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# Patients' views of physical activity as treatment for depression: a qualitative study

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# Participants' experiences of facilitated physical activity for the management of depression in primary care

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## Abstract

A qualitative study was conducted within a randomised trial of facilitated physical activity for depression based on Self-Determination Theory and motivational interviewing. Interviews were held with 19 participants at 4 months, and 12 participants were re-interviewed 8 months later. The interviews were analysed in accordance with Grounded Theory using framework. Themes consisted of the following: relationship with the physical activity facilitators, mode of facilitation, impact of contact with physical activity facilitator/assimilation and future plans, change in activity, and effectiveness of physical activity facilitator techniques. Engagement in physical activity was enhanced within an autonomy-supportive environment.

## Keywords

depression, facilitated physical activity, goal-setting, self-determination, self-efficacy

## Introduction

Medication is the main treatment for depression in primary care with more than 35 million antidepressant prescriptions being provided through primary care in England alone ([www.nhs.uk](http://www.nhs.uk)). Although viewed as effective for severe depression (Fournier et al., 2010), there is concern regarding over-prescription of antidepressant medication for depression, particularly as the effectiveness of antidepressants for mild to moderate depression is questionable (Donoghue and Tylee, 1996; Kirsch et al., 2008; Prior et al., 2003). Some patients prefer to avoid pharmaceutical intervention and side effects may

hamper individuals' adherence to medication (Demyttenaere, 2003; Donoghue and Tylee, 1996). Counselling and other psychotherapies

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may be available in primary care, but often there is a delay in accessing such services due to the level of patient demand and the time needed for referral and assessment. The current treatment guidelines (National Institute of Clinical Excellence (NICE), 2009) for people with persistent sub-threshold depressive symptoms or mild to moderate depression are one or more of the following interventions, guided by the person's preference: individual guided self-help based on the principles of cognitive behavioural therapy (CBT), computerised CBT and a structured group physical activity (PA) programme. With regard to drug treatment, the guidelines state that antidepressants should not be routinely used to treat persistent sub-threshold depressive symptoms or mild depression due to poor risk–benefit ratio. However, drug therapy should be considered for people with a past history of moderate or severe depression or sub-threshold depressive symptoms or mild depression that persist(s) after other interventions have been tried.

Growing evidence suggests that PA may be helpful for both the prevention (Ball et al., 2009; McHugh and Lawlor, 2011; Tan and Yadav, 2013; Teychenne et al., 2008) and treatment of depression (Lawlor and Hopker, 2001; Mead et al., 2010; Rimer et al., 2012). At present, patients with depression may be referred to an exercise referral scheme, although recent evidence synthesis has demonstrated that there remains little rigorous support for their efficacy or effectiveness (Pavey et al., 2011). In addition, adherence to such schemes has been variable on the account of low motivation and lack of social support when prescribed for general health (Donaghy and Taylor, 2010). Such barriers to PA are likely to be compounded in patients with depression (Seime and Vickers, 2006), and both patients and general practitioners (GPs) (Searle et al., 2011) perceive low motivation and confidence to be significant barriers for depressed patients in engaging in PA. However, it is apparent that people with depression regard PA as an alternative coping mechanism once stabilisation has been achieved with medication (Faulkner

and Biddle, 2004; Searle et al., 2011) and view PA as a means of providing relief of depressive symptoms (Pickett et al., 2012). Together, these studies and the approach to treatment cited in the NICE guidelines suggest that the promotion of PA as a treatment option for depression requires a considered approach in the context of primary care.

A recent intervention designed to promote PA in depressed primary care patients was undertaken within a pragmatic two-armed randomised controlled trial (TREAD) and was found to increase patients' engagement in PA (but did not affect mood) following a prospective assessment (Chalder et al., 2012a, 2012b). The design of the TREAD-facilitated PA intervention has previously been described (Haase et al., 2010) and was based on Self-Determination Theory (SDT) principles (Deci and Ryan, 1985). The intervention was delivered by physical activity facilitators (PAFs) who aimed to enhance participants' sense of *competence*, *autonomy* and *relatedness* within the context of PA. This was attempted through PAF–patient collaboration within a supportive environment aimed at fostering self-motivated and self-regulated behaviour change. The PAF also aimed to facilitate increases in PA in a way that would optimise mood and psychological well-being.

SDT maintains that individuals have three basic psychological needs that are fundamental to maintaining mental well-being. *Competence* refers to an individual's feeling that he or she is sufficiently capable of affecting a desired behavioural outcome. This may be realised as a self-belief in the ability to exercise and feel comfortable in exercise settings. This is hypothesised to enhance internal motivation for the behaviour, that is, being able to participate in PA. *Autonomy* refers to the perception of exercising personal choice over engaging in an activity and the ability to make decisions within an individual's control. This may be manifested in a belief that success arises from personal drive and effort or through the capacity to choose the types of PA to engage in. *Relatedness* incorporates both contextual and psychological aspects

and refers to those situations, contexts and environments which foster links with others and a sense of connectedness with social networks and support (Ryan and Deci, 2000).

Much of the past PA literature has focused on the needs for *autonomy* and *competence* because the satisfaction of these needs has been shown to be necessary for intrinsically motivated behaviour. This is defined as the natural, inherent drive to seek out challenges and new possibilities that are associated with cognitive and social development. For example, positive feedback on achievements leads to feelings of *competence* and consequently serves to enhance intrinsic motivation (Deci, 1975). When individuals are intrinsically motivated, they engage with an activity because they inherently enjoy it and as such, intrinsically motivated activities are deemed fully self-determined. Conversely, when an individual fails to enjoy a challenge, engagement in an activity can be considered to be extrinsically motivated, driven by external sources and dependent upon the degree of perceived *autonomy*. As the least autonomous form of motivation, external regulation relates to behaviour that is driven by external rewards, expectations and pressures, while at the other end of the continuum, a more integrated form of motivation encapsulates belief and the value in changing behaviour (Frederick-Recascino, 2002).

Enhancing an individuals' sense of *relatedness*, *competence* and *autonomy* is collectively viewed as fostering an autonomy-supportive environment. It is also posited that these needs do not function in isolation but are part of an integrated theoretical framework. To assist the PAFs in fostering an autonomy-supportive environment with trial participants, the PAFs were encouraged to utilise the principles of motivational interviewing (MI; Vansteenkiste and Sheldon, 2006). MI is a patient-centred, flexible negotiating style to assist patients in their efforts to explore and resolve ambivalence about a health-related behaviour and is therefore compatible with the tenets of SDT (Miller and Rollnick, 2002). Exploring ambivalence about behaviour change allows for identification of

particular behaviours which can subsequently be targeted and changed through behavioural strategies (Miller and Rollnick, 2002). MI is designed to challenge participants to question and reach their own decisions, thus taking onboard *autonomy*.

This article reports and discusses the results of a prospective qualitative study which was conducted within a pragmatic randomised controlled trial of facilitated PA for the management of depression in primary care known as TREAD. This particular study entailed conducting in-depth interviews with trial participants in order to explore their views of PA for depression and their experiences of participating in the trial. Using data from those interviews, this article aims (1) to explore participants' acceptance of and engagement with facilitated PA and (2) to explore their views and experiences of a facilitated PA intervention and, by doing so, to assess their reactions to the SDT-based concepts of *relatedness*, *competence* and *autonomy* promoted within an autonomy-supportive environment.

## Method

### *Ethical approval and informed consent*

Ethical approval to conduct the trial and to recruit and interview participants was obtained from West Midlands Multi-Centre Research Ethics Committee. Informed consent was taken prior to conducting interviews at 4 months and 12 months.

### *The facilitated PA intervention*

The facilitated PA intervention was implemented within the two study sites (Bristol and Exeter, UK) of the TREAD trial (Chalder et al., 2012a) by five PAFs. The PAFs worked part-time, had at least a first degree in psychology or an exercise science and received training from the second (A.M.H.), fourth (K.R.F.), fifth (A.H.T.) and sixth (G.L.) authors in delivering

the TREAD intervention to trial participants. The PAFs were regularly supervised by the trainers who developed the intervention (A.M.H, A.T. and K.F.) and by G.L. who has experience in delivering CBT for patients with depression.

The intervention provided a combination of face-to-face and telephone support to participants over a period of 6–8 months. Contact with the PAF was ‘front-loaded’ such that the initial face-to-face session, two telephone calls and one more face-to-face session occurred ideally within 6–8 weeks. A maximum dose of facilitation included 13 contact sessions. Adherence to facilitation was good, and over 95 per cent of participants allocated to receive the intervention attended at least one face-to-face session. An ‘adequate dose’ of PAF contact was defined as receipt of at least five counselling sessions (including a minimum of one face-to-face session), and 71 per cent of patients in the intervention arm of the trial had received this level of intervention by 4 months. The duration of the face-to-face sessions was 45–60 minutes, and the telephone calls varied between 10 and 20 minutes duration per call. The face-to-face sessions were usually conducted in participants’ homes and, in some cases, primary care facilities.

### *Participants*

Interviews were held with participants who had been recruited to TREAD. We purposively sampled potential participants to ensure interviews were held with individuals who had received facilitated PA intervention and who had completed their primary follow-up outcomes for the trial at 4 months post-randomisation. Participants were not interviewed before this time in case the experience of being interviewed influenced their views of either the trial or the intervention. When sampling, we aimed for maximum variation in relation to patient age and gender, study site, practice location (urban, suburban and rural) and self-reported activity level at baseline. In total, 19 participants who had received the

facilitated PA intervention were interviewed at 4 months post-randomisation, and 12 of these patients were interviewed again at the 8-month follow-up time-points (see Table 1). Those who declined to take part in the second interview typically gave time restraints as a reason for non-participation.

### *In-depth interviews*

The 4-month interviews were conducted by the first author (A.S.) between March and November 2009, and the 12-month interviews were conducted between November 2009 and July 2010. The 4-month interviews were conducted face to face in the participant’s own home and lasted between 30 and 120 minutes. The interviews focused on participants’ initial response to facilitated PA and contact with the PAF, their motivation to engage in PA and then to sustain it on a regular basis over time. The 12-month interviews were conducted by telephone as A.S. had already established some level of rapport with the participants during the earlier interviews. In addition, the 12-month interviews were predicted to be shorter and we were aware that well-planned telephone interviews can gather the same material as those held face to face (Sturges and Hanrahan, 2004). The focus of these second interviews was the extent to which participants had engaged with the facilitation process and how it had impacted on their lives with regard to increasing PA and general well-being. Two different semi-structured topic guides were developed to ensure consistency across the interviews at 4 and 12 months. Both were based on a review of relevant literature and an understanding of the aims of the intervention and the PAF (see Appendix 1). The interviews were audio-recorded and transcribed verbatim.

### *Data analysis*

Data collection and analysis proceeded in parallel, so that analysis of earlier interviews could inform the focus of later interviews. Data collection ended when data saturation had been

**Table 1.** Characteristics of trial participants receiving facilitated physical activity at 4 months post-randomisation ( $n = 19$ ).

Category	Number of participants
Study centre	
Bristol	10
Exeter	9
Age range (years)	19–69
Gender	
Male	8
Female	11
Employment status	
Employed full-time	8
Employed part-time	2
Unemployed	3
Retired	2
Permanent sick/full-time carer	2
Training/education	2
Education	
Higher degree	1
Degree	4
Diploma	1
A-level	6
GCSE/O-level	3
Other	2
None	2
Ethnicity	
White	18
Asian	0
Mixed	1
Married/cohabiting	9
Currently on antidepressants	12
History of depression	13
Physical activity level <sup>a</sup>	
Low	13
Medium	6
High	0
CIS-R score <sup>b</sup>	
Mild	5
Moderate	12
Severe	2
Location of general practice	
Urban	12
Suburban	2
Rural	5

GCSE: General Certificate of Secondary Education; CIS-R: Clinical Interview Schedule–Revised.

<sup>a</sup>Level of physical activity (based on the number of days recorded at baseline where at least 30 minutes of moderate intensity physical activity was being undertaken  $\leq 1$ , 2–3,  $>4$  days per week).

<sup>b</sup>Severity of depression measured by CIS-R (score of  $\leq 25$ , 26–33,  $>34$  at baseline).

reached, that is, no new themes were emerging from the analysis.

Consistent with a Grounded Theory approach, transcripts were read and reread by A.S. and K.T. to gain familiarity with the data (Pidgeon and Henwood, 1998). A.S. and K.T. then met to discuss the transcripts and how each of them had interpreted and analysed them. Emerging themes were identified and verified through discussion, and a coding frame based on these themes was developed. Transcripts were then coded independently. A.S. and K.T. then met to discuss any discrepancies. This process led to existing codes being defined more clearly and new codes being identified. Transcripts were then electronically coded using ATLAS.ti. Data pertaining to these codes were summarised in tables using a framework approach (Ritchie and Lewis, 2003) and verified by A.S. and K.T. for consistency and comprehensiveness in exploring emerging themes. The meaning of the themes emerging from the coding of participants' accounts was often explicit such that the evidence appeared overtly in the reasoning within the participants' accounts. There was also implicit reasoning such that we were looking for the underlying logic in participants' accounts and using common sense to search for explanations.

The framework analyses enabled the identification of what individual participants had said in relation to specific or different themes and allowed for comparisons to be made between accounts given by different participants. During the analysis stage, we also sought to find contradictory or disconfirming evidence in relation to the emerging themes. A.S. and K.T. conducted the qualitative study independently of the TREAD trial, that is, they were not involved in the conduct of the trial or the delivery of the facilitated PA intervention.

## Results

The themes emerging from the data analysis included the following: relationship with the PAFs, mode of facilitation (face to face/telephone), impact of contact with PAF/assimilation and future plans, change in activity since

contact with PAF, and perceived effectiveness of PAF techniques. Collectively, these themes informed the presentation of the data to the extent that an autonomy-supportive environment was fostered (in terms of an enhanced sense of *relatedness*, *competence* and *autonomy*) for participants. The findings presented below are supported with verbatim quotes taken from the original transcripts. These quotes are tagged with the participants' gender, age, study centre, level of depression at entry to the TREAD trial and whether the interview was held at 4 or 12 months post-randomisation.

### *Relationship with the PAFs*

Within the interviews conducted at 4 and 12 months, many participants described how they had felt comfortable with their assigned PAF and had benefited from having contact with him or her. The approach of the PAFs was deemed to be supportive and pertinent to the participants' situation. It was apparent that it had a significant bearing on the extent to which participants felt they were able to engage with the facilitation and served to enhance feelings of connectedness within social contexts:

I think it's just the making you sit down and take the time to think about options, and have somebody that's, you know, going to offer you options. It just gives you that additional impetus to say, 'Well actually I must go and do such and such'. (Male, 43 years, Exeter, severe depression, 4 months)

I just think thinking it through and talking it through and being motivated to do something about it has sort of helped quite a lot. Because you're not quite so alone, you've got someone there trying to help you and sort of get you doing something about it, and putting the responsibility back with myself really to do it. (Female, 45 years, Bristol, moderate depression, 12 months)

Many participants felt their PAF listened to them in a non-judgemental way and took an interest in their attempts to be more active. Such an approach was deemed to be very important:

Just the general friendly attitude, and when you actually talked to the PAF they was actually listening and – taking it in, and not just like there thinking, 'Oh alright, if I let him talk for a little while then, you know, I've done my job', sort of thing. You felt like the person was interested in what you had to say and in your problem, and not just there for the sake of it. (Male, 44 years, Exeter, mild depression, 4 months)

### *Impact of contact with PAF/ change in activity since contact with PAF*

The perceived non-prescriptive approach of the PAFs appeared to enhance participants' appraisal of their relationship with PA and to elicit a sense of responsibility for engagement in activity:

It's at your own pace and I think it was initiated by myself as well really otherwise it doesn't work. Yes, again with that self-initiation is that somebody is sort of supporting you through that. I know it's her job and things, but then you do see it as, you know, I need to get this done for my own (sake). (Female, 45 years, Bristol, mild depression, 4 months)

I mean they set the framework in which I made the decisions about what it was I was going to attempt to do. It was not directive in any way about saying how I was going to do it, 'What you're going to do, I don't expect you to go to the gym, I don't expect you to do this. What do you feel that you can do?' Definitely non-prescriptive, and allowed me to make a commitment which I felt I had to keep up. (Male, 69 years, Exeter, mild depression, 12 months)

However, one participant reported being underwhelmed by the contact he had received from the PAF and suggested that someone with less determination than himself may not have benefited as much from receiving the facilitation without further support:

I think on reflection, I don't want to sound personal, but I wasn't too impressed with what the PAF was giving me to do. In the sense that, 'Here's a sheet, write down what you're going to



do in a week, come back and tell me', sort of business. Or ring me up on the phone, and they would ring me some days, and then forget to do it, and then ring me three days later, and all that sort of stuff. I think somebody who was less determined than I might not have kept going in quite the same way as I did, without a bit more personal support, you know, 'Hello John, how are you getting on, what are you doing?' (Male, 69 years, Exeter, severe depression, 12 months)

Other patients reported that they were able to be more self-reflective and could frame their thoughts in a more positive context. For example, some participants described how they could utilise the input from the PAF as coping strategies or as a means of preventing future depressive episodes. They could utilise these strategies alongside mood changes and could anticipate the onset of a depressive episode:

You sort of feel better able to cope perhaps look back and think about how you coped in the past and things, and use techniques and things, that's helped. Yeah sort of things that initially I wrote down and things at the start of the TREAD, and talking to the PAF and bringing up things that have worked in the past as well before I met her. I suppose it was a case of nipping things in the bud a bit and sometimes allowing myself permission to feel like that sometimes as well, you know. (Female, 45 years, Bristol, mild depression, 12 months)

### *Mode of facilitation (face to face and telephone)/perceived effectiveness of PAF techniques*

Most participants expressed that PAF contact through face-to-face and telephone sessions were equally important to them. The first face-to-face sessions were viewed as important for 'putting a name to a face', gaining trust and building rapport with the PAF. In addition, having the initial face-to-face contact made the transition to telephone contact more acceptable to participants:

To start with the face to face, because then you could see the reaction when you're speaking to

the other person. But after that the back-up was good, just to reassure you that someone was there, but you didn't need to see them because you're sort of left to get on with it a bit on yourself, which you need to do anyway. (Male, 44 years, Bristol, mild depression, 12 months)

The telephone calls were viewed as friendly reminders that served to continue their relationship with the PAF and to direct their focus on PA. The calls provided a regular motivational prompt for self-reflection, a channel for sharing experiences and as a form of monitoring and affirming any progress made towards engaging in PA. It was also apparent that many participants had become reliant on the telephone calls as a means of sustaining the relationship with the PAF.

Well there was always the fact that someone is going to ring me up and ask me what I'd been doing, (laughs) which is quite a good motivator. At least certainly to start with, I wanted to have something to say that I'd done positive. But also talking through what might be, you know, easy to fit into my life, and helping to make plans and set goals. (Female, 36 years, Bristol, moderate depression, 4 months)

Actually the most helpful thing for me was when the PAF rung like once a fortnight that actually prompted me to think about it a bit more and also like the analysing of it afterwards. It helped me to see that I was making progress. I just liked looking at things in a fresh way. It was nice not to be stuck in a rut if that makes sense. (Female, 26 years, Exeter, severe depression, 12 months)

Receiving telephone calls from the PAF enabled one participant to gauge her progress, which was a reaffirming experience for her:

It's made me think about the fact that when I put in my diary that, the PAF is going to ring me I think, 'Right, you know, from the last time we spoke, I want to report a better place to be'. So she sort of reiterates what the conversation was last time, what the main points were, and then we go over like, 'Have you achieved these?' I kind of want to do that, because I want to hear it from

myself that I've actually moved on. (Female, 48 years, Exeter, moderate depression, 4 months)

### Fostering an autonomy-supportive environment

The PAFs aimed to foster an autonomy-supportive environment to enhance participants' sense of *relatedness*, *competence* and *autonomy*.

**Relatedness.** It was evident that the relationship with the PAF served to assist participants in engaging with life both within and outside of the workplace, which extended feelings of *relatedness* beyond the PAF-participant relationship:

I shy away from large social events, I shy away from team events at work, and that's just me. So I guess I have to be well to make those kind of engagements with an activity that requires other people, or I need support to do it. And I guess that's where the PAF came in, and it was enough to know that the PAF was kind of supportive and saying, 'Well that's a good idea, I think you should go and try that and, you know, you might enjoy it'. I think it does, it comes back to I came away feeling supported and thinking reassured that whatever I had done had been good enough and that whatever I had decided upon was the right decision. (Male, 43 years, Exeter, severe depression, 4 months)

A perception of *relatedness* to others was also expressed in patients having the confidence to accept invitations to engage in activity with others. Some participants spoke of understanding the extent to which significant others were an important source of motivation for engaging in PA:

The swimming, it's somebody that I didn't really know, that I'd been sort of just chatting to on and off, not really, really knowing them [insert who she is talking about]. And they said they go swimming twice a week, 'Come with me'. And in the end I thought, 'Actually, yeah, I'm going to do that', and I did. (Female, 45 years, Bristol, moderate depression, 12 months)

My climbing partner, will particularly nag me to go climbing if I haven't been, 'Why haven't you been, why haven't you been? Come climbing'. And that's quite good that she'll sort of encourage me. And my husband's very supportive, because he understands that – I'm just much easier to be around when doing stuff. (Female, 36 years, Bristol, moderate depression, 12 months)

**Competence.** Through the interaction and facilitation with the PAF, participants reported having an understanding of the relationship between activity and depression and also the ability to be reflective with a greater awareness of the triggers for depression. For some, such insight also assisted the development of a sense of *competence* in life:

I do understand now that there is a relationship between, like if I continue to do nothing for too long, then I will sink, you know, and it's no good to do that. But I do at some point have to go, 'Right, I'm going to have to actually go and do something', and move, physically, and actually do something, and – it does counteract it, you know. (Male, 56 years, Exeter, mild depression, 4 months)

I feel I have achieved a huge amount, bearing in mind, as I say, I was quite happy just to give everything up really. I feel I've got potential to have a future, which includes some of the things that I used to do when I was, you know, younger and fitter and so on, I can do them proportionately in the future. So yeah, I feel a lot more positive. But I'm also very aware of what the triggers are or understanding my depression a bit more so it's not so much the enemy, I can work with it. (Female, 48 years, Exeter, moderate depression, 12 months)

Although many participants had been active in the past, some indicated that they had lost a belief in their ability to engage in PA. These participants reported that PAFs were helpful in guiding them in their choice of activity and the ability to reappraise past activities more constructively:

I'm the kind of person that likes to plan things, and they made me sit back and think about what I'd been doing. And to a certain extent I think

with constantly struggling on with the running, the expression, 'flogging a dead horse' came to mind. And I guess I kind of did view it as an opportunity to consider alternatives. (Male, 43 years, Exeter, severe depression, 4 months)

**Autonomy.** The PAFs encouraged participants to appraise past activities, set goals and monitor progress, which for many was a reaffirming experience and one which led them to make decisions about what activities they wanted to undertake and to take ownership of those decisions, thus eliciting a sense of *autonomy*:

We sort of looked at what I'd done in the past, and why I had stopped and you know, was I looking to do that sort of exercise again, or was I looking to do something new. (Female, 40 years, Bristol, mild depression, 4 months)

She would ask me what my goals were, and talk them through, and check with me that they were realistic and that I wasn't sort of expecting to do too much. And then whether or not I'd achieved what I planned to achieve the week before, which kind of made me think about – so when I set goals and I'd said, 'These are my goals – I need to go and do those because someone's going to check up on me'. (Female, 36 years, Bristol, moderate depression, 12 months)

I think either way, having made that decision, I wouldn't have stood on the side lines, I would have joined the (Karate) class and I would have done the activity, and I'd probably still be plugging away at it. Do you know what I mean? As I say, I said to you at the beginning I think, the key thing was the fact that it made me sit back and reassess and think, you know, 'Is there something else I could do, you know, rather than flogging this dead horse that is running?' I don't know that I can really answer that one. (Male, 43 years, Exeter, severe depression, 4 months)

The same participant expressed that by the end of the intervention he would have reached a critical point whereby his level of activity would be integrated into his lifestyle:

I would think that if I get beyond the six months, to be honest, because I've got this kind of fixation

in my mind about not having got beyond six months. I think if I can hit the eighth month point and I'm still doing it, I think I won't be reliant upon the PAF at that point, it will be a habit, which it's becoming. (Male, 43 years, Exeter, severe depression, 4 months)

Another participant expressed that he had reached a point where the support of the PAF was deemed unnecessary:

I needed it then. I don't know whether I need it any longer because I'm beginning to show off to her now. I think to be fair, I don't need her (the PAF) any longer. (Male, 69 years, Exeter, mild depression, 12 months)

However, some participants were more reticent about their degree of personal motivation to engage in PA once the input of the PAF had gone:

I am hoping by the end of the study, when it's withdrawn – that I've found my way by then but I don't know how I am going to feel? (Female, 54 years, Bristol, mild depression, 4 months)

It depends by the end of the study I have sufficient motivation and momentum to have a critical mass to continue – I will take away with me the fact that I was encouraged to get to that point. (Male, 55 years, Exeter, moderate depression, 4 months)

## Discussion

This article has described participants' views and experiences of facilitated PA in the context of SDT. Participants described the approach of the PAFs as being non-judgemental and appeared comfortable in their relationship with their PAF. They had engaged well with the facilitation in both the face-to-face and telephone contexts and had perceived facilitated PA to be participant-centred and reported that PAFs had imparted a flexible negotiating style through verbally exploring the pros and cons of PA. The data also suggested that facilitated PA was well served by the underpinning theory of

SDT and MI techniques (Miller and Rollnick, 2002; Vansteenkiste and Sheldon, 2006).

There were data to suggest that according to SDT, the psychological needs that are fundamental to well-being became more fulfilled through patient participation in facilitated PA. With regard to *relatedness*, the patient-centred approach of the PAF encouraged a 'therapeutic alliance' between PAF and participant. This relationship was partly based on positive feedback and the fostering of an autonomy-supportive environment in which participants felt secure and served to enhance the extent to which they could communicate with their PAF. Furthermore, intrinsic behaviour motivation is an inherent drive to seek out challenges and new possibilities that are associated with cognitive and social development. The PAF-participant relationship appeared to act as a vehicle for enhancing participants' intrinsic motivation for engagement in PA. This acquired motivation included a feeling of *competence* to engage in social and PA, even if such motivation was directed at greater engagement in everyday life, rather than into specific PA. The least autonomous form of motivation, external regulation, relates to behaviour that is driven by external rewards, expectations and pressures. In our data, an example of extrinsic motivation was evident in that some participants were motivated by others in their social environment. Indeed, their engagement in activity was contingent on pressure to meet these external expectations, and hence it was the social aspect of engaging in an activity that served to enhance feelings of *relatedness*.

It is also clear that the PAF-participant relationship encouraged feelings of *competence* and *autonomy* in patients. With regard to participants' perceived *competence*, it was apparent that many participants experienced an enhanced level of *competence* for engagement in physical and social activity contexts. This enhanced perceived *competence* also resonates with the construct of self-efficacy (Bandura, 1989). However, the concept of self-efficacy is usually considered to be pertinent to a particular behaviour, whereas within SDT, enhancing

*competence* is posited as a global phenomenon and as such extends beyond particular PA to life per se. It is also evident that PAFs were able to support participants in gaining a sense of *autonomy*, thus enhancing an internal locus of causality. This was demonstrated in the participants' ability to make decisions that were seen to be within their control. This may have manifested beliefs that success arises from personal effort or through the capacity to choose the type of PA to engage in. A pertinent aspect of this control was evident in that many participants had re-engaged with activities they had enjoyed at previous times in their lives.

### *Limitations of the study*

As participants who were depressed looked to the guidance of the PAF, developing a sense of being respected, understood and cared for was essential to forming the experiences of connection and trust that allow for assimilation to occur (Ryan et al., 2008). However, potential problems inherent with the nature of depression meant that some patients could become over-reliant on the interaction, thereby sustaining their need for *relatedness*, *competence* and *autonomy* through a mechanism which would not be continuously available. Ideally, PAFs were trained and the facilitation developed such that exit strategies and external support was garnered for promotion of PA after completion of the trial. In addition, it should be noted that an enhancement of *relatedness*, *competence* and *autonomy* may have partly been elicited through other forms of counselling by some individuals over the course of the trial, and therefore not solely attributed to the role of the PAF. There was also an indication among participants that their engagement in facilitated activity was influenced by social context, whereby support for activity was provided by significant others.

### *Clinical implications*

Previous work has shown that people with depression value PA (Faulkner and Biddle, 2004;

White, 2008), and GPs and patients view it as an acceptable treatment option despite an awareness that low motivation and confidence are potential barriers to engagement (Searle et al., 2011, 2012). In this study, we have presented data that suggest facilitated PA is well received in the context of primary care and that the non-judgemental approach taken by PAFs motivated participants to engage in facilitated PA. Within the SDT-MI-driven facilitation, there were also a number of health behaviour-change techniques that were integrated by the PAF, such as goal-setting and review, self-monitoring and performance feedback that were perceived to assist participants in contextualising their efforts. Such techniques have been identified as key behavioural components that should be targeted in behavioural change interventions (Michie et al., 2009). These qualitative findings also serve to illustrate how previous interventions based on SDT can help to foster an autonomy-supportive environment, increased autonomous self-regulation and perceived *competence* in the domain of PA (Edmunds et al., 2008) and PA and weight control (Silva et al., 2008).

In summary, facilitated PA provided an individualised approach that was effective in enhancing engagement in PA by people with depression, a population where motivation is often poor (Chalder et al., 2012a, 2012b). In addition, through contact with their PAF, many participants reported an ability to place their emotions in context and take a more considered stance towards the difficulties they encountered in their lives. Indeed, some appeared to gain a better understanding of the triggers for their depression which could be both intra- and interpersonal in origin. Finally, facilitated PA may be beneficial to people with chronic conditions where increased PA would help manage or prevent symptoms. Indeed, a facilitated approach to PA has shown to be supportive in motivating and enabling in people with multiple sclerosis (Smith et al., 2012). Together, these studies suggest that PA facilitation is worthy of further research in mental health and chronic disease contexts.

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## Appendix I

### Topic guide: interviews at 4 months

What kind of support did you expect from the physical activity facilitator (PAF)?  
 Has facilitated physical activity (PA) been helpful?  
 If so, in what way?  
 To what extent did you feel ready to engage in PA?  
 How well did you get on with the PAF?  
 Did you prefer the face-to-face sessions to the telephone support?  
 How easy or hard has it been to keep in contact with your PAF?  
 Were they able to motivate you to become more active?  
 If so, in what way did they motivate you?  
 What was most helpful about their approach?  
 What was least helpful about their approach?  
 Can you say something about your ability to choose activities?  
 Do you plan activities in advance or are you more spontaneous?  
 Did you set goals for PA alone or together with the PAF?  
 To what extent did the PAF direct you in

your choices?

Did you meet your goals? If not, what in particular have you found difficult in terms of meeting them?

Have other important people in your life been supportive in your attempts at PA?

How important are other people in influencing your engagement in PA?

Has monitoring as part of trial affecting levels of PA?

### Topic guide: interviews at 12 months

What kind of support did you get from the PAF and how has it changed in the last 8 months?

Is this what you expected?

What was helpful about that support?

What was not helpful?

How well did you get on with the PAF?

What impact did having the PAF have on your levels of PA? Did they increase/decrease and why?

Has facilitated PA, that is, through the encouragement and motivational skills of the PAF, been helpful as a treatment for your depression?

When did you become aware of changes?

What was most helpful about their approach?

What was least helpful?

Did you set goals for PA alone or together with the PAF?

How easy was it keeping in contact with your PAF?

Was the PAF able to motivate you to become more active?

If yes, in what way did they motivate you?

How could the facilitation be improved?

Was there anything not covered or done which you felt should have been addressed?

How did your activity levels change after the facilitation trial had finished?

How have you kept motivated to do PA?