CONTENTS

Original Contributions

Feasibility of training group exercise class instructors to adopt a motivationally adaptive communication style

JENNIE E. HANCOX*/**, CECILIE THØGERSEN-NTOUMANI*,
ELEANOR QUESTED+ and NIKOS NTOUMANIS*+

(*) School of Psychology and Speech Pathology, Curtin University, Australia
(**) Division of Rehabilitation and Ageing, University of Nottingham, England

This study examined the feasibility of a 10-week self-determination theory-based training programme delivered to 24 group exercise instructors. Feasibility of implementing the programme was explored in terms of 1) recruitment, 2) rates of adherence and retention, and 3) acceptability. Results revealed modest uptake (51%) and excellent workshop attendance (either in-person or online) and retention rates (96%). Coding of the interview data revealed 9 main themes with regard to the acceptability of the training programme: satisfaction with content, challenging current motivational practices, perceived relevance of the motivational strategies, social support, mix of theory and practice, usefulness of learning resources, need-supportive delivery, multi-stage structure, and value for professional development. The findings can inform the development, design, and implementation of future research with the target population.

KEY WORDS: Self-determination, Communication, Exercise, Motivation.

Regular participation in exercise and other types of physical activity is associated with a range of physical (Garber et al., 2011) and psychological (Penedo & Dahn, 2005) health benefits. In order to accrue such benefits exercise engagement needs to be sustained in the long-term (WHO, 2010). Although many adults adopt a new exercise regime, typically less than 50% adhere to it in the long-term (Marcus et al., 2006). Thus, the development and implementation of interventions that are effective in supporting not just adoption, but also adherence to exercise programmes are needed.

Self-Determination Theory (SDT; Deci & Ryan, 2000; Ryan & Deci, 2017) has been used to explain some of the socio-contextual factors impacting adoption and adherence to regular exercise. Applied to the exercise context, the theory suggests that the communication styles (set of behaviours with a motivational underpinning) adopted by exercise leaders can influence exercisers' motivation and long-term involvement. An instructor's communication style can be motivationally adaptive (e.g., the instructor acknowledges exercisers' thoughts and feelings, encourages choice and initiative, and nurtures and develops exercisers' interests and goals) and/or motivationally maladaptive (e.g., the instructor is dismissive of exercisers' input and suggestions, is coercive, and uses guilt inducing techniques to pressure exercisers into performing certain behaviours). A motivationally adaptive instructing style has also been referred to in the SDT literature as a need-supportive style (Ntoumanis, Quested, Reeve, & Cheon, in press). This is because such a style has been found to support exercisers' basic psychological needs for autonomy (i.e., a sense of choice and ownership over one's own behaviour), competence (i.e., feeling capable of successfully meeting the demands of the desired behaviour), and relatedness (i.e., feeling connected to and valued by significant others), as well as enhancing the quality and longevity of the exercisers' engagement (Edmunds, Ntoumanis, & Duda, 2007; Ng et al., 2012; Teixeira, Carraça, Markland, Silva, & Ryan, 2012). In contrast, a motivationally maladaptive instructor style has been found to be associated with low need satisfaction or thwarting of individuals' basic psychological needs, and less self-determined motivations for engagement (Bartholomew, Ntoumanis, Thogersen-Ntoumani, 2011; De Meyer et al., 2014; Gunnell, Crocker, Wilson, Mack, & Zumbo, 2013).

Thus, empirical evidence points to the need for exercise instructors to be trained in how to adopt a more motivationally adaptive motivation communication style and to eliminate the adoption of a motivationally unsupportive/controlling style. Although interventions targeting the motivating style of instructors have been tested (e.g., Edmunds et al., 2008; Duda et al., 2014), few programmes have been subject to rigorous evaluation, with little known about the implementation process (Quested, Ntoumanis, Thøgersen-Ntoumani, Hagger, & Hancox, 2017). For example, the instructors in Duda et al.'s (2014) study received SDT-based training, however, the take up and acceptability of the training for instructors were not explored. Thus, there is a lack of studies evaluating the feasibility of training exercise instructors to be more need-supportive.

It is not only necessary to test whether an intervention produces the desired effects, but also to understand whether an intervention is acceptable and feasible for the target population (Bowen et al., 2009). Feasibility testing is a vital ele-

ment in the development process of complex interventions (Medical Research Council, 2008) and often a prerequisite to receiving funding for a larger randomised controlled trial (RCT). Feasibility studies provide the opportunity to test methods and procedures before being used in a RCT. Such preparatory work minimises the risk of RCTs being undermined by problems of low recruitment rates, significant attrition, and unacceptability. Publication of feasibility study results is important in sharing lessons learned and informing the development of future research. More specifically, testing the feasibility of interventions in specific contexts (e.g., group exercise settings) can help to inform the development, design, and implementation of future research which is appropriate for the setting/community under study (Bowen et al., 2009).

The current study examined the feasibility of implementing a 10-week SDT-based communication training programme with group exercise instructors. The training programme was customised for instructors who lead indoor cycling classes and was designed to promote a more motivationally adaptive communication style. Contemporary behaviour change techniques were integrated into the programme via face-to-face interactions and the use of online social networking sites to support the instructors in adopting a more motivationally adaptive communication style.

In the present paper, we were particularly interested in exploring: Whether we could recruit and retain group exercise instructors for the training programme? And whether the training programme was judged as suitable, satisfying, or attractive to group exercise instructors? The effects of the programme on instructors and exercisers' motivation and well-being are reported elsewhere (Ntoumanis, Thøgersen-Ntoumani, Quested, & Hancox, 2016). Feasibility of the training programme was explored in terms of (a) recruitment rates, (b) adherence to and drop-out from the training programme, (c) acceptability to the instructors (satisfaction, intent to continue use, and perceived appropriateness).

Methods

PARTICIPANTS

Participants were 24 certified indoor cycling instructors (males = 3, females = 21) taking part in a SDT-based training programme designed to train instructors to adopt a more motivationally adaptive communication style (Ntoumanis et al., 2016). Participants ranged in age from 26-53 years (M = 38.86 years; SD = 7.79) and had on average 4.35 years of experience working as a group cycling instructor (SD = 3.65, range = 6 months - 14 years). Instructors were certified with Les Mills International and operating within 40km of Perth, Australia. Prior to the commencement of the study, ethical approval was obtained from the University

Ethics Board and written informed consent gained from all participants. Eligibility criteria included being >18 years old and teaching at least one weekly indoor group cycling session.

INSTRUCTOR TRAINING PROGRAMME

Details of the training programme delivered to the instructors are provided elsewhere (Hancox, Quested, Thøgersen-Ntoumani, & Ntoumanis, 2015). Briefly, instructors received a 10-week SDT-based communication training programme, developed and delivered by the research team, all of whom hold PhDs in sport and exercise psychology and have previous experience designing and delivering SDT-based interventions. The training programme aimed to encourage instructors to maximise their use of motivationally adaptive (i.e., need-supportive) strategies and minimise or replace their use of motivationally maladaptive (i.e., unsupportive and controlling) strategies. The strategies were based on those identified in previous literature as being motivationally relevant (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2009; Mageau & Vallerand, 2003; Reeve & Jang, 2006; Van de Berghe et al., 2013).

Three face-to-face workshops, each lasting an average of 3 hours, were delivered in weeks 1, 3, and 10. Workshops were spread out over a 10-week period to enable instructors the time to practise the motivation communication strategies between workshops. Each workshop was delivered on two evenings during the specified week, in order to give instructors a choice as to which date they attended. The workshops involved the provision of education and information about SDT and the targeted motivation/communication strategies, exemplar video clips of adaptive and maladaptive communication strategies, group discussions, brainstorming activities on how and why such strategies are adaptive or maladaptive, individual action plans for implementing the strategies into practice, and practical activities (instructors trying out some of the strategies) in a cycling studio. Instructors who were unable to attend the workshops in-person were offered the opportunity to watch a recording of the missed workshop(s) online.

Additional support and supplementary training materials were provided, including workshop slides and handouts, rich descriptions of the motivational strategies, personal action plans, self-reflection diaries of successes and failures in putting the strategies into practice, dedicated (private) Facebook page and discussion forum, and phone/email support. Each week, over the 10-week training period, three or four very detailed descriptions of the motivation strategies were posted on the Facebook group. Furthermore, the training programme incorporated contemporary behaviour change techniques from the refined (CALO-RE) taxonomy (Michie et al., 2011) to support instructors in effectively integrating the training within their own style [see Hancox et al. (2015) for further details].

DATA COLLECTION AND MEASURES

Recruitment. Recruitment took place over a one-month period. Six experienced indoor cycling instructors (who helped with customising the training programme for the indoor cycling context) assisted with recruitment and invited fellow instructors to participate in the study via word of mouth and posting information about the project on relevant group fitness instructor Facebook pages. To keep track of recruitment reach and sign-up rates, interested participants were sent a link to an online survey, which included an information letter inviting Les Mills International indoor cycling instructors to participate in the project and a sign-up sheet. A record was kept of the number of times the information letter was accessed and the number of instructors who subsequently signed up.

Adherence and Retention Records. A register was kept of the instructors who attended

each workshop. Instructors who watched the workshops online were requested to confirm via phone or email when they had viewed the workshop recording. Researchers also kept a record of participant withdrawal and the given reasons.

Acceptability. A mixture of quantitative (e.g., questionnaires) and qualitative (e.g., semi-structured interviews) methods were used to explore acceptability of the training programme to instructors. The mixed methods approach allows for triangulation and complementarity; with the semi-structured interviews enabling an in-depth exploration of the thoughts and experiences of those attending the training programme which can be used to explain, strengthen and interpret the questionnaire findings (Bryman, 2006; Johnson & Christensen, 2014).

Questionnaires. Acceptability of each individual workshop was measured via a 10-item questionnaire distributed to instructors following their attendance at each of the three workshops. Items were framed within Bowen et al.'s (2009) acceptability framework and measured satisfaction (e.g., the extent to which instructors found each of the workshops useful and enjoyable), intent to use (e.g., their intentions to use what they learnt), and perceived appropriateness (e.g., whether they would recommend the training to other group exercise instructors). Responses were recorded on a 7-point scale ranging from 'strongly disagree' to 'strongly agree'.

The extent to which instructors found the training (as a whole) acceptable was assessed 1-month following the completion of the training programme to give instructors the time to reflect upon the training and the application of what they learnt. Items were developed specifically for the current study and asked instructors to rate the extent to which, overall, the content of the training was interesting and stimulating, tailored to their needs, relevant for them as a group exercise instructor, and useful for their professional development. Responses were reported on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Instructors were also asked to rate the extent to which they found the supplementary training materials (i.e., workshop slides and handouts, rich descriptions of the strategies, Facebook group, action plans and self-reflection diaries) useful (1 = not at all useful, 5 = very useful).

Interviews. Semi-structured interviews were conducted with a subsample of 10 instructors (males = 3, females = 7) 4-6 weeks following the end of the intervention. The sample size was sufficient for data saturation (Guest, Bunce & Johnson, 2006). Instructors were recruited using purposive sampling, with the aim of covering a variety of ages, experience, workshop attendance and both gender groups. Purposive sampling is particularly useful for highlighting both uniqueness in the sample and shared patterns across different participants (Patton, 2002). Five of the interviewed instructors attended all 3 workshops in-person, 4 instructors attended 2 workshops in-person and watched 1 online, and 1 instructor only attended the first workshop and watched the other 2 online. Telephone interviews were conducted by an independent researcher and lasted approximately 30 minutes. The purpose of the interviews was to explore acceptability of the training programme to instructors. Questions targeted satisfaction (e.g., 'Can you describe your experiences of the training you received?'; 'Looking back, what do you think were particular strengths of the training?'), intent to use (e.g., 'Has your instructor style and the way in which you try to motivate your participants changed as a result of the training?'; 'Is there anything raised in the course that you decided not to do, i.e., that you felt couldn't be easily integrated with your instructor style?'), and appropriateness (e.g., 'How did you feel about the content in each of the workshops?'; 'How do you think the training could be improved for the future?').

DATA ANALYSES

Descriptive statistics for the quantitative data were computed using SPSS (Version 22). Semi-structured interviews were transcribed verbatim and imported into QSR-NVivo

(Version 10). Interview coding was conducted inductively line-by-line using thematic analysis (Braun & Clarke, 2006). The first author familiarised themselves with the data through 'active reading' of the transcripts and noted initial analytic observations. Codes were identified within the transcripts using an inductive approach. The analysis then focused on collating the specific codes into broader themes. Themes were identified at a semantic level and represented a prevalent topic or issue discussed by instructors with regards to their experiences of, and views regarding, the training programme. The collated extracts for all themes were reviewed initially by the first author and then distributed among the author team for consideration and discussion of the validity of the individual themes in relation to the data set. The themes were further refined and discussed until a group consensus was reached.

Results

RECRUITMENT

Over a 4-week period the link to the online survey was clicked on 67 times with 34 instructors (51%) completing the sign-up sheet indicating their willingness to participate in the study. Suggestions from the interviewed instructors on how to attract more instructors to take part in the future included: offering continual professional development points, emphasising the benefits for personal and professional development, testimonies on the value of the training from instructors who have participated in the programme, and holding the training at a different time of year. One instructor (P26) explained: "It was just really unfortunate that it was around December as most of us with kids had school things on and stuff… So there are not lots of indoor cycling instructors in Perth, and I think you would have cut out probably half of them."

Following sign-up, 3 instructors were excluded from the study because of not meeting the eligibility criteria (two were not teaching a regular weekly session at the time of the study and the other was outside the catchment area for the study). Seven further instructors dropped out prior to commencement of the training programme (the reasons reported were: personal issues, injury and/or not having enough time to commit to the project due to work commitments). Thus, 24 instructors participated in the training programme.

ADHERENCE AND RETENTION RATES

Figure 1 details the number of instructors who attended each workshop in-person or watched it online. All 24 instructors attended the first work
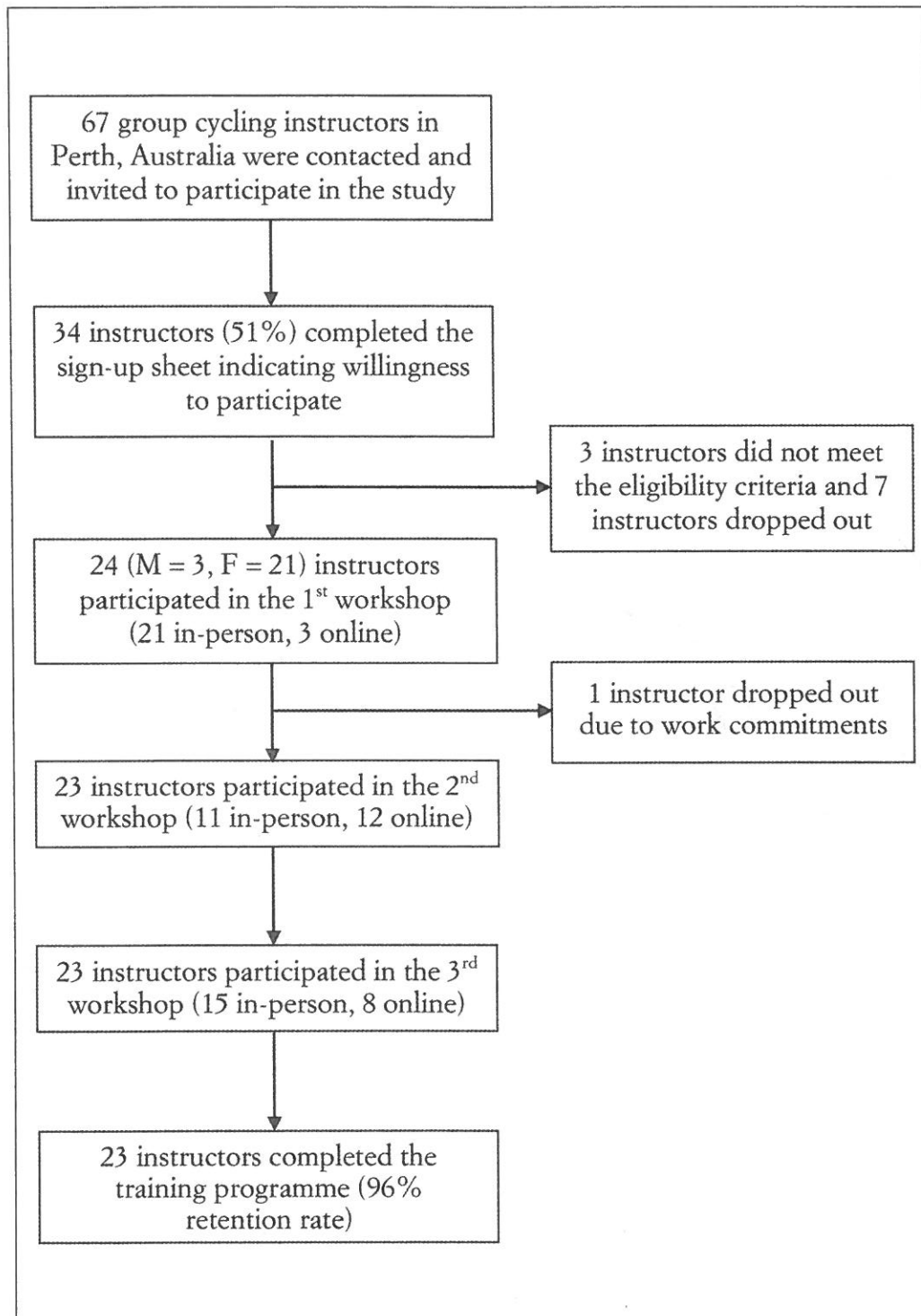
Fig. 1. - Consort diagram of participant flow through the programme.

shop. One instructor withdrew from the training programme between the 1st and 2nd workshop, reporting the reason to be "other work commitments". Twenty-three instructors attended both the second and third workshops and completed the training programme in full (96% retention rate).

Six instructors (25%) attended all 3 workshops in-person, 12 instructors (50%) attended 2 workshops in-person and watched 1 of the workshops online. Thus, 75% of instructors attended at least two training workshops in-person. Five of the instructors (21%) attended only one workshop in-person, and 1 instructor did not attend any workshops in-person and participated entirely online. In-person attendance rates were lowest for the second workshop which was held in December. The reasons for instructors not being able to make the workshops in-person included: work commitments, personal commitments (e.g., childcare), not being able to get cover for their exercise classes, and being away on holiday. One instructor suggested that running a few workshops during the day for individuals who cannot make weekday evenings might have helped attendance rates.

A key issue affecting adherence to the programme was that the training was delivered over the Christmas holidays. Six of the instructors interviewed reported the time of year to not be good for them. Family commitments, holidays, and cancellation of classes resulted in some instructors having limited opportunities to practice the strategies between workshops.

ACCEPTABILITY

Descriptive statistics from questionnaire data reveal high levels of acceptability with regard to the content of the overall training (Table I). Ninety-six percent of instructors agreed or strongly agreed that the training was interesting and stimulating. Eighty-three percent agreed or strongly agreed that the training was tailored to their needs. One-hundred percent of instructors agreed or strongly agreed that the training was relevant for group cycling instructors. And 96% reported the training programme to be useful for their professional development.

With regard to the additional support and supplementary materials, instructors found all supplementary materials to be useful (Table I). The workshop slides and handouts were reported as the most useful with 22 of the instructors (96%) reporting them to be useful or very useful. For both the rich descriptions of the strategies and Facebook group, 20 of the instructors (87%) reported them to be useful or very useful. For both the action plans and self-reflection diaries 17 instructors (73%) reported them to be useful or very useful.

TABLE I
Acceptability Of Overall Training: Administered 1-Month Post-Training

Item	Scale	Mean	SD
The content of my overall training in this project was:	1 = strongly disagree, 5 = strongly agree	4.74	.54
Interesting and stimulating (e.g., made me think and question existing practices)			
Tailored to my needs – it answered my questions		4.17	.72
Relevant to me as an instructor		4.83	.39
Useful for my professional development		4.78	.60
Please rate the extent to which you found the following resources useful:	1 = not at all useful, 5 = very useful	4.83	.49
Workshop slides and handouts			
Rich strategy descriptions		4.57	.84
Facebook group		4.52	.73
Action plans		4.09	1.11
Self-reflection diaries		3.86	1.17

Means and standard deviations from the acceptability questionnaire distributed to instructors following each of the three workshops are displayed in Table II. On average instructors agreed that each of the workshops were useful, enjoyable, and beneficial for their clients/exercisers. Instructors reported valuing the theoretical messages conveyed in the workshops. On average, instructors felt confident and sufficiently prepared to use the strategies in practice and reported that they intended to do so. For all three workshops, the results show that instructors felt excited to participate in the workshops and would recommend the training to other group exercise instructors.

TABLE II
Acceptability Of Workshops: Administered Immediately Following Each Workshop
(1 = Strongly Disagree, 7 = Strongly Agree)

Item	Workshop 1 (n = 24) Mean (SD)	Workshop 2 (n = 21) Mean (SD)	Workshop 3 (n = 20) Mean (SD)
The training was useful for me	5.63 (.82)	6.05 (.86)	6.05 (.69)
The training will be beneficial for my clients	6.13 (.74)	6.33 (.73)	6.25 (.64)
I enjoyed the training	5.88 (.74)	5.90 (1.14)	6.10 (.79)
I valued the theoretical approach/messages conveyed in the workshop	5.63 (1.13)	5.95 (.97)	6.05 (.69)
Based on this training, I feel confident to use the strategies I have been taught in practice	5.58 (.65)	6.10 (.83)	6.10 (.79)
Based on this training, I feel sufficiently prepared to implement the strategies I have been taught in practice	5.25 (.79)	6.05 (.80)	6.15 (.81)
I intend to use the training following the end of the intervention	6.04 (.81)	6.43 (.60)	6.35 (.75)
I felt pressured to participate in the workshop	2.58 (1.79)	2.38 (1.36)	2.60 (1.76)
I felt excited to participate in the workshop	5.71 (.95)	5.48 (1.21)	5.90 (.97)
I would recommend this training to other instructors	6.04 (.75)	6.48 (.68)	6.45 (.76)

Themes

Coding of the interview data revealed 9 main themes to emerge with regard to the acceptability of the training programme: satisfaction with content, challenging current motivational practices, perceived relevance of the motivational strategies, social support, mix of theory and practice, usefulness of learning resources, need-supportive delivery, multi-stage structure, and value for professional development.

Satisfaction with content. All interviewed instructors expressed that they were satisfied with the content of the training programme: "I felt the content was very, very good" (P5). Instructors explained that they found it "simple and easy to understand" (P5) and something that they "could definitely learn from." (P7) Instructors reported liking that the first workshop covered the 'basics' of motivation with subsequent workshops building upon this foundation: "I loved the way that it evolved. Um… you know, to basically recap on what we've done, and then just keep building on it." (P14)

Challenging current motivational practices. Six instructors reported liking that the content of the training challenged their current conceptions of motivationally adaptive teaching practices: "It was really, really good actually because it just kind of made you look at things quite differently. It just made me rethink how I was approaching my teaching" (P23). One of the instructors (P1) reported finding the content a bit confronting at first because it challenged what she had previously been taught with regards to motivating exercisers:

> *Some of the strategies that we were using were considered unsupportive strategies. So it was quite hard at first to put all that aside. We've been taught to do things one way and all of a sudden we're not supposed to do them anymore. But after I started looking at them [the strategies] a bit deeper they sort of made sense to me. And then it became a really positive thing and I thought, yes this can definitely make a change to my classes.*

These findings highlight the impact that the SDT-based training had on instructors perceptions of what it means to 'effectively' motivate exercisers. They also show that developing an understanding of why certain motivation strategies may be more or less motivationally supportive is an important factor in instructors becoming more open to their current motivational practices being challenged.

Perceived relevance of the motivational strategies. Five of the instructors reported the motivational strategies to be relevant to their teaching practice. For example, one instructor (P15) explained: "I think all of the strategies worked with my style of teaching. Some were easier to do than others, there were some that I did already, and some were quite challenging, but I think all

of them were really relevant." This finding supports the perceived applicability of the SDT-based motivation strategies within the group exercise context.

Social support. Instructors reported social support to be a key strength of the training programme: "That was the really, really good thing I found… talking to other instructors about how they were going and what they were finding difficult and sort of sharing ideas of how we could make it better" (P15). Four instructors described finding the group discussions within workshops useful because it gave them the opportunity to explore together the challenges that they were facing and share ideas as to how to overcome them. Three instructors also noted the Facebook group to be particularly useful because it provided a support network between workshops. One instructor (P12) explained: "I felt like everyone was really supportive in it [the Facebook group]. I got really positive vibes if I posted a question or even if I just posted an update, you know, a bunch of other instructors were liking it and commenting."

Mix of theory and practice. Four instructors reported a key strength of the training programme to be the 'good mix' of both theoretical and practical elements: "I found the combination of…um… practical learning as well as the theory, I found that really helpful. So not just talking about it…having an opportunity to put it into practice" (P1). The instructors enjoyed having the opportunity to put into practice what they were learning, receive feedback from the researchers and other instructors, and see how other instructors were incorporating the strategies into their teaching practice. Two instructors expressed regret for not being able to attend the second workshop in-person feeling that they had missed out on the opportunity to participate in the practical elements of the workshop.

Usefulness of learning resources. Instructors reported finding the different resources useful for helping them to understand and apply the ideas discussed in the workshops. The workshop slides and handouts were viewed by instructors as a tangible point of reference that could be referred back to when needed. Three instructors reported the rich descriptions of the strategies to be the most useful: "I actually went back and re-read all the strategy descriptions…um… so I thought those were really, really useful. Particularly when you give examples, because that always helps you put it into action, it makes the strategies a little bit clearer" (P12).

Instructors liked having 'soft reminders' of the strategies posted on Facebook at regular intervals throughout the week:

> *I found the Facebook group really helped me, when [the researcher] was posting up the strategies that we were focusing on for the week, I found that really helpful because I could quickly read through it and then think about how I could implement that into class. (P1)*

Instructors also used the Facebook group to post their self-reflections, finding it to be a quick and easy method of sharing their thoughts with both the research team and other instructors: "I found it was easier for me to just quickly write a paragraph about a reflection of my experience on Facebook to then share with the other instructors" (P1). The action plans also proved useful for some instructors: "I used the action plans a lot. At the beginning of the week I tended to sit down and look at what I was going to work on for that week" (P15). The main barrier to completing the action plans, mentioned by three instructors, was a lack of time.

Need-supportive delivery. Five of the instructors noted that they liked having the opportunity to voice their opinions and share their thoughts and feelings on certain aspects within the training: "The best thing about it was the level of interaction…there was good interaction from both sides" (P14). Instructors appreciated being given the autonomy to implement the strategies in a way which worked for them: "Um…nothing was forced. It was it was very much here's the information, here's some ideas of how to do it and you go ahead and implement it how you want" (P5). This finding suggests that the communication style in which the training is delivered may influence the acceptability of the training programme, with a need-supportive style favoured by instructors.

Multi-stage structure. Five instructors noted the multi-stage structure of the training to be highly beneficial. The multiple stages enabled instructors to not feel overloaded with information at any one stage: "I felt the way it was broken up was quite well done, rather than trying to overload you in one huge big workshop" (P11). Having multiple stages to the training also helped instructors to integrate the presented ideas into their own practice:

> With a lot of training you just get the information and walk away and you either take it or leave it. But because there were multiple stages to it, it gave a chance for you to learn the information, go and practice it, have the time to reflect on it, come back and discuss it. So I think that the learning was a lot more engrained into you. (P5)

Thus, the structure of multiple workshops, spread out over a 10-week period, was viewed as acceptable. The multiple workshops provided instructors with the opportunity to reflect on the information presented and have a go at putting the strategies into practice in the 'real world' between workshops.

Value for professional development. All instructors expressed their belief that the training programme was useful for their professional development. Two of the instructors noted that the training builds upon existing courses available:

> *It sort of bridges that gap, between what it takes to actually instruct, and then, what it takes to instruct to the members. It's more about what you're going to do to get the members interested in the class, having a great workout while they're there, and keep coming back. (P3)*

In particular, three of the instructors reported that the training helped them to feel more confident in knowing how to motivate new members and attract and retain a wider audience. One instructor (P1) said: "I found it certainly gave me a lot more confidence especially in dealing with the new people." Another (P14) explained: "Probably my class was focused at maybe fifty to sixty percent of the people in there… I honestly believe now, with the information that we've been given, we can probably open that up to all the class now."

One instructor (P12) felt that the training programme would be valuable for instructors of all levels: "I do really think it's important that people learn and understand this and can implement them [the strategies] to their teaching whether they're just starting off as an instructor or they've been teaching for years." All the instructors reported feeling that the training programme could also apply to other group fitness contexts: "I think it translates really well. I teach other programmes and I've thought about how I could alter those teaching methods, you know, because the strategies are quite broad, so could easily be implemented across other programmes." (P12)

Discussion

While several studies have aimed to train exercise instructors to be more need-supportive (e.g., Edmunds et al., 2008; Duda et al., 2014), few have been subjected to rigorous evaluation and feasibility testing. This study is the first to examine the feasibility of an SDT-based training programme with group exercise instructors. The research questions focused specifically on: a) whether we could recruit and retain group exercise instructors for the training programme, and b) whether the training programme was judged as suitable, satisfying, or attractive to group exercise instructors. The answers to these questions are important for informing the development, design, and implementation of future research which is appropriate for group exercise contexts.

Can We Recruit and Retain Group Exercise Instructors for the Training Programme?

Results revealed that it was possible to recruit and retain instructors in the training programme. However, the response rate was modest with only

51% of instructors who read the online information sheet signing up to participate in the training programme. Response rates of 70% and above are considered sufficiently representative of the target population (Patel, Doku, & Tennakoon, 2003). Thus, caution should be exercised in generalizing the findings to all indoor group cycling instructors. In order to facilitate greater uptake in future trials with group fitness instructors, researchers may want to carefully consider the time of year that the training is to be delivered and avoid busy times of year, such as, the Summer and Christmas holidays. Offering incentives, such as, professional development points and emphasizing advantages of taking part, for example, personal and professional development, may also aid recruitment.

The overriding reasons for dropout within the study were work commitments and injury. It is promising that instructors did not cite motivational reasons or issues with the programme as the cause for withdrawal. Participant retention from the beginning to the end of the training programme was excellent (96%), being above the average (78%) reported for physical activity interventions across various settings (Waters et al., 2011). With only 25% of instructors attending all three workshops in-person, the option to watch a video of the missed workshop greatly aided retention. Thus, it may be that, with this population, an online workshop may be a suitable alternative for increasing attendance rates. Further advantages of online training include the ability to train a large number of instructors at relatively low cost. However, we do not know whether online training would be equally effective at changing instructors' behaviour to become more motivationally supportive.

Interview findings revealed that some instructors regretted missing the opportunity to participate in the practical elements of the workshops. Considering both the second and third workshops had practical components which incorporated key behaviour change techniques (such as action planning, prompt practice, performance feedback, and social support), it may be that quality of learning was reduced as a result of not attending in-person. Thus, future research comparing the quality and effectiveness of the training (and learning) between in-person, online, and hybrid structures of delivery would be particularly informative.

Was the Training Programme Judged as Suitable, Satisfying, or Attractive to Group Exercise Instructors?

The content of the training challenged many of the instructors' conceptions of motivationally adaptive teaching practices. This finding is not sur-

prising given that the fitness industry is often dominated by more motivationally maladaptive approaches, such as, the promotion of a 'no-pain, no-gain' culture (Hancox, Ntoumanis, Thøgersen-Ntoumani, & Quested, 2015). The results, however, revealed the instructors to find the need-supportive instructional approach to be acceptable and the proposed motivation strategies to be relevant within the group fitness context. Thus, the findings suggest that there is indeed scope to incorporate theoretically-based principles of a motivationally adaptive/need-supportive communication style (such as those incorporated within the present study) in instructor training modules.

Although the intervention was tailored for, and aimed specifically at an indoor cycling context, the instructors felt that the principles of the training programme could be applicable to other types of structured exercise classes. A limitation of the present research is that only instructors from one fitness company (Les Mills International) and one style of class (group cycling) were targeted. Future research, is needed to further explore the applicability of our SDT-based training programme to other fitness contexts.

Behaviour change techniques are recognised to be an important consideration in studies targeting changes in physical activity and other health behaviours (Michie & Johnston, 2012). The contemporary behaviour change techniques incorporated within the training programme were positively received by the instructors, with many of them reporting the techniques to be key strengths of the intervention. Thus, the findings demonstrate that it is feasible to incorporate contemporary behaviour change techniques into a training programme that aims to teach instructors to develop a need-supportive communication style. The use of an online social networking site proved particularly successful. In particular, the study supports the feasibility of utilising Facebook to facilitate social support, prompt practice, and encourage self-reflection. Therefore, this research is an important step forward in the implementation of behaviour change techniques in SDT-based motivation interventions in the physical domain.

An important contribution of this study is that that the instructors perceived the training to have inherent value with regard to increasing their confidence to motivate new members, and attract and retain a wider audience. The results suggest that the SDT-based communication programme has potential as an instructor training intervention that could address problems with adherence and dropout, currently endemic in group exercise contexts. This proposition is further supported by the effects of the pilot intervention training programme (presented in Ntoumanis et al., 2016) which revealed increases in exercisers' perceptions of their instructors' use of motivationally

adaptive strategies, psychological need satisfaction, and intentions to remain in the class following the intervention.

Conclusion

In summary, the present study advances current knowledge by highlighting potential recruitment issues with this population. Future research with group exercise instructors may want to carefully consider avoiding busy times of the year (e.g., holiday periods) and incorporating a range of other recruitment strategies (e.g., incentives) to aid uptake. A unique contribution of the present study was the incorporation and evaluation of contemporary behaviour change techniques within an SDT-based motivation training programme. The use of online social networking proved particularly successful as a way of facilitating social support, prompting practice and encouraging self-reflection. In terms of acceptability, although the content of the training challenged some of the current motivational practices within group exercise contexts, the training programme was positively received by the instructors, who viewed the theoretical information and motivational strategies as being relevant and important in the context of group fitness. The findings of this study can be used to inform the development of future research, including a larger RCT testing the effects of the training programme on the quality and longevity of the exercisers' engagement.

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