helped participants deal with difficult situations outside the group where they may have previously relapsed.

In some stories, participants recognized that their confidence had increased while being in the group. Their confidence, in addition to the new knowledge they had acquired, allowed some individuals to branch out to other services or recovery groups, for example learning "*about other mutual aid groups that go on in the wider community*".

The skills individuals developed from being in the group were considered transferable and important for maintaining permanent change. As highlighted by one individual, *"the tools I was given in these groups to help me on my way to sobriety will be with me for the rest of my life"*.

The value of group activities

Many non-12-step groups provide informal alternative activities for participants to get involved in, such as walking, singing in choirs, and making crafts. These activities helped participants develop new hobbies and areas of interest, or "*taking up past interests which had recently fell by the way side*" as a result of their addiction.

The activities provided positive experiences for the individuals. A story shared about being involved in a recovery choir highlighted the impact the activity had on the group dynamic and the mood of the group.

> *Overall the experience itself of singing in a group like that was pretty powerful and occasionally quite remarkably beautiful. I didn't anticipate that at all. It was a pretty profound experience being there doing the singing itself and at the end of it we'd all be pretty much elated or at very least in good spirits energized … and that good feeling lasted for a good long time afterwards too I'd continue to feel blissed out for the rest of the day at the very least.*

Some activities provided participants with a great sense of achievement. This included groups making films about recovery experiences, and taking part in charity walks. For example, one participant discussed an 84-mile walk along Hadrian's Wall that the group had recently completed, and the positive impact it had on him.

> *It was a great experience and a big achievement. Fifteen people who have all had a problem with drink and drug problems making strong bonds teamwork a goal and life experience. Probably the best thing I've done in recovery and which I'll never forget.*

Speaking more generally and also considering 12-step groups, group meetings themselves provided the opportunity to regularly attend, consuming time that may have previously been used for substance misuse. As one participant stated, "*The recovery groups they help me get out the addiction instead*

of sitting at home doing nothing and getting drunk". The activities and meetings provided purpose and *"a reason to get dressed and get out of the house … it got me involved in activities, for me something that had been lost in my addiction*".

A change in the self

The previous themes highlight the important components identified in individuals' stories about their recovery groups. These components allowed individuals to make positive changes in their life, progressing from addiction to recovery.

There was also a sense of having hit rock bottom with respect to one's addiction, with one participant sharing that before joining the group he was *"at a lowest point of my life with no hope or any foreseeable chance of getting out of a deep pit of demoralisation*". In their stories, participants readily discussed the despair, darkness, and feelings of hopelessness resulting from their addictions. For some participants, this all changed once they became involved in the recovery group, as seen in the extract below.

> *My life was totally unmanageable and I was slowly dying inside. From a place of abject hopelessness in my addiction I attended my first meeting and instantly I was given the gift of hope. Suddenly there was light from darkness.*

The recovery groups provided the hope many individuals needed to be able to change. Many participants attributed their recovery entirely to their involvement in the recovery group, stating, for example, that the group *"saved my life"*.

The change in participants' sense of self as a result of having been in the group allowed them to have a new *"lease of life"*. It improved their lives and allowed them to regain what they had lost. This is evident in the story shared below, in which one participant outlines the ways in which she had regained a life worth living.

> *I have got my life back, I have a home again, I have built bridges with my family. My relationship with my children is fantastic, life throws obstacles at me but I deal with them today without reaching for the bottle …. Today I have a life beyond my wildest dream thanks to [recovery group].*

Quantitative analysis

Participant ratings of the importance of recovery group factors

Participants then considered their recovery groups more generally, and they rated how important each of the 12 components was to them. Figure 1 shows the mean importance scores for all 12 components.

It seemed that participants considered that all components were reasonably important to them, as shown by the relatively high scores. The component considered most important was the group's ability to improve self-confidence ($M = 90.13$, $SD = 11.97$), and the least important component was the group's provision of rewards ($M = 75.56$, $SD = 27.94$).

A one-way repeated-measures ANOVA determined whether there were any significant differences in the importance ratings among the components. An overall significant difference among the components was found, $F(7.22, 1082.88) = 10.95$, $p < .001$, partial $\eta^2 = .068$. Post hoc analysis with a Bonferroni adjustment revealed a number of significant differences among the mean importance ratings of the components. Results indicated that there were no significant differences ($p = 1.00$) among the importance ratings of the top five components, and that receiving rewards was rated significantly ($p < .05$) less important than eight of the other 11 components.

Participant ratings of the extent to which factors were offered in recovery group

Participants also rated how much each component was offered to them in their group. Figure 2 shows the mean offered scores for all 12 components.

Participants reported that all of the components were typically offered in their group, as shown by the high scores. The component considered most frequently offered was the group's ability to improve self-confidence ($M = 87.59$,

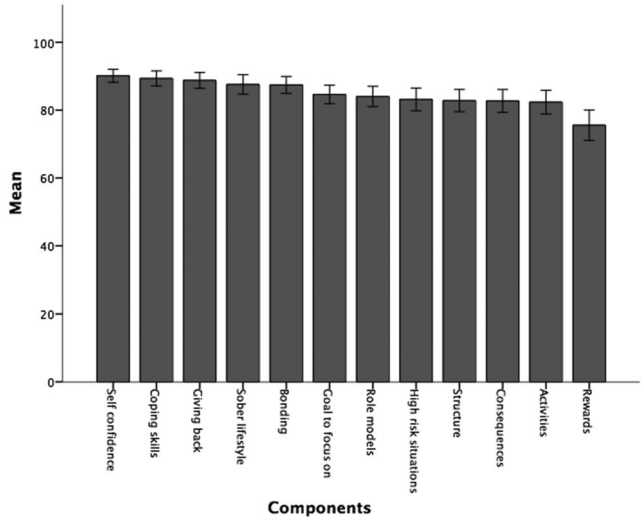

Figure 1. A bar graph showing mean 'importance' scores for all 12 components. Error bars represent 95% confidence intervals.

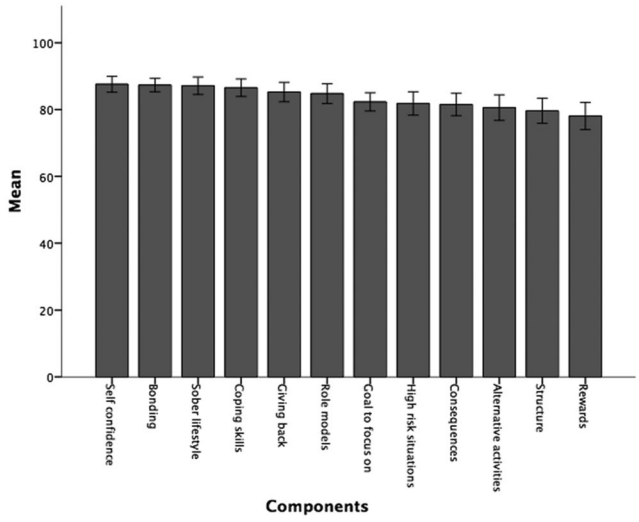

Figure 2. A bar graph showing mean 'offered' scores for all 12 components. Error bars represent 95% confidence intervals.

SD = 14.82), and the least frequently offered component was the provision of rewards (*M* = 78.08, *SD* = 25.37).

A one-way repeated-measures ANOVA was conducted to determine whether there were significant differences in the extent to which these components were offered in the groups, and a significant difference was found among the components $F(7.32, 1097.55) = 6.71$, $p < .001$, partial $\eta^2 = .043$. Post hoc analysis with a Bonferroni adjustment revealed a number of significant differences between the extent to which the components were offered. Results indicated that there were no significant differences ($p = 1.00$) among the offered ratings of the top six components, but receiving rewards was rated as significantly ($p < .05$) less frequently offered than were five of the other 11 components.

Difference between offered and importance ratings

Paired-samples *t*-tests were used to determine whether there were any significant differences between the offered and importance ratings for each component (see Table 3). For seven components, no significant differences ($p > .05$) were found between the importance and the offered ratings. The importance ratings for the other five components (goals, structure, giving back, coping skills, and self-confidence) were significantly higher ($p > .05$) than the offered ratings.

Assessing group differences

A 3×12 mixed ANOVA assessed whether the different types of groups rated the importance of the components differently. There was no statistically significant interaction between the different components and group type on importance ratings, $F(16.99, 1257.26) = 0.92$, $p = .56$, partial $\eta^2 = .010$. As expected from prior analysis, there was a main effect of importance ratings for the different components, $F(8.50, 1257.26) = 10.15$, $p < .001$, partial $\eta^2 = .064$; however, there was no main effect for group, $F(2, 148) = 0.95$, $p = .39$, partial $\eta^2 = .013$, indicating that the ratings did not significantly differ among the different types of groups.

A 3×12 mixed ANOVA was also used to compare how offered each of the components was in the three different types of groups. There was no statistically significant interaction between the different components and group type on offered ratings, $F(14.34, 1061.12) = 0.85$, $p = .62$, partial $\eta^2 = .01$. As expected from the prior analysis, there was a main effect for how offered the different components were, $F(7.17, 1061.12) = 10.96$, $p < .001$, partial $\eta^2 = .069$, however there was no main effect of group $F(2, 148) = 0.51$, $p = .60$, partial $\eta^2 = .007$, indicating the ratings did not significantly differ among the different types of groups.

Table 3. Paired-sample t-tests showing differences between 'offered' and 'importance' ratings for each component.

Components	Mean Difference	*t*	Significance (2-tailed)
Developing self-confidence	−2.53	−2.51	.013*
Developing coping skills	−2.80	−3.11	.002*
Giving back	−3.52	−3.07	.003*
Sober lifestyle	−0.44	−0.39	.696
Bonding and support	−0.08	−0.07	.947
Goal to focus on	−2.31	−2.12	.036*
Available role-models	0.74	0.59	.555
Identify high-risk situations	−1.32	−0.95	.345
Structure to follow	−3.18	−2.33	.021*
Reminder of consequences	−1.18	−0.92	.361
Alternative activities	−1.77	−1.23	.219
Gaining rewards	2.52	1.87	.063

Note. Components are listed in order of their main rated importance. Mean difference is calculated by subtracting importance ratings from offered ratings. *$p < .05$.

Influence of recovery duration and time committed to recovery group

Correlational analyses were run to determine whether individuals' ratings of how important and offered the components were differed depending on their length of time in recovery, and the recovery group they were in. Results suggested that the only significant correlation was between the length of time in recovery and how offered ($r = .18$, $p = .029$) and important ($r = .16$, $p = .048$) rewards were. However, when a Bonferroni correction was applied for multiple comparisons ($p < .001$), this result was no longer significant.

Discussion

The current research explored the experiences of participants in a diverse range of addiction recovery groups, and determined the importance and availability of Moos (2008) components across different groups. The results suggest that all of Moos' components were highly important and typically offered; however, some components such as 'gaining rewards' had significantly lower offered and importance ratings than others. The results also suggest that component ratings did not differ depending on the type of group someone is in, the length of time they have been in recovery, and the length of time they have been involved in their recovery group.

This outcome is interesting, as despite the variety of different recovery groups involved (all with different structures, underlying approaches and theoretical frameworks), it seems that participants rated the components similarly. This supports the suggestion that recovery groups have universal components (Kelly & Yeterian, 2007; Moos, 2008), and it is the similarities, not the differences, that make groups successful in helping individuals in recovery improve their lives. Future research could further explore this universality by assessing whether components differ across type of substance used, length of time using substances, and attendance in multiple recovery groups.

The findings suggest that the same most important five components were identified in both offered and importance ratings. In no particular order, these are: 'improving self-confidence', 'improving coping skills', 'bonding and support', 'giving back', and 'following a sober lifestyle'. The quantitative analysis explored a large number of components, making it difficult to interpret which components were considered more important or offered than the others. Future research could qualitatively explore these top five components in more detail, in order to discover what it is about them that individuals value the most. Alternative rating methods, such as ranking the components, might also help decipher this further.

'Gaining rewards' was the component that participants rated the least important and the least offered by the groups. This component was derived from behavioral choice theory, with Moos (2008) suggesting that rewards in the groups provide individuals an alternative to rewards gained from substance misuse. The results of the current study suggest that behavioral choice theory may not be as important in recovery groups as Moos thought, as the other component derived from this theory, 'provision of alternative activities', was also one of the lowest rated components. However, it is important to note that all components were rated high, indicating that although components derived from behavioral choice theory may be less important aspects of recovery groups, they were still considered valuable by most.

Group satisfaction was assessed by analyzing differences between importance and offered ratings. There was no significant difference for seven of the components, indicating that individuals were satisfied with how offered these components were within their groups. For the other five components, the importance ratings were significantly higher than the offered ratings. These significant differences are small in magnitude (< 5 on a 0-to-100 continuous scale), but they could be the very components that recovery groups aim to make more available, in order to further improve group members' satisfaction with the group.

The qualitative analysis provided a first-hand perspective on individuals' experiences within recovery groups, and highlighted the aspects they considered important. Four of the themes identified in the stories (*perspective taking, connecting to others, developing skills and value of group activities*) were components that individuals value within their groups. These components have some similarities with Moos (2008) components and our quantitative findings. For example, the theme *connecting to others* highlights the importance of the components 'bonding and support' and 'giving back to others'. In addition, the theme *developing skills* echoes Moos' components 'developing self-confidence' and 'developing coping skills'. Moos' components reflected in the qualitative themes are four of the top five components identified in the quantitative findings, further supporting the idea that recovery groups should focus on this 'top five'.

The theme *perspective taking* discussed the importance of sharing stories, and how other's views and stories helped individuals gain new insight and perspectives of their own addiction. Perspective taking can be related to the ACT principle of psychological flexibility, whereby the development of flexible self-awareness can result in changes in the self (Hayes et al., 2006). It seems that self-awareness and reflection could be important components of recovery groups despite Moos (2008) not having mentioned them.

The theme *connecting with others* identified how being connected with like-minded others can help individuals feel not alone. This mirrored findings from our previous research that explored members' experiences with social-based recovery groups (Rettie et al., 2020). It is also consistent with Taylor et al.'s (2020) research, which found that increased involvement in AA groups was related to an increased sense of AA-related identity. This theme, however, is not included in Moos (2008) original components. Previous components highlighted the importance of having role models present, but the current study suggests that it is more important to have someone to stand alongside rather than to look up to.

Alternative activities was one of the lowest rated components, yet it was discussed extensively in the stories resulting in the theme *value of group activities*. It is unclear why there was this discrepancy between the quantitative and qualitative findings. Perhaps *having a sober lifestyle* (which these activities often encourage) was more important than the activities themselves. Another potential explanation is that perhaps social biases could be at play, in that attending activities may be of value to some individuals, but it is less likely to be endorsed by others. Discrepancies such as this in mixed methods designs are common, and future research could explore this incongruity in more depth (Creswell & Plano Clark, 2007).

The final qualitative theme, *a change in self,* highlighted the importance of recovery groups and the positive impact they can have on an individual's identity. Many individuals as a result of the group experience and the components it provided had made positive changes in their lives, moving from being hopeless to being hopeful. Research often focuses on objective measures of change (Humphreys, 2004) at the expense of exploring personal accounts. Although this objective approach is valuable when quantifying group effectiveness, the nature of recovery is subjective (Laudet, 2007), and the perceived benefits explored in the current study provided insights into *how* these groups promote change. This finding could also be related to Best et al. (2016) social identity model of recovery, which highlights the pivotal role recovery groups can play by encouraging the shift of one's identity from someone in a substance abusing social group to someone in a recovery-based social group.

Table 4 shows an update of Moos (2008) components based on the findings from the current study. As all components were rated reasonably high, no components were removed. We maintained our original decisions to add the component 'giving back', and split the original component 'observing and imitating norms and role-models' into 'following a sober lifestyle' and 'available role models'. Two new components have also been added based on the qualitative findings: 'presence of like-minded individuals' and 'developing self-awareness and reflection skills'. This table of components

Table 4. The 14 important components of addiction recovery groups.

Components
Bonding and support
Goal direction
Structure to follow
Following a sober lifestyle
Available role models
Expectations of positive and negative consequences
Involvement in protective activities
Effective rewards
Identifying high-risk situations
Building self-confidence
Developing coping skills
Giving back
Presence of like-minded individuals
Developing self-awareness and reflection skills

could be used as a template when developing future mutual-aid groups, to increase group satisfaction and facilitate recovery.

Limitations

It is worth noting that the study considered only individuals who were actively engaged in recovery groups, and the convenience method of sampling (e.g. groups in the local area; group members with an online presence; attending national events) means that the sample is unlikely to have been representative. For this reason, our findings should be generalized with caution to the entire recovery community. Future research could examine the experiences of individuals who are unsatisfied with their group or who have not attended a recovery group at all.

After this study was conducted, the COVID-19 pandemic has posed additional challenges for individuals recovering from substance addictions, many of whom are unable to access key sources of support (e.g. mutual-aid groups; Chiappini et al., 2020). Recovery groups are adapting and are finding ways to provide support virtually, but it will be important for future research to examine whether remotely delivered mutual-aid can offer attendees the same level and range of support as found in this study.

Conclusions

The current study provided support for Moos' original components, and identified that these components are universal across a diverse range of recovery groups, and stable across time. The findings offer an in-depth, person-focused perspective into what makes recovery groups successful, utilizing the voices of the true experts of addiction recovery groups.

Declaration of interest

The authors declare that they have no conflict of interest. The authors alone are responsible for the content and writing of the article.

Funding

This work was supported by Knowledge Economy Skills Scholarships (KESS), which is a pan-Wales higher level skills initiative led by Bangor University on behalf of the HE sector in Wales. It is part funded by the Welsh Government's European Social Fund (ESF) convergence programme for West Wales and the Valleys. The project was also supported by CAIS – a charity in North Wales that supports individuals with addictions.

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