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# The acceptance and commitment therapy model in occupational rehabilitation of musculoskeletal and common mental disorders: a qualitative focus group study

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## ABSTRACT

**Aims:** The aim of this study was to examine whether and how intended processes of behavioural change were reflected in participants' experiences after an inpatient occupational rehabilitation programme. The programme was transdiagnostic, lasted 3½ weeks and was based on the acceptance and commitment therapy model.

**Methods:** Twenty-two participants (17 women and 5 men) took part in five qualitative focus group interviews after the programme. Analysis was data-driven, categorising participants' experiences using an initial explorative phenomenological approach. The emerging data-driven categories were re-contextualised within the theoretical framework of the therapy model.

**Results:** The participants referred to experiences within all three intended domains of the model (openness, awareness, and engagement). Our results indicate that the transdiagnostic approach may have facilitated openness, while the attainment of flexible self-awareness was less evident. Participants expressed engagement and behavioural changes linked to personal values, but did not mention actions leading to imminent return to work.

**Conclusions:** The results imply that for implementation in occupational rehabilitation, further development of this model is needed specifically regarding processes related to self-awareness and committed action towards work. These findings are relevant for the interpretation of results from randomised clinical trials on acceptance and commitment therapy in occupational rehabilitation.

## ARTICLE HISTORY

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therapy; return to work;  
qualitative research

## ► IMPLICATIONS FOR REHABILITATION

- Acceptance and commitment therapy seems to be a feasible component in an occupational rehabilitation programme for persons with different diagnoses.
- A transdiagnostic approach mixing musculoskeletal pain disorders and common mental disorders in the same rehabilitation programme seems to facilitate the process of openness and acceptance.
- There is a need to further develop and operationalise some of the processes in Acceptance and commitment therapy to accommodate the approach to the occupational rehabilitation context.

## Introduction

Musculoskeletal pain, common mental disorders, and other unspecific disorders are responsible for most sick leave in the western world [1–3], causing a substantial burden for individuals and societies. Furthermore, comorbidity rates in sick-listed populations are high [4]. The majority of randomised clinical trials in occupational rehabilitation have so far examined the efficacy of interventions tailored for specific musculoskeletal diagnosis, such as low back pain [5–9] or groups of different musculoskeletal disorders [10]. Fewer studies have included common mental disorders. Nevertheless, some studies have investigated the effects of occupational rehabilitation interventions for distressed workers [11], burnout [12], and work stress-related disorders [13–15]. In addition, different approaches of cognitive behavioural therapy have been shown to increase work participation when work focused and combined with job support intervention [16,17].

Despite the knowledge of high comorbidity rates between common musculoskeletal and mental disorders in the population on sick-leave [18], the efficacy of an occupational rehabilitation programme mixing these diagnostic groups (in a transdiagnostic approach) has not been investigated. Researchers in the field of occupational rehabilitation have argued for a change of emphasis, from disease-specific symptom reduction towards disability rehabilitation and management [19]. A similar shift has also occurred in cognitive behavioural psychotherapy research with development of the third wave of contextual and mindfulness based cognitive behavioural therapy approaches [20]. These third wave approaches share a more transdiagnostic approach in dealing with the ubiquity of human suffering, although most were originally tailored for different specific diagnoses and within different theoretical foundations [21]. Acceptance and commitment therapy [22,23] is one particular strand of third wave

cognitive behavioural therapy that has gained popularity and empirical evidence in such diverse contexts as coping with pain, reduction of hospitalisation in psychotic patients, increasing job satisfaction and performance, and treating common mental disorders such as depression and anxiety [24–27]. The acceptance and commitment therapy model consists of six clinical processes that aim to foster psychological flexibility and behavioural change guided by personal values through increased openness, awareness, and active engagement. In everyday language, this therapeutic model can be summed up as: “I am, here and now, noticing my thoughts, and accepting my emotions while doing what I care about.”

A randomised pilot study with workers at risk of sick-leave due to chronic stress and pain has indicated that acceptance and commitment therapy could reduce sick-leave [28]. Hence, this has spurred several randomised trials in Scandinavia aiming to investigate the effect of acceptance and commitment therapy in occupational rehabilitation, which has so far had less promising results regarding reduction of sick-leave [29–34]. One of these studies investigates the efficacy of a 3 $\frac{1}{2}$  week transdiagnostic, multi-component occupational rehabilitation programme for patients with musculoskeletal, common mental, and/or unspecific symptom disorders [29], with qualitative research nested into the trial [35,36].

Summaries of the body of qualitative research exist for the experience of living with back-pain [37], and meta-syntheses regarding return to work processes have been published separately for musculoskeletal injury/pain [38] and common mental disorders [39]. A few qualitative studies have explored experiences of taking part in acceptance and commitment therapy interventions [36,40–44]. One study explored participant perspectives on model-specific processes within a clinical population with psychosis [41], and another studied persons with musculoskeletal pain [40]. As part of a large research project, we have previously explored the general experience of participating in a transdiagnostic multi-component rehabilitation programme based on this therapy model [36]. So far, no studies have investigated how participants experience the specific processes of behavioural change intended by the acceptance and commitment therapy model in the context of occupational rehabilitation programme. The aim of this study was to examine whether and how intended processes of behavioural change were reflected in participants’ experiences after taking part in an inpatient occupational rehabilitation programme lasting 17 d. The programme was transdiagnostic and based on the acceptance and commitment therapy model.

## Methods

This study was nested into a randomised clinical trial [29] conducted in a multidisciplinary inpatient occupational rehabilitation centre in Central Norway (Hysnes Rehabilitation Centre).

### Participants and recruitment

All participants were recruited from the inpatient rehabilitation programme. Participants on sick leave due to different disorders, were included in the same therapy groups. At the first day of their  $\sim$ 31/2 weeks long stay, the first author (SØG) provided all potential participants with written and oral information about the study and invited them to take part in focus group interviews at the end of their stay.

### The rehabilitation programme

The rehabilitation programme contained eight group discussions, four psychoeducational sessions, five individual sessions, one consultation with a physician, seven mindfulness sessions, ten individual/group based supervised physical exercise sessions and “walking to work” (total 3 h). In addition, the programme included an outdoor activities day, and a “network day” with two group sessions (total of 4 h) where participants could invite relatives or relevant stakeholders at their own discretion. The participants created a return to work plan during the rehabilitation programme. This plan was included in a midway and discharge summary sent to the participant’s GP. For a detailed description of programme components, refer to the study protocol article [29].

### Acceptance and commitment therapy

Acceptance and commitment therapy was integrated in all parts of the programme, including group discussions and individual therapy sessions. There was an emphasis on facilitating a “learning by experience” approach rather than just theoretical verbal reasoning.

Acceptance and commitment therapy is part of the broad tradition of cognitive behavioural therapy, but differs from traditional approaches in several ways. The term “3<sup>rd</sup> wave cognitive behavioural therapy” places acceptance and commitment therapy among similar psychotherapy approaches recently emerging from empirical research: e.g., dialectic behaviour therapy [45]; mindfulness-based cognitive therapy [46], and meta-cognitive therapy [47]. In traditional cognitive behavioural therapy, there is an emphasis on changing the content of thoughts through different techniques of cognitive restructuring [48]. However, acceptance and commitment therapy emphasises changing the relation to thoughts rather than the content, exemplified in statements such as “... there is little emphasis [in ACT and mindfulness-based cognitive therapy] on changing the content of thoughts” [22]. Another common denominator of third wave therapies has been to incorporate mindfulness processes into psychotherapy. The evidence base is growing, indicating comparable outcomes to traditional cognitive behavioural therapy for chronic pain and a wide range of common mental disorders [25–27].

The main aim of the approach is to increase behavioural and psychological flexibility [49–51]. The clinical model consists of six core processes that constitute three main domains [21]. The details of this model are visualised in Figure 1.

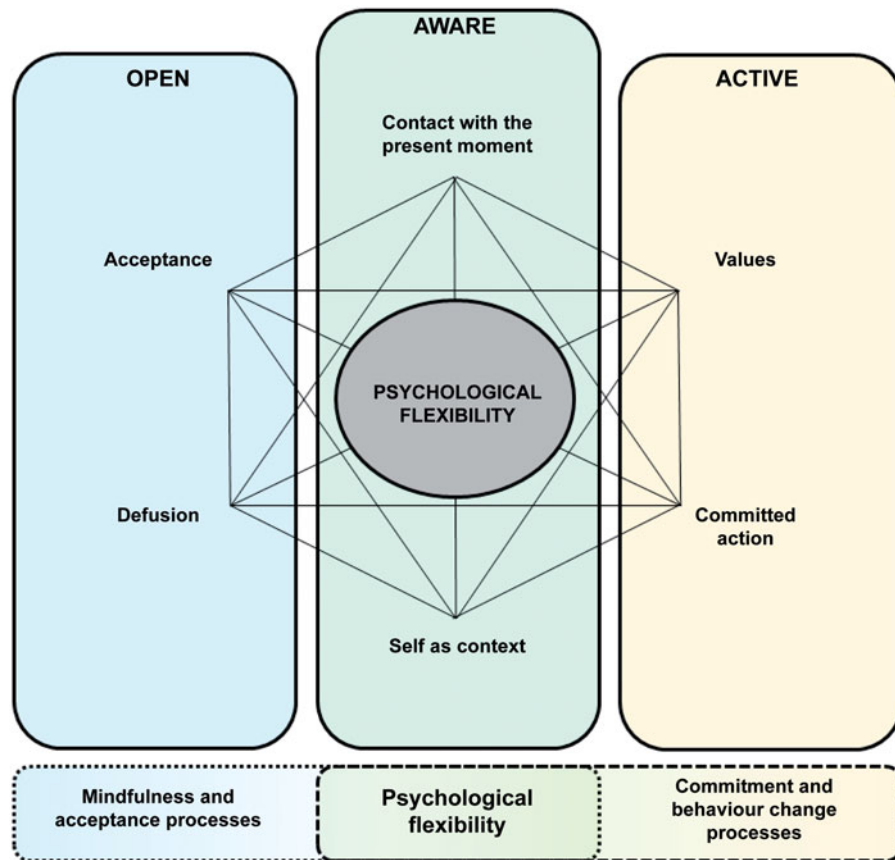
During the rehabilitation programme the participants were supported to work towards behavioural change through greater psychological flexibility within three domains. The domains and intended changes within them are exemplified below:

#### Openness

This domain includes participants’ ability to contain difficult private experiences (e.g., thoughts, emotions, and bodily sensations), and their ability to willingly experience such personal distress. Model-specific processes within this domain are “acceptance” and “defusion.”

In the acceptance process, changes are intended from avoidance of unpleasant experience (e.g., “I cannot have this much back pain”) towards willingness to experience the present moment while retaining a flexible choice of action even in distress (e.g., “I am willing to experience this back pain in order to go to the playground with my children”).

The defusion process intends a change from an enmeshed perspective of unhelpful thoughts, where thoughts are either not noticed or are held as literal truths that elicit automatic behavioural



**Figure 1.** The ACT model and its clinical processes: Openness – the ability to take a detached stance towards private experiences (defusion process) and willingness to contain unpleasant private experiences (acceptance process). Awareness – the ability to bring attention back to what is going on “here and now” (present moment process) and attainment of a flexible self-awareness within the present moment (self as context). Active engagement – the ability to connect with what is meaningful and existentially important for each individual (values) and engage accordingly (committed action process).

avoidance responses (e.g., “If I bend my back it might snap, I will keep my back straight!”), towards noticing thoughts as the changing content of the mind, enabling a flexible behavioural response even in the presence of contradicting thoughts (e.g., “I can choose to bend my back even when my mind tells me not to”).

#### **Awareness**

This domain includes participants’ ability to bring attention back to what is going on here and now, e.g., when ruminations on past experiences occur (present moment process) and the flexible awareness of different perspectives of “self” within the present moment processes (“self as context”).

The present moment process intends change from attention on the “past or future” (e.g., “I should have started this assignment a month ago”) towards attention on the “here and now” (e.g., “I notice my breath and the sensations changing in my body changing from moment to moment while doing what is important for me to do now”).

The self as context process intends change from a rigid concept of oneself (i.e., defining self as the content of thoughts such as “I am worthless”), towards a more flexible concept where the construction of self is noticed as an on-going process and perspectives may change dependent on context (e.g., “I am noticing my mind having the thought that I am worthless”).

#### **Active engagement**

This domain involves participants’ values (value process) and the ability to sustain committed patterns of behaviour in this direction (committed action process).

The intention of the value process is to clarify, connect to, and consciously choose what is most meaningful. This process intends a change from not knowing or being able to verbalise what is most important (e.g., “I don’t know what is important to me”) towards clearly knowing what is most important (e.g., “Being a caring mother is what matters most to me in the whole world”).

The process of committed action involves moment to moment choices of behaviour. The intended change is from behaviour patterns governed by avoidance/aversion (e.g., ‘I experienced a panic attack at work and I’m afraid to experience it again so I will stay at home’) towards value governed behaviour (e.g., “Even though I fear experiencing a terrible panic attack, I am willing to go to work because my colleagues are important to me”). Committed action is ultimately the clinical aim of any acceptance and commitment therapy intervention, whether or not symptoms are reduced.

#### **Data collection**

Focus group interviews were conducted at the rehabilitation centre 2 d before the end of the programme. The participants were interviewed in focus groups identical to the clinical intervention groups, except for one focus group in which participants from two different clinical intervention groups were combined to reach an adequate group size. The interviews were open-ended and lasted 1–2 h. The clinical intervention groups (and hence the focus groups) consisted of a mix of patients with common mental disorders and musculoskeletal pain disorders that received the same transdiagnostic intervention. Focus group methodology was chosen to enhance discussions of different experiences between

Table 1 Overview of the analytic framework with examples from the processing of results.

Pre-conceptual level (The ACT model)	Phenomenological level (data-driven analysis)		
	Examples from articulated level <sup>d</sup>	Thematic categories <sup>d</sup>	Emerging perspectives <sup>d</sup>
Openness <sup>a</sup>	<p>"... the thoughts are there, that I have to wash [my hands] ... the point is to let go of struggling [with my thoughts] ..."</p> <p>"... I learned to think that I have a <i>thought</i> that 'I can't do' ... it has been become easier to do ..."</p>	<p>Accepting your challenges</p> <p>A new mind-set</p>	<p>The transdiagnostic mix of common mental and musculoskeletal disorders may have facilitated openness</p>
Awareness <sup>b</sup>	<p>"... [before] I have never been present in a way ... always a day or two ahead ..."</p> <p>"... group has been a good thing ... like a mirror to me ..."</p>	<p>Mindful presence</p> <p>Learning about self</p>	<p>There was scarce data indicating an increase in flexible self-awareness (i.e. talk related to "self as process/context")</p>
Active engagement <sup>c</sup>	<p>"... I've learned to contemplate my values, relax, breathe calmly and try to think in a new way"</p> <p>"... the most difficult ... is to get back to every-day life ... [and] to achieve my goals ..."</p>	<p>Awareness of values</p> <p>A long way to go</p>	<p>There was no data indicating committed actions that would lead to imminent full return to work</p>

<sup>a</sup>Openness – the ability to take a detached stance towards private experiences (*defusion process*) and willingness to contain unpleasant private experiences (*acceptance process*).

<sup>b</sup>Awareness – the ability to bring attention back to what is going on "here and now" (*present moment process*) and a flexible self-awareness within the present moment (self as context).

<sup>c</sup>Active engagement – the ability to connect with what is meaningful and existentially important for each individual (*values*) and engage accordingly (*committed action process*).

<sup>d</sup>Three analytic levels suggested by Massey for the analysis and interpretation of focus groups in evaluation research (Massey, O. T. Evaluation and Programme Planning, 2011).

ACT: acceptance and commitment therapy

participants, as well as to shed light on transdiagnostic perspectives and group dynamics [52].

A topic guide was used to prompt discussions within the following overarching topics: 1) participants' experiences with the occupational programme, 2) participants' own perceived processes of change, 3) plans and perspectives on returning to work after the programme, and 4) perspectives on possible improvements of the occupational rehabilitation model rooted in their first-hand experience. Specific questions were kept open-ended (i.e., 'What part of your experiences here do you think were most important for improving your chances of return to work?'). To obtain a thorough description of experiences and cover all topics, follow-up questions were used when necessary. A flexible dynamic style was adopted to facilitate discussions between participants, while still ensuring that the predefined topic guideline checklist was followed. All interviews were moderated by the first author (SØG). The last author (MBR) co-moderated two of the interviews, gathering additional contextual and observational data. All interviews were tape recorded and transcribed verbatim. The interview material, together with interviews conducted at the beginning of the programme, was used in a previous publication investigating the expectations and overall experience of taking part in the rehabilitation programme [36].

## Data analysis

Data analysis was commenced immediately after transcription of the first interview and the interview topic guide checklist was revised through discussions between the first and last author. Interviews were conducted until data was found to be saturated by a consensus decision by the first and last author.

Data analysis was conducted within the group of authors (four male and one female), consisting of two public health researchers (MBR and MSF) and three medical doctors; a psychiatrist (EF); a public health specialist (RJ), and a consultant specialist in physical

medicine and rehabilitation (SØG). In the first stage of data analysis, transcripts were read by the authors separately and meaning codes were assigned to articulated data adopting an initial explorative phenomenological approach aiming for a fresh, complex, and rich description of participants' concrete experiences [53]. Meaning codes were assigned to the text and thereafter organised into thematic categories that were data-driven through group discussions with all authors present. Thematic categories were organised using Microsoft Mind-map.

In the second stage of analysis, the initial thematic categories reflecting the participants' experiences were re-contextualised within the theoretical framework of the acceptance and commitment therapy model to provide an emerging third layer of data analysis in accordance with the analytic model proposed by Massey for analysing focus-group interviews in the specific context of evaluation research [54]. This model suggests three layers for analysis and interpretation: articulated data, attributional data, and emergent data. Meaning codes are included on the articulated data level. These are presented in results within quotes. At the attributional data level, articulated data and meaning codes have been organised and presented within thematic categories. The third emergent level of analysis has been extended to reflect what was lacking or weakly expressed at the articulated or attributional level in comparison to what could be expected in a successfully implemented intervention of acceptance and commitment therapy for return to work. These three analytic levels are illustrated and exemplified in Table 1.

Translation of Norwegian quotes into English was done by the first and last authors. Results were reported according to the COREQ checklist [55].

## Ethics

The study was approved by the regional committee for medical and health research ethics in Central Norway (2012/856).

**Table 2.** Characteristics of 22 participants interviewed in five focus groups.

Variables	No of participants
Gender	
Female	17
Male	5
Age group	
20–29	3
30–39	4
40–49	8
50–59	7
Time on sick leave	
Less than one year	12
More than one year	10
Diagnostic category <sup>a</sup>	
Musculoskeletal disorder	16
Common mental disorder <sup>b</sup>	6

<sup>a</sup>The diagnostic categories are based on medical records or the sick note from the participants' general practitioners.

<sup>b</sup>Fatigue is included.

Participation in this study was voluntary and all participants gave written informed consent before taking part in interviews.

## Results

A total of 22 participants (17 females and 5 males) were interviewed in a total of 5 focus groups, conducted at the end of the rehabilitation programme. Characteristics of the participants are described in Table 2.

The results are presented within the framework of the three main domains of the acceptance and commitment therapy approach, as described above: openness, awareness, and active engagement. Quotes from the data material are used to illustrate and validate the findings. To ensure the anonymity of participants, names are fictional but gender is factual. Diagnoses are categorised as either a musculoskeletal or mental health disorder. Length of sick leave is categorised as more or less than one year. Since most participants were women, we chose to present the results in a female sense.

### *Openness (acceptance and defusion)*

In short, the intended model-specific processes in this domain were to increase the participants' acceptance of their own unpleasant experiences and to increase the participants' ability to take a detached stance towards emotions, thoughts, and bodily sensations in order to reduce automatic behavioural response.

Several participants talked about aspects and situations they refused to accept, and instead chose to avoid if they felt it was too much to handle. At the same time, participants said they had come to realise that trying to control emotions, thoughts, and bodily sensations could be the cause of or maintain some of their problems. Several participants described that they had acquired a different perspective on how to handle this after taking part in the programme. For example, when participants talked about the rehabilitation programme's mindfulness sessions, they often said they had experienced emotions that felt uncontrollable. They had disliked this lack of control and wanted to get rid of it. One participant described how she almost did leave in the beginning of the programme.

There is something about these connections between thoughts and emotions... You think and emotions directly emerge. I almost made a flight attempt... I couldn't stay here [at the rehabilitation centre]

anymore [...] It passed eventually, but I had this ... .. very direct bodily reaction.

Aileen (age 50+, mental health disorder, sick leave >1 year)

Another participant described how she had not visited her workplace because she was afraid of her own emotional response when talking to her colleagues:

I could have visited my workplace much earlier ... I have been avoiding it. When I start to talk [to my colleagues] I start to think and I become emotional. The worst-case scenario is that I start to cry.

Betsy (age 40+, musculoskeletal disorder, sick leave <1 year)

The participants expressed that it could be especially hard to handle situations where thoughts directly triggered emotional responses; e.g., verbalising difficult thoughts in a group setting. One participant said she experienced that this took so much energy that she had to sleep 2 h in the afternoons to recover after the programme's group therapy sessions. However, participants expressed that during the programme they came to better accept their overall situation. Several expressed that this involved taking one step at a time instead of rushing back to full-time work participation. For some participants, acceptance also involved considering giving up work and not returning at all.

I am in doubt that I will return to work at all [...] I don't believe in magic. I think I can do something to improve my everyday life but I don't think I can manage my [current] job. I also don't think I have many possibilities for other jobs. I have in a way just pushed my problems into the future.

Rose (age 50+, musculoskeletal disorder, sick leave <1 year)

The second intended process involved increasing the participants' ability to take a detached stance towards emotions, thoughts, and bodily sensations. All participants talked about dealing with mental processes, such as handling thoughts. The participants said they were surprised by the amount of mental effort demanded while taking part in the rehabilitation programme. They described that mental processing and the concentration required had been the most challenging part. Several participants said it was difficult to handle their own thought processes in the new ways proposed by the therapists. However, the use of metaphors combined with active participation in group exercises that involved first-hand experiences was described as particularly helpful in creating vivid memories and adapting new perspectives. Many said that having experienced that it was possible to change perspective on their own thoughts had been helpful. One participant put it like this:

To be conscious of what is going on [...] To be conscious of what we are thinking from moment to moment, but being able to let these thoughts come and go. To understand the way your mind works and still being able to progress towards your goals.

Dolly (age 30+, musculoskeletal disorder, sick leave <1 year)

Many of the participants said that being in a mixed group (where participants with different musculoskeletal, fatigue, and common mental disorders received therapy together) made it easier to change their views on thoughts and processes of thought, as well as taking a different and new perspective. This was described in this interview section involving several of the participants:

Interviewer: You have quite different health problems. How has it been to work together in the same group?

Elizabeth: If you have groups with just one type of health problem I think it can be a strong focus on, let's say the shoulder, if it's a shoulder group. We have focused very little on diseases. The only times we have focused on it is in preparing the exercise program. Besides that, it [diseases] has not been a topic.

Dolly: I think that is helpful. I think it is crucial that we are mixed and that we have not all had knee surgery. Then we would have been limping around and talked about knees and knees... and knees.

Elizabeth: We have hardly spoken about diseases during the program. We have not been focusing on that... not in the group either.

Katie: And then... the thought about the diagnosis goes away.

Elizabeth: I have thought a lot about the fact that I haven't felt the same pain as I did at home, because we haven't focused on that part. And it tells me that when I go home I will not think very much on the d\*\*\*\*\* shoulder anymore. [...] I feel it when I go to bed at night and I note that it's there, but I don't focus as much on it as before.

Dolly: It does not drain you in the same way. And the anxiety... not only the pain, but also the anxiety of what the pain does. It is not only about the pain, but also about what it entails for my family and my work.

Focus group 5, also including Elizabeth (age 50+ musculoskeletal disorder, sick leave <1 year)

Several participants said that other participants in the group had similar challenges in handling their problems, regardless of their initial sick-leave diagnosis. Even though participants did not specifically express that this had contributed to a shift of focus from avoidance towards acceptance and new ways of dealing with their thought processes, several participants made statements such as:

It works for all of us... we are five really different people [in the group], but we concluded that everything involves "up there" [pointing to the brain] no matter what our problems are.

Dolly (age 30+, musculoskeletal disorder, sick leave <1 year)

### ***Awareness (present moment and self as context)***

The intended model-specific processes in this domain were to increase the participants' ability to be present "here and now" and to develop a more flexible view on their "self" and identity as a process always influenced by the present context.

The participants described that being present "here and now" was difficult, especially early in the programme. Staying aware in the present moment was also described as very difficult in everyday life, especially in stressful situations. Nevertheless, several said that a more focused attention and conscious presence was attained over time with practice. According to the participants, this practice included seeing, touching, tasting, observing the breath or thoughts, or just being in contact with whatever was going on from moment to moment. Some participants said that with more experience they felt this practice included a new way of being present and described it with words like "fantastic" and "starting over."

Guided mindfulness training sessions were a part of the programme, aiming to facilitate awareness skills. Several participants described this mindfulness practice as a relaxation procedure, and that the subjective experience of stress or tension in the body was reduced. Some also experienced improved sleep. However, some participants described problems during guided mindfulness training sessions, such as constantly falling asleep. Several

participants expressed that 3&frac12; weeks of practice was too short and that personal instruction during the guided mindfulness training sessions was too scarce.

Participants also described that insight were achieved through increased presence in the moment. Several participants mentioned they had discovered patterns of behaviour they would like to change. One participant described her experience like this:

[...] at home I've been very passive... lying in the bed and watching TV, eating breakfast and lunch etc. in bed... I thought it was strange that I had trouble sleeping when I was so tired... but I realized that I was neither on nor off... Here [at the rehabilitation centre] physical exercise has been like the "ON-button". Lying on a mat relaxing mindfully, that is sort of an "OFF-button" exercise. If the body is going to function you need to exercise both the ON- and the OFF- button.

Mary (age 30+, mental health disorder, sick leave >1 year)

There were, however, differing opinions regarding how useful mindfulness and awareness training was. One participant specifically said that she had been introduced to it many times before and that she did not think she would be able to use it much. Although some participants said they did not find mindfulness training useful, the majority expressed that they thought regularly practicing mindfulness involved an ongoing process of increasing awareness and that the development of conscious-focused attention would be beneficial. Many participants expressed they needed to continue self-development after the programme ended. The participants did not talk much about how increased awareness of "here and now" could help them return to work.

The second intention in this domain was to help the participants to develop a more flexible view on their "self" processes through increasing their self-awareness. However, the participants did not make statements that clearly indicated they had developed a more flexible way to view their "self." None of the participants specifically mentioned "self-thoughts" or gave descriptions of a sense of "self" from a more detached perspective. Correspondingly, no participants described any awareness of behavioural urges following "self-thoughts" or anything reflecting an increased flexibility in behavioural response and choice of action when telling stories about themselves.

One participant talked, for example, about what happened when she read a newspaper with negative notions about people on sick-leave:

I just read a couple of lines and then I couldn't stand more. I got provoked. It's me they are talking about [...] so I closed my laptop and I swore out loudly! Yes, I did!

Helen (age 40+, mental health disorder, sick leave >1 year)

This particular participant did not mention any awareness of her thoughts about herself when describing this experience. Neither did she express any notion of how her thoughts about herself influenced her behaviour, nor did she express having any experience of behavioural flexibility regarding choice of action. Generally, participants did not make statements that clearly indicated a more flexible sense of self had been attained through increasing self-awareness.

### ***Active engagement (values and committed action)***

The intended model-specific processes in this domain were to increase the participants' ability to establish what was meaningful and important to them, and to increase their ability to act according to these personal values.

Participants talked much about sorting and naming what was important to them (values), and said this involved focusing on the positive and valuable things in life. Several participants described how they had changed their way of thinking during the programme, based on clarification of what was really important to them.

The importance of “self-care,” i.e., taking care of their own needs, was one of the most often mentioned examples of something important they had been neglecting. Other examples of personal values given by participants included friends, health, fitness, honesty, calming down, spouse, children, and balance.

Several participants said the process of clarifying what was important to them had brought attention to a gap between the present situation and what they really wanted. This was described as a painful experience. For some, the attention brought to this gap just by naming their personal values initiated emotions and other reactions that were difficult to handle and difficult to share with others.

The second aim in this domain was to increase the participants’ ability to act according to their personal values. According to the participants, the aim after clarifying their values was to set partial goals.

The participants described that they had become aware of previous behavioural patterns that had led them away from what was important for them and that they now wanted to change. One participant described when she previously experienced intense back-pain while sitting she struggled with difficult thoughts about what others would think of her. To avoid this negative experience, she stopped eating lunch with her colleagues even though socialising was important to her. She described the change like this:

Now I have a much brighter perspective and pain is not what I think about in the morning. I will go through with my plan for the day. I used to think “Oh, I cannot do this today because my pain is too much”. Now I think: “I can sit on a chair as long as I sit on the edge of it.

Louise (age 50+, musculoskeletal disorder, sick leave <1 year)

Participants described that there would be many things to get a grip on when returning to their everyday lives after the programme. Most participants said something had changed during the rehabilitation programme and participants generally said they wanted to act in accordance with their values, but they found it hard. Several participants expressed they felt they had a long way to go.

Generally, participants talked a lot about the processes of change that involved their personal values. However, in regards to work, instead of talking about specific actions leading to returning to work, participants talked about behavioural change in more general terms, such as taking steps towards a better work-life balance. One participant explained how she was now moving more towards balance:

Before [the rehabilitation program] it was all or nothing. It has been very helpful coming here and getting into my head that what I need to address is to neither overdo things nor do nothing.

Katie (age 20+, mental health disorder, sick leave <1 year)

The participants also mentioned creating the return to work plan. They said it was difficult to make a realistic plan and to figure out which course of action was helpful. In spite of these hindrances, personal values were often described as an important motivation and the creation of a plan motivated by personal

values was described as a positive experience. One participant exemplified it this way:

I need to think about what to do to move in the direction of what is most important to me. Not what feels safe, but focus on what is most important and stick to it. To maintain physical exercise [...] To stick to my plan instead of looking for excuses.

Betsy (age 40+, musculoskeletal disorder, sick leave <1 year)

Several participants planned to discuss the possibility of a stepwise approach of returning to work with their employer.

I must have the opportunity to try myself out, take it step by step with regard to my employer. It can't be a do or don't. There is need for a dialog in order to gradually increase the percentage of my working hours. That is important for me to be able to return.

Betsy (age 40+, musculoskeletal disorder, sick leave <1 year)

None of the participants mentioned any specific commitments or actions that would lead to imminent, full return to work after the rehabilitation programme.

## Discussion

In this study, we aimed to explore whether and how intended model-specific processes of behavioural change were reflected in participants’ experiences after a 3 $\frac{1}{2}$  week inpatient occupational rehabilitation programme. In summary, this study found that all three intended domains of this acceptance and commitment therapy model for occupational rehabilitation were reflected in the experiences described by participants with a mix of musculoskeletal and common mental disorders. Our results indicate that the mix of diagnostic groups increased openness and facilitated the model-specific processes within this domain. However, there was less flexible self-awareness evident in the participants’ statements within the intended model-specific domain of increased awareness. Moreover, even though the participants expressed strong engagements in their personal values and talked about behavioural changes in this direction, they did not mention any actions leading to an imminent return to work.

Bacon et al. [41] interviewed ten participants taking part in a randomised trial of acceptance and commitment therapy for psychosis. The participants described that mindfulness, defusion, acceptance, value-guided goal setting, and behaviour change was useful. Mindfulness was, however, framed as a relaxation technique by most participants. This in contrast to the fact that mindfulness in acceptance and commitment therapy refers to awareness and openness towards all private experiences happening in the present moment, including acceptance of negative and stressful experiences [49]. In our study, several participants also presented mindfulness as a relaxation technique. However, many described experiencing stressful emotions and bodily reactions when first introduced to mindfulness practices. Several described that with longer practice they also increased their awareness of what was going on in the moment, including their own unwanted “autopilot” behaviours. Model-specific processes of self-awareness were not mentioned in the study by Bacon et al. [41]. In line with our findings, this might indicate that few statements were made by participants on this topic.

Mathias et al. aimed to explore individual experiences of an eight-week programme based on acceptance and commitment therapy for managing musculoskeletal pain disorders [40]. Even though Matthias et al. did not aim to explore model-specific processes, experiences of “self-awareness” were touched upon by several participants. A new relationship with both their pain and



their inner selves was indicated in addition to increased acceptance of an adaptation to pain [40]. However, there was no direct mentioning of a new self-awareness directly associated with self as process or context.

In our study, the “self-awareness” process was reflected to a lesser degree in the participants’ experiences than the other core processes. Several explanations for this are possible. It could be that this model-specific process is especially difficult to grasp and integrate, both for the participants and for the therapists. Although all therapists had undergone professional training and received continuous guidance by an expert psychologist, they might not have gained extensive enough experience with the therapy approach to fully support the participants in this particular process. It is also possible that the experiential nature of the model-specific processes of self-awareness has an ineffable quality and is, therefore, difficult for participants to describe. One of the founders of acceptance and commitment therapy, Stephen Hayes, describes the model-specific self-awareness process from the theoretical perspective of language [49, p. 88], but also recognises that the spiritual aspects of this larger perspective of self (“self as context”) are similar to that found in ancient religious concepts in both Eastern and Judeo-Christian traditions [49, p. 89]. Several other authors have pinpointed the similarities between acceptance and commitment therapy and Buddhism [56,57]. Especially regarding the concept of both “self as context” in acceptance and commitment therapy and the “no-self” discourses in Buddhism, there seems to be an inherent challenge in translating these experiential qualities into theoretical concepts that can be conveyed in coherent and concise language. Although “self-awareness” is one of the core processes in the model and despite the fact that “self” has been of long-standing interest in chronic pain research, a recent review concluded that there seems to be a lack of conceptual clarity, precision, and order in this area of investigation [58]. One reason for this may be that there is an ineffable quality about this model-specific process that may be similar to religious experiences of something larger than oneself. As Stephen Hayes puts it, “One can be conscious about the limits of everything except one’s own consciousness” [49, p. 89].

Nevertheless, a study by Haugli et al. found that the experience of “self-processes” was the important factor differing between participants who successfully returned to work and those who ended up on disability pension three years after occupational rehabilitation [59]. The importance of self-awareness in the process of returning to work was also found in another study by Haugstvedt et al., which explored experiences of a return to work intervention based on Gestalt-therapy and mindfulness [60]. In addition, a meta-synthesis of patients’ experiences of living with chronic back pain by Snelgrove et al. found the impact of chronic back pain on “self” to be one of the three main themes [37]. Hence, in future implementations of acceptance and commitment therapy in the context of occupational rehabilitation there is a need for further development and operationalisation of the model-specific processes of “self-awareness.”

The participants interviewed in our study were on sick leave due to musculoskeletal pain or common mental disorders and were mixed within treatment groups. Our results indicate that such a transdiagnostic approach may have facilitated openness in dealing with difficult private experiences. Increasing acceptance and achieving a larger perspective of one’s own struggles (i.e., defusion) may have been facilitated by recognising other group members as having similar struggles coping despite a different initial diagnosis. To our knowledge, no previous studies have explored participant experiences of model-specific processes

within a transdiagnostic intervention. However, in a previous study of this transdiagnostic occupational rehabilitation programme, sick-listed persons’ experiences were explored before and after participation [36]. This study found that at the start of the programme the participants had their attention on the hindrances and external anticipations for them to return to work. They were hoping that the rehabilitation programme would provide a “whole person” approach, but were expecting to be given specific solutions that could finally help them cope and return to work, sometimes described as “finding the key.” At the end of the programme the participants had changed their perspectives towards increased attention on what was important for them and realised the strain from external demands. Participants no longer talked about “finding the key” – they instead described their return to the work process as part of a long and complex process in which there was a need to balance several different aspects of their life. This attentional change seemed rather universal, regardless of participants’ diagnosis. Hence, the transdiagnostic rehabilitation programme based on acceptance and commitment therapy may have addressed more generic mechanisms of behaviour change in developing new strategies of coping based on acceptance and value-guided committed action.

Regarding the return to work process, two meta-syntheses of the qualitative literature regarding common mental disorders [39] and musculoskeletal pain [38] have been published. In both of these, the need for coordination and interplay between the individual, the work/compensation system, and the social context is underscored. Hence, an argument is made that interventions on the individual level alone may not be sufficient to significantly influence the return to work process. Nevertheless, a previous randomised study of Swedish workers found that a simple acceptance and commitment therapy intervention consisting of only four individual sessions reduced sick-leave compared to business as usual [28]. This intervention focused on values and model-specific processes at an individual level only. Furthermore, even very limited value sorting interventions consisting of only 1–2 sessions of sorting and selecting personal values have been shown to raise academic performance in underachieving groups like Afro-American teenage girls [61] and female college science students [62]. The mechanism of this effect postulated in these studies is improvement of self-esteem upon connection with what is important for the individual and, thus, the reduction of stress. The improved academic performance is hence a side effect of this stress reduction. The results from our study indicate small chances of imminent return to work as a result of committed action mediated by model-specific processes. However, if the individual workers have increased their acceptance of the limitations in combination with an increase in psychological flexibility and an orientation towards value guided behavioural change, this may result in increased work participation over time. It remains to be seen if occupational rehabilitation based on acceptance and commitment therapy can help workers on sick leave reduce stress and return to work in similar ways. Previous research has shown that value-sorting intervention improves academic performance in underperforming groups. This question is beyond the scope of this article, but is addressed in ongoing randomised trials in Sweden [63] and Norway [29,31].

There are several considerations that should be kept in mind regarding the results of this study. Even though the sample size is adequate and data-saturation was achieved, there is always the possibility that new and different perspectives could emerge with a larger sample size. However, the participants’ diagnostic categories resemble the Norwegian population, where approximately

20% of people on long-term sick leave have a mental health disorder and 40% a musculoskeletal pain disorder diagnosed by the International Classification of Primary Care II (ICPC-II) [64]. Twenty-two of the 25 persons taking part in the rehabilitation programme at the time of the data collection agreed to participate in interviews, strengthening the representation and providing a very high rate of participation.

There are also limitations related to the focus group methodology. Whereas focus groups may offer good discussions in interaction between different views and experiences, there may also be a risk of conformity where participants with unique experiences or very differing opinions may be afraid to raise their voice [52]. Individual interviews may thus have revealed both a greater diversity of experiences and a more in-depth understanding of how the intended model-specific processes of behavioural change were reflected in the individual participants' experiences. Individual interviews might also have provided the opportunity to probe into topics the participants did not talk about so much, such as the focus on specific actions leading to return to work. Despite the interviewer repeatedly prompting this subject, the discussion centred more about behavioural change in general. Moreover, if participants could have provided feedback on the findings, this could have strengthened the validity and deepened the interpretation of the findings.

Furthermore, as with any study, the transferability of the results to different populations and contexts is an important consideration, and the cultural context should be taken into account. This study included participants with both shorter (<1 year) and longer (>1 year) spells of sick leave, which has different economic compensation rates in the Norwegian social security system. Since this study was conducted within the context of the Norwegian social security system and in an inpatient occupational rehabilitation setting, caution should be taken when transferring results to other contexts. Nevertheless, given the emphasis on experiential learning in acceptance and commitment therapy, and yet the very limited number of qualitative studies published on participant experiences with acceptance and commitment therapy interventions within clinical populations, these results may have relevance and transferability to other contexts and hopefully encourage further qualitative research into model-specific processes within several cultural and clinical settings.

The fact that all interviews were conducted by the first author, who had experience in leading clinical acceptance and commitment therapy interventions elsewhere, was a potential strength for the data collection as he could relate well to the participants' experiences while facilitating the discussion on experiences with model-specific processes so that this topic could be explored in-depth. Alternatively, when the group leader is an expert there is a risk that this may inhibit good focus group discussions [65]. Hence, measures to prevent this from happening were addressed in discussions between the first and last authors before and during data collection.

The last author participated in three of the five interviews, observing the discussion dynamics, collecting contextual data, and contributing with a different set of preconceptions and a different professional background. This helped strengthen the data collection. Participants were interviewed within their treatment groups and most participants were also familiar with the researchers from other parts of the research project. Since members of the focus groups knew each other well, self-disclosure and rich discussions rooted in personal experiences within the focus groups were facilitated.

The stepwise analysis process helped link the participants' experiences to the intended processes in the ACT model. The phenomenological approach [53] in the initial stage of the data analysis provided a good starting point for capturing the experiences of the interviewed participants. It provided a fresh, complex, rich description of a phenomenon, as it was concretely experienced by the participants, before the reductive process of defining a set of 'meaning codes' at the articulated level of analysis. The third and final level of analysis [54] reflected the participants' experiences in the intended ACT processes.

A particular strength of this study is that reflexivity in data analysis was strengthened through discussions within the group of five authors: three representing diverse medical backgrounds (a specialist in rehabilitation medicine, a psychiatrist, and a public health specialist) and two researchers within social science/public health. Altogether, both the specific competencies and the diversity within this group contributed to reflexivity and diversity in interpretations, thus strengthening the study.

## Conclusion

This study found that participants' experiences in taking part in a transdiagnostic occupational rehabilitation programme based on acceptance and commitment therapy reflected, to some degree, all intended model-specific processes of behavioural change. However, there is a need for further development and operationalisation of the model-specific processes of "self-awareness" for future implementations in occupational rehabilitation. Contrary to what might be expected after taking part in an occupational rehabilitation programme, there was little talk among participants about committed actions leading to imminent return to work, which also raises concerns regarding efficacy. The question of whether initiated behavioural changes will eventually lead to return to work is an empirical question beyond the scope of this study. However, our findings will be relevant for the interpretation of future results from ongoing randomised clinical trials currently addressing return to work efficacy of different interventions based on acceptance and commitment therapy in occupational rehabilitation.

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