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Experiences of peer workers and mental health service users with a peer support intervention: applying and critiquing a behaviour change techniques taxonomy

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ABSTRACT

Objective: There is growing evidence for the benefits of peer support in mental health services. Less is known about the specific mechanisms whereby peer support brings about change. The aim of this study was to explore the experiences of adults using mental health services and peer workers to investigate whether the contents of an intentionally provided one-to-one peer support intervention can be adequately described using a standard taxonomy of behaviour change techniques (BCTs).

Method: This qualitative comparative case study involved semi-structured interviews with 11 peer workers and 10 people they supported, in 2017–2018. They participated in a randomised controlled trial of a peer support intervention. Data were coded using both an analytical framework, derived from Michie and colleague's taxonomy of BCTs, and inductive thematic analysis.

Results: The findings revealed that the intervention included BCTs from all 16 BCT groupings in the taxonomy, with the emphasis on the groupings of 'social support', 'comparison of behaviour', 'comparison of outcomes', 'regulation' 'shaping knowledge', 'identity' and 'covert learning'. Thematic analysis revealed a new group, 'relational aspects', consisting of five new BCTs: sharing of the peer worker's experiential knowledge; promoting reciprocity, autonomy, and confidentiality; and validation of a safe and trusting relationship.

Discussion: A standard taxonomy of BCTs was shown to be broadly applicable to describing the contents of an intentional one-to-one peer support intervention for adults using mental health services. The taxonomy may need to be extended to consider additional BCTs related to encouraging the therapeutic relationship.

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Introduction

Intentionally provided peer support is increasingly operationalised not only across the English speaking globe but also in other cultures and languages. (Stratford et al., 2019) Both higher income countries (HICs) and low- and middle-income countries demonstrate, to varying degrees, incorporation of peer support in their treatment approach. For example, since reformation of Japanese mental health policy in 2004, intentional and spontaneous peer support has been shown to promote recovery in psychiatric day care users (Yokoyama et al., 2021), whereas in India, for example, numerous challenges to implementing peer support in national mental health services make slow progress, although glimmers of potential opportunities to include peer support at a state level are beginning to emerge. (Pathare, Kalha, & Krishnamoorthy, 2018) Specifically, in England their National Health Service (NHS) advocates for peer workers as an integral part of the delivery team. (Stepping forward to, 2020/21 2017) This is supported by research indicating that peer support could improve service user experience and quality of life among those with psychosis and schizophrenia. (Psychosis and schizophrenia in adults, 2014) Thus, currently, there is a rapid implementation of peer support across mental health services in England, (and generally more widely in HICs (da Costa M, Foster, Gillard, & Priebe, 2019)) Benefits have been identified both for those supported (i.e. service users) – and for peer workers. A recent systematic review of one-to-one peer support and meta-analysis of nineteen randomised controlled trials (White et al., 2020) found a modest benefit for service users in terms of self-reported recovery and empowerment – the latter benefit having been previously identified. (Repper & Carter, 2011) Peer workers have also been shown to benefit, through increased self-esteem, enabling continued recovery. (Mowbray et al. 1998, Salzer & Shear, 2002)

Little is known, however, about the specific mechanisms, whereby peer support brings about change; various empirical qualitative studies offer a change/mechanisms model. These studies propose the key mechanisms of social support, enabling engagement with community and use of experiential knowledge/lived experience. Other evidence-based mechanisms that have been proposed include role-modelling individual recovery and living well with mental health problems; (Gillard, Gibson, Holley, & Lucock, 2015) social comparison and the helper therapy principle; (Proudfoot et al., 2012) and various practical and emotional supports. (Gidugu et al., 2015) A further study proposes an empirically based theoretical model to explain the factors facilitating peer support for people with serious mental illness, but this is limited to engagement in digital health interventions. (Fortuna, Brooks, Umucu, Walker, & Chow, 2019) A comprehensive framework has not emerged, and further research is needed to describe the contents of peer support in mental health to better understand the potential mechanisms involved.

Individual recovery for both peer workers and supported service users is likely to involve a degree of behaviour change to achieve the reported results. In other areas of health behaviour change the contents of interventions have been commonly described using a standard taxonomy of Behavioural Change Techniques (BCTs) devised by Michie and colleagues. (Michie et al., 2013) This taxonomy specifies 93 BCTs organised into 16 groupings. For example, the grouping ‘feedback and monitoring’ includes BCTs such as ‘Monitoring of behaviour by others without feedback’, ‘Feedback on behaviour’ and ‘Self-monitoring of behaviour’. Examples of what this might mean would be first,

where the desired behaviour change is more exercise per week, the person knows that a tally is being made of how often they exercise in a given week – but no feedback given. Second, the person might request feedback from a personal trainer on how their session went, and last, the person might take daily measurements using a pedometer of how many steps they took in a day. This taxonomy has been mostly used to describe interventions addressing harmful health behaviours, such as smoking, excessive alcohol consumption or being sedentary. (Michie, West, Sheals, & Godinho, 2018) Several studies have used the taxonomy to describe the contents of peer support interventions, such as for breastfeeding (Phillips et al., 2018) or dietary management. (McEvoy et al., 2018) However, we could not identify any studies that describe the contents of peer support in mental health using Michie's BCT taxonomy.

The aim of this study was to explore the experiences of adults involved in a randomised controlled of peer support, to investigate whether the mechanisms of a one-to-one peer support intervention can be adequately described using a standard taxonomy of BCTs.

Methods

The present study was nested in a randomised controlled trial of one-to-one peer support for discharge from inpatient mental health care (ENRICH), which tested the effectiveness of a peer worker intervention in reducing readmission post-discharge <https://doi.org/10.1186/ISRCTN10043328>. (Gillard et al., 2020) The study was ethically approved by the London Bridge Research Ethics Committee (reference: 16/LO/0470). Eligible Peer Workers (PWs) were NHS staff, who had been recruited to, and graduated from ENRICH training to support patients transitioning from acute mental health care into the community, over a period of sixteen weeks. This intervention is described in the trial's protocol publication (Gillard et al., 2020) and was informed by Michie's BCT taxonomy. (Michie et al., 2013) Eligible supported peers (SPs) (i.e. service users recruited into the trial and received the peer support intervention) were recruited from adult acute psychiatric wards in seven English NHS Trusts across both rural and city geography, with the following eligibility criteria: had at least one psychiatric admission in the previous two years; likely to be discharged within the next month; did not have a diagnosis of any organic mental disorder, or primary diagnosis of eating disorders, learning disability, or drug or alcohol dependency; and assessed by the clinical team as not posing a risk to a potential PW. Exclusions only occurred if a PW or SP declined informed consent, as that was a condition of the study. Recruitment of 590 trial participants (294 allocated peer support) ended in February 2019.

Service user researchers (SURs) – researchers who identify as working from a perspective of having lived experience of mental ill-health/using mental health services – obtained written consent from SPs and PWs to take part in the qualitative part of the study. SPs gave this consent at the same time as written consent was given to take part in the trial. Thirty-eight SPs (peer support condition only) were interviewed at the end-of-intervention and 24 PWs interviewed after four months of delivering the intervention. Interviews lasted between 17–76 mins for SPs and 32–131 mins for PWs were digitally recorded and transcribed verbatim.

Separate topic guides (see supplementary material B and C) for the SPs and PWs were developed by the ENRICH SUR team using their knowledge of the intervention and their experiential knowledge of using mental health services, peer support and mental ill-health. The topic guide did not specifically prompt the interviewees about their experience of BCTs as part of the intervention but considered more generally the behavioural strategies employed. The main topics included typical conversations; the relationship; sharing lived experience of mental ill-health; activities conducted; impact and practicalities of the working partnership between PWs and SPs.

Case selection

For the present study, a qualitative comparative case study method (Configurational Comparative Methods: Qualitative Comparative Analysis (QCA) and Related Techniques. Thousand Oaks, California 2009) was chosen to analyse in-depth accounts of SPs and PWs experiences of the intervention. A purposive approach to selecting a subset of interview transcripts from the main trial qualitative dataset was used to provide data rich cases that would enable us to test the BCT taxonomy. The entire qualitative interview data set had been coded using a codebook iteratively co-produced by the ENRICH research team. MMA and NS chose specific codes from the codebook that were related to elements of the BCT taxonomy and, using NVivo qualitative software, JM retrieved individual transcripts that demonstrated the highest percentage occurrence of those codes.

Analysis

The QCA approach (Configurational Comparative Methods: QCA and Related Techniques. Thousand Oaks, California 2009) allowed us to identify similarities, differences and patterns within and between cases, including comparisons between SPs and PWs. The first, deductive stage of the analysis used template analysis, a type of thematic analysis used to compare data to a given framework or template (Brooks, McCluskey, Turley, & King, 2015) to assess the extent to which the template usefully explains or theorises the phenomena under investigation, or needs modification. MMA and NS ‘primed’ themselves for the data coding process by familiarising themselves with the BCT taxonomy (our ‘template’) before coding interview data to the items in the taxonomy. The second (inductive) stage allowed new codes (potential new BCTs) to emerge which were not part of the original taxonomy.

Results

Qualitative analysis was completed on 21 interview transcripts from 11 PWs and 10 SPs. Cases were from five of the seven NHS Mental Health Trusts involved in the trial. Within this cohort, there were four PW-SP supporting partnerships, six SPs who were partnered with PWs not interviewed here and seven PWs who were partnered with other SPs, not interviewed here. This sample included 13 women and 8 men; their ages range from 18 to 64 years old; and a range of ethnicities (Table 1). Sex and age were similar for PW and SP; percentage of women was 64% (7/11) and 60% (6/10), respectively, and 64% (7/11) and

Table 1. Sample demographic characteristics.

Role	Case	Sex	Ethnicity	Age	Setting
Peer workers (PWs)	Interviewee_PW1	Woman	White – British	26–64	Setting_1
	Interviewee_PW2	Woman	White – British	26–64	Setting_1
	Interviewee_PW3	Woman	Arab	N/A	Setting_1
	Interviewee_PW4	Woman	Asian – British	N/A	Setting_1
	Interviewee_PW5	Man	White – Other	26–64	Setting_1
	Interviewee_PW6	Woman	White – Irish	26–64	Setting_2
	Interviewee_PW7	Woman	White – British	N/A	Setting_2
	Interviewee_PW8	Man	N/A	N/A	Setting_3
	Interviewee_PW9	Man	White – British	26–64	Setting_3
	Interviewee_PW10	Woman	White – British	26–64	Setting_4
	Interviewee_PW11	Man	White – British	26–64	Setting_5
Supported peers (SPs)	Interviewee_SP1	Woman	White – British	26–64	Setting_5
	Interviewee_SP2	Woman	Black – British	26–64	Setting_5
	Interviewee_SP3	Woman	White – British	26–64	Setting_5
	Interviewee_SP4	Man	Mixed/other	18–25	Setting_1
	Interviewee_SP5	Woman	Asian – British	26–64	Setting_1
	Interviewee_SP6	Man	N/A	N/A	Setting_5
	Interviewee_SP7	Woman	Asian – British	26–64	Setting_2
	Interviewee_SP8	Man	Asian – British	18–25	Setting_2
	Interviewee_SP9	Man	White – British	26–64	Setting_3
	Interviewee_SP10	Woman	Mixed/other	26–64	Setting_1
Totals	21 interviews	13	9 White – British 4 Asian –	2 18–25	8 Setting_1 4
		Women	British 2 Mixed – Other 2 N/A	14	Setting_2 3
		8 Men	1 Arab 1 Black – British 1 White – Irish 1 White – Other	26–64 5 N/A	Setting_3 1 Setting_4 5 Setting_5 5

N/A = not available as they declined to answer.
 Setting = specific NHS Trust.

70% (7/10) were aged 26–64 years, respectively. There were differences in ethnicity: 80% (8/10, 1 = NA) white participants among PWs and 33% (3/9, 1 = NA) white participants among SPs.

Deductive analysis

Of the 93 BCTs in the taxonomy, 47 were supported by quotes from the interviews; this included 10 quotes from PWs alone, 27 quotes from SPs alone and 10 by quotes from both PW and SP (Table 2). All sixteen groups of the original taxonomy were supported by at least one quote, and some groups had many more quotes (groups 3 and 6 – Social Support and Comparison of Behaviour – had nearly a full complement of quotes from both PW and SP). Exemplar quotes from PW and SP are given in the supplementary material A.

Inductive analysis

Inductive analysis revealed one new BCT grouping – relational aspects of behavioural change – consisting of five new BCTs that are described below and illustrated with quotes from the interviews.

- 1. Sharing experiential knowledge:** An essential element of peer support involves the PW sharing experiential knowledge of mental ill-health to aid understanding and validation of the SP’s situation. Yes, I suppose it’s more relaxed and more again because

Table 2. Depiction of behaviour change techniques (BCTs) and where quotes were found for peer worker (PW), supported peers (SPs), both or neither.

Number	Grouping and BCTs	Presence of PW quote	Presence of SP quote
1.0	Goals and planning		
1.1	Goal setting behaviour		Both
1.2	Problem solving	No	Yes
1.3	Goal setting (outcome)		Neither
1.4	Action planning		Neither
1.5	Review behaviour goal(s)	No	Yes
1.6	Discrepancy between current behaviour and goal		Neither
1.7	Review outcome goal(s)		Neither
1.8	Behavioural contract		Neither
1.9	Commitment	No	Yes
2.0	Feedback and monitoring		
2.1	Monitoring of behaviour by others without feedback		Neither
2.2	Feedback on behaviour		Neither
2.3	Self-monitoring of behaviour	No	Yes
2.4	Self-monitoring of outcome(s) of behaviour	Neither	
2.5	Monitoring of outcome(s) of behaviour without feedback	No	Yes
2.6	Biofeedback		Neither
2.7	Feedback on outcome(s) of behaviour		Both
3.0	Social support		
3.1	Social support (unspecified)		Both
3.2	Social support (practical)		Both
3.3	Social support (emotional)	No	Yes
4.0	Shaping Knowledge		
4.1	Instruction on how to perform the behaviour		Both
4.2	Information about antecedents	No	Yes
4.3	Re-attribution	No	Yes
4.4	Behavioural experiments	Yes	No
5.0	Natural consequences		
5.1	Information about health consequences		Neither
5.2	Salience of consequences	Yes	No
5.3	Information about social and environmental consequences	No	Yes
5.4	Monitoring of emotional consequences		Neither
5.5	Anticipated regret		Neither
5.6	Information about emotional consequences	No	Yes
6.0	Comparison of behaviour		
6.1	Demonstration of the behaviour		Both
6.2	Social comparison		Both
6.3	Information about others' approval	No	Yes
7.0	Associations		
7.1	Prompts/cues	Yes	No
7.2	Cue signalling reward		Neither
7.3	Reduce prompts/cues		Neither
7.4	Remove access to the reward		Neither
7.5	Remove aversive stimulus		Neither
7.6	Satiation		Neither
7.7	Exposure		Neither
7.8	Associative learning	No	Yes
8.0	Repetition and substitution		
8.1	Behavioural practice/rehearsal	Yes	No
8.2	Behaviour substitution		Neither
8.3	Habit formation	No	Yes
8.4	Habit reversal	No	Yes
8.5	Overcorrection		Neither
8.6	Generalisation of target behaviour	No	Yes
8.7	Graded tasks	Yes	No
9.0	Comparison of outcomes		
9.1	Credible source		Both
9.2	Pros and cons	No	Yes
9.3	Comparative imagining of future outcomes		Neither

(Continued)

Table 2. Continued.

Number	Grouping and BCTs	Presence of PW quote	Presence of SP quote
10.0	Reward and threat		
10.1	Material incentive (behaviour)		Neither
10.2	Material reward (behaviour)		Neither
10.3	Non-specific reward	No	Yes
10.4	Social reward	Yes	No
10.5	Social incentive		Neither
10.6	Non-specific incentive		Neither
10.7	Self-incentive	No	Yes
10.8	Incentive (outcome)		Neither
10.9	Self-rewards		Neither
10.10	Reward (outcome)		Neither
10.11	Future punishment		Neither
11.0	Regulation		
11.1	Pharmacological support	No	Yes
11.2	Reduce negative emotions		Both
11.3	Conserving mental resources	No	Yes
11.4	Paradoxical instructions		Neither
12.0	Antecedents		
12.1	Restructuring the physical environment	Yes	No
12.2	Restructuring the social environment		Neither
12.3	Avoidance/reducing exposure to cues for behaviour		Neither
12.4	Distraction		Neither
12.5	Adding objects to the environment	No	Yes
12.6	Body changes	Yes	No
13.0	Identity		
13.1	Identification as self as role model	No	Yes
13.2	Framing/reframing		Both
13.3	Incompatible beliefs	Neither	
13.4	Valued self-identity	No	Yes
13.5	Identity associated with changed behaviour	No	Yes
14.0	Scheduled consequences		
14.1	Behaviour cost		Neither
14.2	Punishment		Neither
14.3	Remove reward		Neither
14.4	Reward approximation	No	Yes
14.5	Rewarding completion		Neither
14.6	Situation specific reward		Neither
14.7	Reward incompatible behaviour		Neither
14.8	Reward alternative behaviour		Neither
14.9	Reduce reward frequency		Neither
14.10	Remove punishment		Neither
15.0	Self-belief		
15.1	Verbal persuasion about capability	Yes	No
15.2	Mental rehearsal of successful performance	No	Yes
15.3	Focus on past success		Neither
15.4	Self-talk		Neither
16.0	Covert learning		
16.1	Imaginary punishment		Neither
16.2	Imaginary reward	No	Yes
16.3	Vicarious consequences	Yes	No
	Total: Yes	20	37

I'm not coming from a clinician point of view I'm coming from a shared experience. I suppose when I say oh I've shared experience then as well during the conversation they open up a bit more because it's like well you know you've been there situation. (Interviewee_PW6)

... you are talking about people's conditions and illnesses and offering some context with that ... connecting is quite important actually because peers realise they're not the only people who have been through it. (Interviewee_PW5)

The whole reason of sharing is that they can see someone else's perspective, point of view, that someone else has been there, they are not the only one. So I suppose that then helps them become less worried, not so anxious ... (Interviewee_PW4)

2. **Promote reciprocity:** To minimise the power imbalance and create an atmosphere of mutual influence, where as much as possible, the SP has equal choice and control as the PW.... I think somehow you've got to get a balance and there will always be control, there are always power relations. So as much as you talk about mutuality and reciprocity still always power relations I think. But if you brought the peer into that equation more about them deciding when is enough that's really important I think. (Interviewee_PW8)

'there was a mutual respect ... both know about, you know, cultural references ... mental health in common. I felt that she understood what I was talking about which was quite good. Other than that everything, we had respect for each other ... I found it was quite different actually, it was quite different to professionals that I was with. I felt I could open up a bit more (Interviewee_SP1)

3. **Promote autonomy:** To empower the SP to advocate for themselves.... she just wanted me to go and ring the Council for her to sort out her Council tax or fill out a form, so that was it. ... So I said yes, no problem and then that's literally what it was, she's handing me her phone going can you phone the Council. It's like how about you phone the Council and I'll just be here for you. (Interviewee_PW9)

... she had a lot of choice as well about this process ... So the choices were in her hand as much. And on our side on the ENRICH side we weren't making that decision for her she was making the decision. ... I mean we both brought things to the table in a sense, the peer brings certain maturity ... (Interviewee_PW8)

4. **Offer confidentiality:** To offer a secure and trusting environment to enable SPs to be open. I think that's the best thing about care support worker is someone you can talk openly and they can give their opinion and it's kept between us so it's not going to go anywhere else. (Interviewee_SP4)
5. **Validating relationship:** To provide a positive experience of a non-judgemental relationship. they're compassionate and I feel comfortable to talk to them you know ... Very close, very comfortable. She's like a role model. Someone to look up to. I'll never forget her that's for sure. I'll always remember her because she's made a positive impact on my life and not many people have been able to do that ... They are more passionate about making people change and feel better. They are ... more passionate about helping people. You can see it. you are feeling comfortable, safe, confident and stable before they literally leave your life. I just thought it was one of those

people. It was kind of that but completely different. It was a lot more in depth. (Interviewee_SP3)

Discussion

The findings make a novel contribution to the minimal literature describing BCTs in the context of peer support or mental health, suggesting that Michie's BCT taxonomy (Michie et al., 2013) is broadly applicable to describing the mechanisms underlying a one-to-one peer support intervention in the context of mental health, with just over half of the taxonomy supported by examples from the data. Thus, the taxonomy is likely to be useful in this context for both informing intervention design and for documenting the application of the intervention, for the purpose of replication. The inductive analysis suggests that the original taxonomy could be expanded to include a further group – 'Relational Aspects of Behavioural Change', comprised five additional BCTs, namely; sharing experiential knowledge, promote reciprocity, promote autonomy, offer confidentiality and, validating relationship. Further work is needed to explore whether these, and other BCTs related to the therapeutic relationship, can be applied to other contexts of peer support and to behaviour change in general.

Preliminary work conducted by JM and RF suggested that a larger number of BCTs might be appropriate to peer support; however this was not supported by this data set. Further research is needed to examine the applicability of these BCTs to peer support.

Our findings reflect previous research that has described mechanisms of peer support. For example, Proudfoot and colleagues described social comparison as an important mechanism (2012); in our study the group 'comparison of behaviour' (which includes the BCT 'social comparison') was well represented with quotations from both PW and SP. Likewise, Gidugu et al. (2015) identified practical and emotional support as a key mechanism which clearly aligns to another group represented well by this data; 'Social support'. Finally, a new BCT, sharing experiential knowledge, suggested in our study would map neatly on to the 'building trusting relationships' mechanisms identified by Gillard and colleagues (2015).

This study's strengths lie in its use of a substantial dataset embedded in a high-quality study, with interviews with both SPs and PWs (Gillard et al., 2020). The QCA method (Configurational Comparative Methods: QCA and Related Techniques. Thousand Oaks, California 2009), combining deductive and inductive method, enabled an in-depth process, between and within cases, for critiquing the original taxonomy. The presence of SURs on the team, alongside clinical and academic research, allowed us to consider our data from multiple perspectives, coproducing our findings. (Gillard, Simons, Turner, Lucock, & Edwards, 2012)

There are also limitations to this research. First, the topic guides used to elicit data were not designed around the BCT taxonomy. Further research should explore experiences of specific BCTs in mental health and peer support. Second, although the QCA methodology enabled us to test the extent of fit of the BCT taxonomy to peer support in mental health, not all BCTs were validated by the data. Without use of a larger sample, and a topic guide informed by the BCT taxonomy, we cannot be sure if those BCTs are not relevant or simply missing from the current data set. A larger sample would also enable us to more confidently articulate new BCTs.

Our findings suggest that behaviour change approaches, especially where adapted to the context of mental health care, might be used to enhance peer support interventions, including training and supervision for peer workers, designed to improve implementation efforts and maximise outcomes for those being supported. (Gillard, Edwards, Gibson, Owen, & Wright, 2013) In addition, it maybe that using BCTs as a framework in PW training would aid PWs to transition from ‘service user’ to ‘service provider’ and/or manage dual identity. (Simpson, Oster, & Muir-Cochrane, 2018) Finally, by adding a new group revolving around the relational aspect between supporting and supported person, the study raises the possibility that mental health interventions delivered by other healthcare professionals that are informed by a BCT approach, might consider the importance of these new relational BCTs.

Conclusions

To our knowledge, this is the first time that BCTs have been used to describe a peer support intervention. This research not only suggests that Michie’s taxonomy is generally applicable to peer support provided in a mental health setting but, that a new ‘relational aspects of behavioural change’ group is also apparent and would appear to be key to peer support.

Data availability statement

Data will be made available upon reasonable request to the first author.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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