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Exercise anxiety: A qualitative analysis of the barriers, facilitators, and psychological processes underlying exercise participation for people with anxiety-related disorders

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ABSTRACT

A strong body of empirical evidence demonstrates the anxiolytic effects of exercise; however, translating these findings into an effective mental health promotion strategy for people with anxiety-related disorders (ARDs) may prove challenging as people with ARDs tend to report lower levels of participation in physical activity, including exercise. To overcome this barrier, research is needed to understand the psychological processes that fuel engagement and disengagement from exercise for people with ARDs. The purpose of this study was to use grounded theory to describe the exercise experience for people with ARDs, including the barriers and facilitators that they face. Participants were recruited via an online eligibility screener and 16 eligible participants, who met diagnostic criteria for an ARD and reported being physically inactive, completed individual face-to-face interviews. The model resulting from our study shows that people with ARDs frequently experience exercise anxiety or the cognitive (i.e., worries about exercise), physical (i.e., negative reactions to the physical sensations associated with exercise), and behavioural (i.e., avoidance) symptoms of anxiety when they think about and/or engage in exercise. The model also identifies several factors (e.g., social support, money, time) that can facilitate short-term exercise participation and explains how loss of these factors leads back to a cycle of exercise anxiety and related long-term avoidance behaviour. Our findings suggest that researchers and clinicians should consider targeting exercise anxiety, perhaps through the use of cognitive behavioural interventions, to aid people with ARDs to achieve long-term adherence and exercise-related benefits.

1. Introduction

Anxiety-related disorders (ARDs; including generalized anxiety disorder, social anxiety disorder, obsessive-compulsive disorder, post-traumatic stress disorder, panic disorder, agoraphobia, and specific phobia) are among the most prevalent mental health conditions in the world (Bandelow & Michaelis, 2015; Baxter, Scott, Vos, & Whiteford, 2013). High rates of ARDs pose a considerable public health concern because ARDs are associated with significant disability and impairment across many important areas of functioning (e.g., social, role, occupational), as well as a substantial economic burden (Baxter, Vos, Scott, Ferrari, & Whiteford, 2017; Greenberg et al., 1999; Hoffman, Dukes, & Wittchen, 2008). Although there are several established psychological and pharmaceutical treatments available for ARDs (Baldwin et al., 2014; Bandelow, Lichte, Rudolf, Wiltink, & Beutel, 2014; Deacon & Abramowitz, 2004), a substantial proportion of people with ARDs do not respond to these evidence-based treatments (Barlow, Gorman, Shear, & Woods, 2000), while others experience a relapse within 6 months (Barlow et al., 2000; Foa et al., 2005). Additionally, the majority of people with anxiety delay, or do not seek out, appropriate treatment (Alonso & Lépine, 2007; Dell'Osso, Camuri, Benatti, Buoli, & Altamura, 2013) for reasons that include lack of access to evidence-based treatments (Freiheit, Vye, Swan, & Cady, 2004), medication side effects (Petruzzello, Landers, Hatfield, Kubitz, & Salazar, 1991), and cultural disapproval of psychotherapy and psychotropic medication (Overton & Medina, 2008). In recent years, these identified gaps in the delivery of services for people with ARDs have prompted researchers to consider alternative interventions for treating ARDs (DeBoer, Powers, Utschig, Otto, & Smits, 2012; Powers, Asmundson, & Smits, 2015).

Due to the numerous health benefits and absence of medication-induced side effects, exercise has recently garnered increased attention as an intervention for ARDs that can be recommended when psychological or psychopharmacological treatments are not readily available or desired (Asmundson et al., 2013; Powers et al., 2015). A wide range

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of exercise protocols varying in exercise modality (e.g., resistance training, sprint interval training, walking; LeBouthillier & Asmundson, 2017; Mason & Asmundson, 2018; Merom et al., 2008), intensity (e.g., self-selected to 85% age adjusted heart rate maximum; Jazaieri, Goldin, Werner, Ziv, & Gross, 2012; Mason & Asmundson, 2018), duration (e.g., 10–90 min; Bibeau, Moore, Mitchell, Vargas-Tonsing, & Bartholomew, 2010; Mason & Asmundson, 2018), and number of sessions (e.g., single to 40 sessions; Broman-Fulks, Kelso, & Zawilinski, 2015; Wedekind et al., 2010) have demonstrated efficacy for treating ARDs and targeting anxiety sensitivity, a transdiagnostic cognitive vulnerability associated with the development and maintenance of ARDs (Asmundson et al., 2013; LeBouthillier & Asmundson, 2015; Mason & Asmundson, 2018). The efficacy of exercise for anxiety is also depicted in meta-analyses (Rosenbaum et al., 2015; Stubbs et al., 2016; Wipfli, Rethorst, & Landers, 2008) and systematic literature reviews (Asmundson et al., 2013; DeBoer et al., 2012; Stonerock, Hoffman, Smith, & Blumenthal, 2015) published over the past two decades.

Although a growing body of research highlights the anxiolytic benefits of exercise, translating these findings into an effective mental health promotion strategy for people with significant anxiety may prove challenging. People with ARDs or high levels of features associated with anxiety (e.g., anxiety sensitivity), tend to report low levels of physical activity, including exercise (Goodwin, 2003; Helgadóttir, Forsell, & Ekblom, 2015; McWilliams & Asmundson, 2001; Sabourin, Hilchey, Lefaivre, Watt, & Stewart, 2011; Stubbs et al., 2017). Furthermore, people with ARDs may experience apprehension towards exercise as the sensations it causes may mirror those evoked by anxiety-provoking stimuli. For instance, increased physiological arousal (i.e., increased heart rate, sweating, and muscle tension) occurring while exercising (McKay, Abramowitz, Taylor, & Asmundson, 2009) may be perceived as similar to the physical symptoms of anxiety. Additionally, environments where people with ARDs may consider exercising (e.g., crowded gyms, group exercise classes) may also be anxiety-provoking due to the possibility of social evaluation or the possibility of being in situations where escape may be difficult or embarrassing (McKay et al., 2009). Although exposure to these anxiety-provoking exercise scenarios and potential subsequent extinction learning has been proposed as a potential mechanism underlying the anxiolytic effects of exercise (DeBoer et al., 2012), if avoidance behaviours (resulting from anxiety about exercise) prevent people with ARDs from exercising altogether, the benefits of this mechanism are unlikely to be realized. Despite the need for research exploring factors that influence whether people with ARDs will engage or disengage from a regular exercise regime, research on these processes is lacking.

Currently, there is a growing body of research investigating barriers and facilitators to exercise participation and physical activity for people with severe mental disorders, such as schizophrenia, bipolar disorder, and major depressive disorder (Chapman, Fraser, Brown, & Burton, 2016; Roberts & Bailey, 2011b; Sabourin et al., 2011). Findings from these studies suggest that a supportive social environment, positive beliefs about the benefits of exercise, and low-cost access to exercise facilities and professional support may be important facilitators to exercise participation for people with severe mental disorders. Additionally, commonly reported barriers to physical activity participation include perceived poor physical and mental health, lack of money, fatigue, disorganization, being shy/embarrassed, medication side effects, mental disorder symptoms, low self-confidence, low self-efficacy, and low motivation (Buhagiar, Parsonage, & Osborn, 2011; Chapman et al., 2016; Roberts & Bailey, 2013; Searle et al., 2011). Although these studies contribute to our understanding of the factors that can influence disengagement and engagement from exercise and physical activity for people with severe mental disorders, work on this experience for people with ARDs is lacking. No research has specifically investigated the potential barriers, facilitators, or psychological processes underlying exercise participation for people with ARDs. Additional research is needed to better understand the exercise experience for people with ARDs.

In recent years, researchers have identified a need for translation evidence accounting for the unique processes that fuel disengagement and engagement from physical activity and exercise participation that are not captured by existing theories (Rebar & Taylor, 2016, 2017). Although progress has been made in identifying these processes for individuals with severe mental disorders, researchers have not yet looked at the barriers, facilitators, and psychological processes underlying exercise participation that are uniquely experienced by those with ARDs. Qualitative methodologies, such as grounded theory, are well suited to this task (Creswell, 2013). Grounded theory, in particular, is advantageous for investigating social processes that lack research breadth and/or depth, or when a novel perspective on well-known topics is warranted (Corbin & Strauss, 2008). In response to this call for translational evidence, the purpose of this study was to develop a model denoting the experience of beginning, maintaining, and terminating an exercise regime for people with ARDs, including the barriers and facilitators to exercise that they face.

2. Research design

2.1. Epistemological perspective and methodological approach

This grounded theory study was conducted from a primarily postpositivist epistemological perspective with elements of constructionism/interpretivism. Consistent with a postpositivist perspective, we used methods that consisted of logical, iteratively related, and consistent research steps to investigate the research questions (Carter & Little, 2007; Corbin & Strauss, 2008). Further, we conducted participant interviews with the belief that we could access participants' beliefs, knowledge, and attitudes toward the studied phenomena (Lincoln & Guba, 1985). We also approached the analysis from the perspective that the participants would provide multiple realities as opposed to a single reality (Creswell, 2013). Finally, a more postpositivist style and structure of writing was used to remain consistent with both the postpositivist perspective and the strong quantitative background of three of the authors and their academic discipline. Despite our predominant postpositivist perspective, there were elements of a constructionist perspective, which has been conceptualized as containing aspects of both postpositivist and interpretivist perspectives (Levers, 2013). For instance, the second author (primary analyst) adopted an inductive approach by developing the theory or pattern of meaning from the data and not a pre-existing theory (Corbin & Strauss, 2008; Creswell, 2013). Reflexivity, or self-reflection, was also employed by the second author to mitigate any pre-existing beliefs by continually evaluating the research process, method, and results, and examining personal responses and interpersonal dynamics between the interviewers and the participants (Corbin & Strauss, 2008; Creswell, 2013; Lincoln & Guba, 1985). As such, we acknowledge that the analysis and results presented within this paper are our interpretation of the participants' experiences.

Straussian grounded theory, as described by Corbin and Strauss (2008), was chosen as the approach for this study. Since grounded theory is a well-established methodology for explaining and exploring gaps in research, it was selected as the primary analytic strategy for interpreting the data collected in this study (Corbin & Strauss, 2008). Another advantage of grounded theory is that through an iterative process of data collection and analysis, referred to as constant comparisons, a theoretical model depicting participants' experiences is produced. A theoretical model is important because it allows for understanding the complexity of the participants' experiences in a succinct manner without oversimplifying the studied phenomena (Corbin & Strauss, 2008).

2.2. Participants and eligibility procedures

Ethical approval for the trial was obtained from the institutional

Research Ethics Board. The study utilized eligibility and online screening procedures described by LeBouthillier and Asmundson (2017). Individuals were eligible for the study if they were between the ages of 18 and 65 years, resided in or near the city where the study was being conducted, reported experiencing significant symptoms of anxiety (as described below), and engaged in fewer than 150 min of moderate-to-vigorous exercise weekly. Participants were recruited using in-person presentations, recruitment posters, and newspaper and online advertisements. Each recruitment modality provided participants with a link to the online screener. Interested individuals were directed to a secure website (Qualtrics.com) to complete eligibility questionnaires. Based on their endorsement of screening items for each ARD, individuals completed disorder-specific symptom inventories, namely the Severity Measure for Specific Phobia–Adult (SMSP–A; Craske et al., 2013b), Social Interaction Phobia Scale (SIPS; Carleton et al., 2009), Panic Disorder Severity Scale–Self Report (PDSS–SR; Shear et al., 1997), Severity Measure for Agoraphobia–Adult (SMAA; Craske et al., 2013a), Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990), Obsessive-Compulsive Inventory–Revised (OCI–R; Foa et al., 2002), Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5; Weathers et al., 2013). Participants also completed the Depression Anxiety Stress Scales–21 (DASS–21; Lovibond & Lovibond, 1995) which provide a general measure of psychological distress. Participants were required to meet at least one cut score for inclusion in the present study, which were as follows: 20 on the SMSP–A (Craske et al., 2013b); 21 on the SIPS (Carleton et al., 2009); 8 on the PDSS–SR (Shear et al., 2000); 20 on the SMAA (Craske et al., 2013a); 58 on the PSWQ (Behar, Alcaine, Zuellig, & Borkovec, 2003); 33 on the PCL-5 (Weathers et al., 2013); 14 or greater on the OCI-R (Abramowitz & Deacon, 2006), or 5 on the DASS–21 Anxiety scale (Henry & Crawford, 2005). Participants in the present study did not undergo additional telephone and in-person screening as described in LeBouthillier and Asmundson (2017). Once eligibility was confirmed, participants were notified and invited to visit the laboratory to complete an in-person semi-structured interview. Participants who were not eligible to participate were notified about why they were not eligible via the online screener and thanked for their interest in participation. Furthermore, participants who were undergraduate psychology students were awarded participation credits for their participation in the study, even if they were not eligible to proceed to the interview.

2.3. Interview procedures

Prior to commencement of the interviews, a semi-structured interview guide (See Appendix A) was developed, reviewed, revised, and accepted by the authors and the university ethics committee. The interview guide was initially created by the lead author to ensure the interview questions captured the information required to answer the research questions. The second author assessed the interview guide to ensure that the questions were sufficiently open-ended to maximize the potential for data dense interviews (Corbin & Strauss, 2008). Input was also requested and received from the other authors and their suggestions were implemented prior to final approval of the interview guide. The interview guide contained both open-ended and probing questions to facilitate open conversations about participants' past experiences with exercise, including their knowledge of the benefits of regular exercise, any benefits they had experienced from exercising, any negative consequences they had experienced from not exercising, the type of exercise preferred (e.g., weight training or cardio), and the effect that exercise has had on their mental health.

The first two authors conducted individual face-to-face, semi-structured interviews with participants in a private room within a psychology laboratory at the university. Prior to starting each interview, written informed consent was obtained. During the process of obtaining informed consent, the purpose and study procedures were reviewed with participants along with the potential risks and benefits of their participation. All participants consented to the presentation of their data in a confidential manner that protected their identity. Participants were also asked to review the questions within the interview guide prior to the commencement of the interview. All interviews were recorded using a digital recorder and transcribed verbatim. On average, each interview lasted approximately 43 min.

2.4. Data analysis procedure

To minimize the influence of potential biases, the second author, a qualitative researcher with limited knowledge of the subject area, was recruited to conduct the data analysis. As per Glaser (1978), a researcher with extensive knowledge of the literature may attempt to "fit" the emerging data within their own preconceived framework. To address this specific concern, we ensured that the researcher analyzing the data had limited knowledge of the background literature that this study would inform. Before starting data analysis, all interviews were assigned a unique identification number to protect the anonymity of participants. In addition, all interviews were transcribed by research assistants who were not involved in the data collection or analysis components of the study. The second author was responsible for analyzing the data and would periodically discuss findings and interpretations of the data with the first author. Analysis began in the form of memo-writing, a process used throughout the interview and coding processes. In line with procedures described by Corbin and Strauss (2008), these memos contained assumptions and preconceptions of the second author regarding the data, and also documented any emerging theoretical concepts or ideas (e.g., impact of facilitators or barriers on exercise behaviours) that were used to inform the final analysis. Although barriers and facilitators were mentioned in the memos they were not the focus of the memos. Despite having minimal knowledge of the research area, the second author was aware that she had preconceptions based on personal knowledge of why people with anxiety may not exercise. She documented these preconceptions within the memo-notes describing how people with anxiety may avoid exercise because the physiological effects of exercise can mimic the physiological symptoms of anxiety.

Open coding was used in the second phase of the analysis and involved analyzing the data line-by-line, searching for *in vivo* codes that represented and explained the concepts within the data (Corbin & Strauss, 2008). In the third phase of analysis, the second author engaged in axial coding wherein data were analyzed for connections, similarities, and linkages between codes/categories (e.g., connection between facilitators/barriers and frequency of exercise) (Corbin & Strauss, 2008). The final analytic phase involved using selective coding to identify the core category, exercise anxiety, and its relationship to the other codes/categories. Through selective coding, a theoretical understanding of the data was developed using diagramming and consultation and consensus with the first author (Charmaz, 2014; Corbin & Strauss, 2008).

2.5. Trustworthiness

According to Morrow (2005), to demonstrate trustworthiness in a postpositivist psychological study information on credibility, transferability, dependability, and confirmability should be included. Credibility refers to internal consistency or rigor within the research process. Morrow (2005) indicates that credibility can be achieved through the use of debriefing sessions with fellow researchers, researcher reflexivity, or co-analysis. In this case, the researchers engaged in multiple debriefing sessions, reflexive memoing, and analysis with consensus. Credibility was further enhanced by providing a detailed description of the participants' experiences that included the contexts in which their experiences occurred. Transferability refers to the generalizability of the results. To ensure transferability, the researchers must provide sufficient information about the participants, research context and

processes, and the self as a researcher, so the reader may ascertain how the results may transfer. This criteria for transferability was met and discussed within the research design section. Dependability requires the researcher to document the process(es) through which the results were derived (Morrow, 2005). This documentation was accomplished through detailed descriptions of the methods and analysis used throughout the study. Finally, confirmability requires the researchers to accept and acknowledge the inherent subjectivity of the research. This acknowledgement was accomplished by presenting the data, analytic processes, and findings in a transparent manner so that study results can be confirmed by the reader. For instance, in the current study we provided a detailed breakdown of our research design and processes, included a discussion of researcher reflexivity, and provided direct participant quotes to verify our findings.

3. Results

3.1. Demographics

A total of 16 individuals took part in the study, all of whom identified as female and as women. The mean age of participants was 26.13 years (SD = 10.83). The majority (n = 12, 75%) were full time students, while the others were employed full time, part-time, or retired. Based on self-report questionnaires, participants reported significant symptoms of social anxiety disorder (n = 14; 87.5%), generalized anxiety disorder (n = 10; 62.5%), obsessive-compulsive disorder (n = 10; 62.5%), and a minority reported symptoms of another ARD (n = 3; 18.8%). The majority of participants (n = 12, 75%) reported significant symptoms of two or more disorders.

3.2. Development of exercise anxiety

Participants, regardless of their indicated ARD, collectively reported experiencing an exercise-induced emotional response comprised of cognitive (i.e., worries about potential embarrassing, uncomfortable, or painful exercise-related experiences), physical (i.e., negative reactions to the physical sensations associated with exercise), and behavioural (e.g., avoidance of exercise) reactions when they thought about and/or engaged in exercise. Participants further described how these reactions interacted to maintain this emotional reaction and long-term exercise avoidance. We have referred to this exercise-induced emotional response as exercise anxiety. Fig. 1 provides a model of exercise anxiety that emerged from this study.

All participants reported that their exercise anxiety began with symptoms of clinically significant disorder-specific anxiety symptoms (e.g., generalized anxiety, social anxiety) that were triggered and/or magnified by exercise. These self-reported symptoms were recorded on empirically validated measures of ARDs during eligibility screening and were verified by participants during the in-person interviews. Participants described experiencing exercise anxiety when their thoughts and/or negative reactions to the physical sensations occurring during exercise triggered and/or magnified their anxiety and subsequently became associated with exercise (pathway A in Fig. 1). Many participants, regardless of their disorder-specific anxiety symptoms, reported experiencing similar features of exercise anxiety. For instance, most participants, not just those with self-reported clinically significant symptoms of generalized and/or social anxiety, described worrying about the possibility of social evaluation and judgment, the time lost due to exercise, and their lack of exercise knowledge. Furthermore, all participants identified avoidance as a typical behavioural response to these cognitions (pathway B in Fig. 1). The following participant provided an example of this process as she described how her laziness argument and worries about falling or being seen by others while exercising contributed to her exercise anxiety and avoidance of exercise:

P4: "I'm too tired to exercise" or "It's too late it would disrupt my sleep" or "I couldn't get up early enough to exercise" or "It's too slippery outside". It just falls into my laziness argument I guess. I say all these things: If I go for a walk "You could slip and fall and that really would be bad so you better not walk outside" or "You can go walk in the mall. Well then, I get over heated and I might see people and you know they wanna see you." So, I talk myself out of that. Then there's nowhere to walk you know kinda thing. So, I guess I can allow myself to talk myself out of things and the benefit is you were right you know?

I: So, the things you're mentioning like you could slip and fall, you might overheat, see friends is that a fear for you?

P4: A fear? I wouldn't label it as a fear, I would label it as an anxiety. I see anxiety different than fear sometimes like just an uncomfortableness.

I: Okay, so you see it more as anxiety?

P4: Well, I don't wanna be uncomfortable. Like, when I say I might see friends I might see people I know, but I don't really wanna talk to, so I feel anxious if I had to talk to them, so I wanna avoid that. If I overheat then I start to feel like I wanna faint, but I don't wanna feel that way. So you know, I'm trying to avoid uncomfortable situations and to be in those uncomfortable situations causes me anxiety.

3.3. Thoughts and physical sensations

All participants described worrying about a variety of potential problems that they could encounter while exercising and negative reactions to the physical sensations associated with exercise. Typically, these worries centered around the possibility of social evaluation, stress, time lost from exercising, and their lack of exercise knowledge. Participants also reported having negative reactions, such as the misattribution of threat, to physical sensations during exercise (e.g., increased heart rate, sweating, difficulty breathing). Participants reported that these worries and physical sensations fueled their exercise anxiety and increased their exercise avoidance (see pathway A in Fig. 1).

Social evaluation. Many participants reported having thoughts about being judged by others when exercising. These thoughts included worries about others' negative evaluation of their exercise technique, as well as the possibility of being judged poorly by others for their physical appearance when exerting themselves with exercise (e.g., sweating, flushed face). Participants reported that the possibility of negative social evaluations prevented them from attending the gym or engaging in certain exercises (e.g., running on a treadmill in front of individuals who may judge them for sweating) and contributed to their exercise anxiety. Participants further indicated that increases in exercise anxiety decreased their motivation to engage in exercise and often increased their exercise avoidance. For instance, the following participant explained how she avoided the gym because she felt uncomfortable around a bunch of people in a tight space and was concerned about being judged or receiving unwanted attention. She went on to explain how her anxiety levels and motivation to go to the gym were impacted by her concerns that something might go wrong while entering the gym.

P8: I don't want to be around a bunch of people it's just a tight space it makes me feel really uncomfortable. Yeah, just I guess being judged is kinda of upsetting to me. I don't want attention. […] My anxiety completely goes away once I'm there. I feel better once I'm like halfway through and I'm starting to sweat, but it's just the motivation of getting in there. Even swiping my gym membership card or something, I'm so concerned that something is gonna go wrong like it's gonna beep on me or something, but once I'm there it's okay I realize things aren't so crazy.

Additionally, the following participant reported that she experienced anxiety about the possibility of being watched and/or judged by others for sweating like crazy or not doing it properly, while exercising. Consequently, she was not a huge fan of exercise and rarely attended

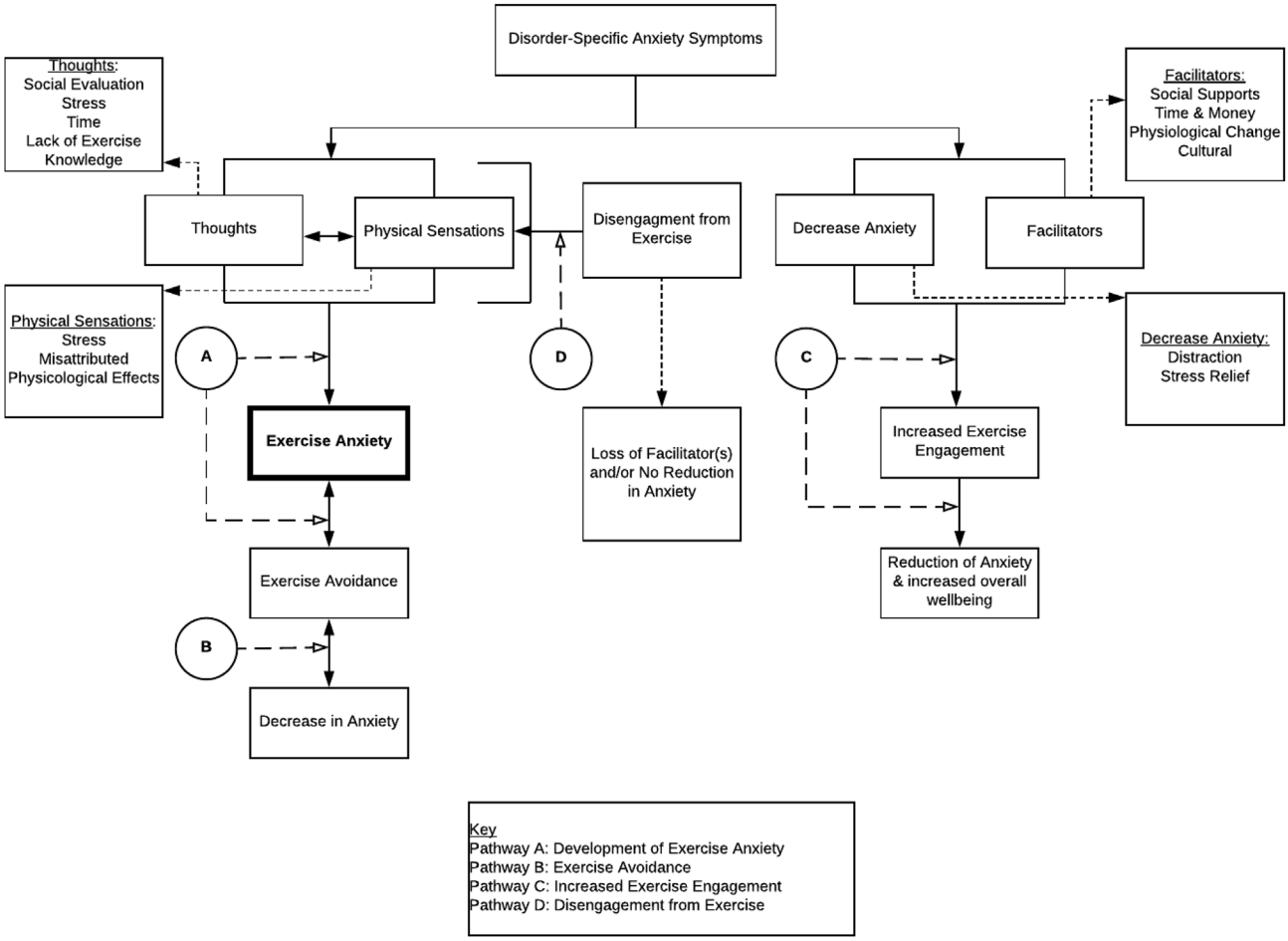

Fig. 1. Model of exercise anxiety.

the gym.

P9: I've never really been a huge fan of it [exercise], like gym class wasn't my favorite. I think it's more so the anxiety of being in front of people and doing those kinds of things, like sweating like crazy and just being in front of someone and being judged in a sense. […] I always just feel like people are watching me and just thinking like "Oh she's not doing it [exercise] properly."

For some participants, fear of social judgment due to a perceived lack of physical ability deterred them from engaging in exercise. This worry about possible social judgment was described by the following participant who was reluctant to engage in activities that she knew for a fact that she was not skilled at.

P16: It's so much harder with gym cause I knew for a fact that I was the slowest and I knew for a fact that I was like a liability on the team and that's a huge challenge, right? Like trying to participate in something that you know you're not really contributing to in any significant way makes it harder because then I can't convince myself no one's looking at you, right? Like in the hallway, no one cares that I'm there it's a hallway. You're walking and that's that. But, with exercise it's different because I really am struggling like physically and mentally and emotionally and all the 'llys'.

Stress. All participants discussed the impact of increased stress on their mental and physical wellbeing. Many participants identified the relationship between stress and exercise, whereby an increase in stress resulted in reductions in their exercise behaviours, often via beliefs about their inability to exercise when they were stressed and/or negative reactions to physical sensations occurring during exercise. For instance, many participants reported that reductions in their exercise behaviour was due to their perceptions of having less physical energy due to increased stress (i.e., energy was put towards dealing with the stressor). For example, one participant who was working long hours and dealing with significant personal stressors, reported that exercise tends to be the first thing that goes, when she felt stressed. This participant reported that during these times she exercised less because her energy level goes down and because exercise left her alone with her thoughts and her mind would think too much which she reported made things worse.

P5: Usually, when there's more stress in the house, exercise tends to be the first thing that goes, I don't know why because they say it's a stress buster, but when I get stressed out I don't feel like it's helping me, it's just taking up some of my energy. When I get stressed out, just my energy level goes down, and I don't feel like it. […] We've been through a very big stress with our son, he just became very, very rebellious. Nothing took that stress away, nothing did. Exercise I found draining. It's also a quiet time where you're left alone with your own thoughts, and that, for me, made it worse. You know, to be active in a way where your mind is used rather than just walking the dogs and enjoying the scenery around you. My mind would think too much and I didn't like that.

Another participant described how the decision to exercise increased her anxiety levels and led to thoughts that she was feeling too stressed and overwhelmed to make decisions. To reduce her exercise anxiety, she reported that she chose to avoid exercise all together.

P14: I feel like because I have anxiety sometimes so many things are going on in my mind. […] It's like hundreds of things are going through my mind at once. It's honestly just like so many things are going on. So it's

like, do this, do that, do this, do that and sometimes it's like, too many decisions. Sometimes having too many decisions, or stuff like that, has overwhelmed me before. It's almost like not going to the gym is another decision I don't have to worry about anymore in a way, you know?

Time. All participants indicated that they currently felt overwhelmed by time pressures due to family, school, and/or work obligations. Many participants reported that they believed that taking time to exercise would mean taking time away from other activities or people that they perceived as higher priority than exercise. Many participants reported that even if they did exercise when they were feeling overwhelmed by time pressures, they would often experience guilt about exercising because they believed they should have been allocating their time towards other activities that they perceived as higher priority.

P6: I feel like when I get home, okay let's say now its 7 o'clock at night. It's like, okay well now I have to study. I don't want to say that I wasted an hour, like I didn't study for that one hour. So, that's probably somehow going to affect my mark if I don't get the time in to study for it. So yeah, I guess I would say that I would feel a bit guilty about going [to the gym] even if it makes me happy. It's still like, well I could've been doing other things.

P3: Time management is a really big excuse of mine if I'm honest, right? I think this is typical of most women my age in rural settings. It's that we put ourselves last, we put our family's needs like our spouses' needs, our children's needs, our farm's needs, and our community's needs we put those all before our own.

Lack of exercise knowledge. Many participants also reported feeling increased anxiety and insecurity in gym environments due to their reported lack of exercise knowledge. They described feelings of uncomfortableness, uncertainty, and anxiety about gym rules and etiquette, the gym culture, and/or the use of gym equipment. Participants reported that lack of knowledge about safe and appropriate exercises also prevented them from exercising at home.

P10: Well, I can think of a lot of excuses, but the first that comes to mind is, when I actually finally found time to exercise I'd go to the gym and I didn't know what to do. Then it'd make me feel really uncomfortable when I got there because I didn't know how to use the equipment. […] And I think that's one thing that's stopped me when I started to exercise. I kind of backed away from it when I realized that.

Maintaining safety while exercising was also a significant concern reported by participants with physiological ailments (e.g., balance, knee/joint issues). Participants reported that their desire to attend a gym or exercise at home was markedly diminished when they realized they did not know what to do or how to perform exercises safely.

P11: Just not having the knowledge of what to use. I have a knee condition it's not bad enough to get surgery, but it's bad enough that it bothers me. My knee caps are out of line, so they grind against my joints. So like, I can't run. I can't run on flat ground because it's too much impact on my knees. So, it's not that I can't workout, but I'd like to have the knowledge to not hurt myself or like strain myself I guess is a better word. So, I don't really have that knowledge.

Misattributed Physiological effects. Some participants drew comparisons between physical symptoms of anxiety and the physical sensations that are experienced during exercise (e.g., increased heart rate, shaking, flushed face, sweating). These participants reported that once they realized that exercise could mimic the physiological sensations associated with anxiety, they began to associate exercise with anxiety and subsequently avoided exercise to mitigate these anxiety symptoms or sensations. This pattern was reported by the following participant who was struggling with the physical sensations during exercise that she also associated with anxiety.

P2: Since last summer I find myself going once in three months and that's because like I have a little bit of knowledge about the importance of going to the gym, but I'm very aware that I have very high anxiety. And the feeling that I feel when I'm anxious gives me the same feelings as when I exercise. […] And my friends would be saying they feel really good about it when they feel like their heart is going to burst, but it is very negative for me. […] I know it's not because of my anxiety, but I don't like the feeling of the shaking. […] So, five years ago it was the first feeling [during a panic attack] that I had. It was like my heart was shaking, I was short of breath, it was just my first experience and when I exercise I feel exactly the same thing and even when I take the stairs, I feel the same thing.

3.4. Exercise avoidance

Participants also described how their exercise anxiety was reduced in the short-term when they avoided exercise (pathway B in Fig. 1). Some participants attributed the reduction of anxiety that they experienced when they engaged in exercise avoidance to feeling less worried and anxious about having to schedule exercise into an already full agenda.

I: What benefits did you personally experience from not exercising?

P9: I feel like I don't have the anxiety surrounding working out. I don't have to worry about trying to fit it into my schedule if I'm not working out.

As per the participant quoted below, for participants who associated the physiological effects of exercise with anxiety, avoiding exercise was reported to be more rewarding than experiencing the positive effects of exercise, because they did not have to experience the physiological sensations associated with exercise.

I: Have you had a rewarding experience with physical activity before?

P2: I feel good about myself when I run for twenty minutes and when I sweat. I do feel good about myself and my mood gets like, happy mood. But it's not, that feeling, doesn't outweigh the negative feeling I have. That's why I don't constantly do it.

Finally, participants explained how the immediate effect of reduced exercise anxiety in the short-term from exercise avoidance was more rewarding than some of the delayed benefits of exercise (e.g., improved health). For the following participant, her perception that by not exercising she could spend more time studying resulted in immediate positive outcomes (e.g., better grades), while her time spent exercising felt like a waste of time because it did not provide her with the same positive short-term reward.

P12: My grades are something that I work hard at and I can see results immediately and working out takes a while longer for me to see the results on my body. […] If I should could see the results [after exercise] in like a shorter time, I guess it will make me know that I'm doing it right and it's working, which would make me want to do it more cause I can see the results and that it's working. And I know that it doesn't work that way. It takes a few times to get it, to get results. So, yes if I could see faster results I guess that would get it [exercise]in there. That I know that it's not a waste of time, which I know exercise is not a waste of time, but it kinda feels like it's a waste of time.

3.5. Increased exercise engagement

Despite their infrequent and/or reduced engagement in exercise, all participants acknowledged that engaging in regular exercise had benefits for their physical and mental health. For instance, participants described noticing that their bodies were getting stronger, they felt more confident, and experienced less anxiety when they exercised

regularly. Participants identified specific facilitators that had helped them increase and maintain their motivation to exercise (Pathway C in Fig. 1). These exercise facilitators included motivation to reduce or distract themselves from disorder-specific anxiety symptoms, incorporating social support into their exercise routine, having more time and money to allocate to exercise, developing goals to see exercise-induced physiological changes (e.g., weight loss), and living in a culture that values exercise (e.g., active families who value and engage in exercise). Many participants also reported that regular exercise reduced their disorder-specific anxiety symptoms and increased their sense of overall wellbeing.

Decreased anxiety. For some participants, exercise was a way of reducing disorder-specific anxiety symptoms either by decreasing the frequency/severity of these symptoms, or by providing a distraction that immediately, but temporarily, alleviated their symptoms in the short-term. For instance, one participant described how much she liked swimming because she could "zone out" and forget about outside stressors while she was at the gym.

P6: Like my mind is completely blank […] Swimming is just like, when you're in the water nothing goes through your mind, but the water. You're just in the zone. So, you're not thinking about all the other little things going on in your life.

Others reported using exercise as a technique to reduce feelings of stress and anxiety. One participant illustrated how she used exercise to shift her energy away from stressors towards exercise, which subsequently benefited her physical and mental health.

P1: With like stress and anxiety just I noticed there was a decrease because I was freaking out a lot last year and I just felt a lot happier because I was doing something more beneficial. […] I feel like last summer I was still doing classes, but I was also exercising a lot. I wasn't that stressed out, and I was able to put that stress into going on runs, just going to the gym. I started doing a lot of Pilates as well, which was nice because I felt like I was getting stronger too, which is always good.

Social support. Many participants reported using social support as a strategy for increasing their engagement in exercise. Some participants, including the participants below, reported recruiting family members and friends to exercise with them. Others reported making a commitment to take part in an exercise class or sports team to increase their exercise frequency.

P2: She [my sister] likes to run and does the elliptical thing and she motivated me to go to the gym and I signed up. If I have my sister's social support, my friends support, then I tend to do better [at exercising].

P13: If I meet people in a class or if I went with someone, like if I knew someone at the class and we went together or you get to know people in the class, so you get the social benefit. So, I have joined exercise classes, lots of exercise classes, but they ended and then I just wasn't smart enough to set up an environment for myself to continue that.

Conversely, the following participant strategically used her anxiety and social support in a different manner that also temporarily increased her exercise behaviours. Specifically, she made a commitment to a dance team and reported that not attending the exercise sessions and letting her team down became more anxiety-provoking than attending the exercise sessions.

P13: If it's just me it's harder to motivate myself. If it's a class or something that I'm already committed to that's what actually makes me go. If it was just me, like the chances of me doing it are very low.

I: What is it about the class that makes you want to go?

P13: Already made a commitment to it, they're expecting me too. I feel anxious if I don't go because then I know that they're expecting me.

Time and money. Many participants reported that if they perceived they had more time and/or more money available to allocate to exercise, their exercise frequency would increase. For instance, participants described how having reduced workloads or working normal business hours helped them schedule exercise sessions within their day and make this scheduling feel less overwhelming. Additionally, many participants indicated that having more money that they felt they could allocate towards exercise helped them increase exercise behaviours, either by hiring a personal trainer to help increase their exercise knowledge, or by purchasing a gym membership in a convenient location. Conversely, some participants reported that paying for exercise helped motivate them to attend exercise classes or the gym facility that they were paying to use. In the following example, a participant used the extra time she had on vacation and social support as motivators to exercise.

P13: Sometimes I travel with my boyfriend to warmer places, like we went west last summer and we did lots of walking cause we were sightseeing and seeing tourist areas. We walked for about a mile from the hotel to the restaurant. It is a small place and you can walk wherever and we went hiking too.

3.6. Disengagement from exercise

Participants attributed decreases in exercise behaviour to either the loss of an exercise facilitator and/or the perception that exercise was unsuccessful at reducing their disorder-specific anxiety in the long-term. When either of these outcomes occurred, participants reported that they reverted back to a cycle of worries about exercise, negative reactions to physical sensations associated with exercise, and subsequent exercise avoidance (pathway D in Fig. 1). The following participant described her experience with both pathway C and D of the exercise anxiety model. Although she acknowledged the benefits of working out on her physical and mental health, she explained how loss of time led to a "vicious cycle" of exercise anxiety and eventual exercise avoidance.

P7: It's just kind of a vicious cycle when it comes to school and working out because you know that, that's going to benefit you and that's why I will do something quick at home. […] I can't do that [more exercise] during school just because I'm so anxious about doing school. It's like I'll do a quick little thing [exercise], and then to try to like calm me down, it doesn't give me the body I want but it does, it's like a quick fix I guess. But yeah it's a vicious cycle to get into because you know the benefits, but then it's like there's so much you could do and if I get a bad grade on anything then that just puts me into a huge slump and I feel even more bad about doing anything [exercise] at home. So, then I just like I get more anxious, and more depressed because I can't, I'm not doing that physical activity. But, then like if I even attempt to go do the physical activity, there's times, like I force myself to come to the gym at least once a week, except I haven't been this week because it's been so busy. But, even, like I can't enjoy it, because it's when I'm at the gym, and I'll push myself and I'll be like yeah I'll start to feel the endorphins being boosted, but I can't enjoy myself and I keep looking at the clock, like what time is it, I need to go, I need to go. You know? I don't enjoy my time because I'm so anxious about my schooling. […]And then along with having anxiety when you start thinking about like "Oh I could go workout right now" and then you're just like "Oh wait I have papers to do. I have this to do" and then you start panicking and it's just like "Okay, I need to do my school work because that's important" and so that's what prevents me. I do know the benefits of exercise, but it's just with school, it's just I feel bad about working out or spending any other time that's not specifically on school.

Loss of facilitator(s). Almost all participants described how a loss of a facilitator led to a decrease in their exercise behaviours and an increase in their worries about exercise and negative reactions to the physical sensations associated with exercise. Most participants

identified a loss of social support and/or perceptions of decreased time that resulted in reduced exercise. For instance, one participant described how the effects of her perceived loss of time during school months resulted in reduced exercise behaviours, increased her worry, and feelings of sluggishness.

> *P6: In the summer, I'm a completely different person. My friends notice that too and they are like "You're so much more like bubbly" and like I am a really outgoing person. In the summer, it's more because I'm working out and can totally see mental health and physical benefits, but like in school right now, it's just like you have a lot of little things to worry about. […]So yeah, I just feel like I'm in a very sluggish mode a lot of the time just because I just feel like I just don't have the time to go when I need to and get like what I want done. And if I do have the time, I'm in the sluggish mode that I don't want to go. So, it's just like a cycle, and I'm totally like aware of it too. And, I haven't been able to get out of it. And you know that's a mental health thing, like mentally telling yourself "Okay you're sluggish, but you need to go" but you just you don't go.*

No reduction in anxiety. Participants reported that if they believed their attempts to reduce disorder-specific anxiety symptoms with exercise were unsuccessful, they were likely to stop exercising. Specifically, some participants reported that they used exercise as a distraction technique, allowing them to temporarily avoid thinking about their anxiety altogether, while others reported using exercise as a form of stress-relief. These participants also indicated that neither approach was usually successful at reducing their disorder-specific anxiety symptoms over the long-term. For participants using exercise as a form of distraction, shorter, more intense workouts were less appealing than longer workouts at a decreased intensity, because shorter workouts reduced the amount of time that they could "zone out". These participants viewed shorter workouts as a deterrent, despite reporting perceptions of lack of time as a concern that contributed to their exercise anxiety. For the following participant, 10 min of interval training would not be enough time to feel mentally and physically okay.

> *P6: Well, I mean if you do the interval training that they do, like I mean they're sweating and stuff, but I don't think that would have the same benefit, like I wouldn't feel I had a full workout. I mean that's 10 minutes of mental, like my mind is mentally okay versus my mind is mentally okay for like an hour, right? So, that's 10 minutes of okay you're only focusing on this and then after its back to reality. So, I feel that mentally it wouldn't help me out. I've never tried it though, so I can't really say. But like that hour, you feel good about yourself and you feel your mind is occupied, right? So, I don't feel guilty and stuff right after because you're like "Okay I've had a good workout." When you're in the shower after, you're like, "That was good I'll go next week" and you're okay. But, then if you went for 10 minutes I just don't think mentally "Okay that was a good workout, but I could have had 50 minutes of the mental health part of it, right"?*

4. Discussion

The purpose of this study was to use qualitative methodology, specifically grounded theory, to develop a model to understand participants' experiences in beginning, maintaining, and terminating an exercise regime. The resulting model (see Fig. 1) shows that interactions between disorder-specific anxiety symptoms (e.g., social anxiety, generalized anxiety) and cognitive, physical, social/environmental, and behavioural experiences can either decrease or increase exercise engagement. Specifically, our model shows that disorder-specific anxiety symptoms can motivate people with ARDs to engage in exercise, either with the help of a facilitator (e.g., social support, money, time), or with the intention to produce anxiolytic effects to decrease their perceived symptoms (pathway C in Fig. 1). Our model also shows that if people with ARDs lose their facilitator(s) or do not believe that exercise has helped their disorder-specific anxiety symptoms, they may experience increased worries about exercise (e.g., about the possibility of evaluation and poor execution of exercise) or negative reactions to the physical sensations (e.g., misattributed physical sensations) associated with exercise (Pathway D in Fig. 1). These worries about exercise and negative reactions to physical sensations associated with exercise promote the emotional reaction of exercise anxiety which, in turn, leads to avoidance of exercise (pathway A in Fig. 1). This avoidance reduces distress in the short-term and subsequently leads to more exercise avoidance in the long-term (pathway B in Fig. 1). To the best of our knowledge, this study is the first to identify exercise anxiety and the associated cognitions, aversive physical sensations, and behavioural avoidance underlying and maintaining it. Our model suggests that interventions designed to increase exercise engagement for people with ARDs need to do more than provide people with facilitators to exercise (e.g., supports, money, time). Our results suggest that exercise anxiety could be an obstacle that is preventing people with ARDs from participating in a regular exercise routine; thus, targeting exercise anxiety may be necessary to achieve long-term adherence and exercise-related benefits.

Prior to this study, the facilitators that help people with ARDs increase and maintain their exercise participation and the barriers that prevent people with ARDs from exercising were largely unknown. Our study provides a starting point for the development of this evidence base. For instance, although DeBoer et al. (2012) posited that exercise could reduce symptoms of anxiety by exposing individuals to various anxiety-provoking situations, our findings suggest that without intervention, the anxiety associated with exercise may prevent people with ARDs from exercising or may prevent persisting with an exercise regime long enough to experiences these benefits. Additionally, a study evaluating the barriers to exercise participation in women with high and low anxiety sensitivity (i.e., a cognitive risk factor for the development of ARDs; Schmidt, Zvolensky, & Maner, 2006) found that differences in physical activity level between these groups was mediated by the perceptions of women with high AS that the barriers to increasing their physical activity outweighed the perceived benefits (Sabourin et al., 2011). These researchers noted that physical activity interventions in at-risk populations should not focus exclusively on the benefits of becoming active, but should also target reasons why these individuals are exercising less. Our findings build on these results by providing a model that can explain why individuals with ARDs may have difficulty beginning and maintaining a consistent exercise regime. Furthermore, past research has identified facilitators to exercise participation and physical activity used by other clinical populations, such as individuals with serious mental disorders (e.g., schizophrenia, bipolar disorder) that are also consistent with results from the current study (Chapman et al., 2016). These reported facilitators include social support (Chen, Pellegrini, Tang, & Kuo, 2017; Hargreaves, Lucock, & Rodriguez, 2017; Roberts & Bailey, 2011a,b; Stubbs et al., 2014), intended symptom reduction (Chen, Pellegrini, Tang, & Kuo, 2017; Hargreaves et al., 2017; Roberts & Bailey, 2011a), distraction (Hargreaves et al., 2017), and accesses to exercise equipment and facilities (Chen, Pellegrini, Tang, & Kuo, 2017). Participants in the current study reported experiencing similar facilitators to exercise and/or physical activity engagement (pathway C in Fig. 1), most notably social support, time and access to resources, as well as expected symptom reduction (e.g., via distraction). These similarities suggest that incorporating these facilitators into exercise programming may have benefits across diverse clinical presentations, including individuals with ARDs.

Although participants reported that relying on a facilitator, could help them increase their exercise participation, almost all participants indicated that a loss (or absence of) a facilitator resulted in a decrease in exercise participation and an increase in exercise anxiety (pathway D in Fig. 1). Findings that the loss of a facilitator (e.g., social support, time) can lead to decreased exercise participation are consistent with a qualitative study of gym attendance and non-attendance in a non-clinical sample (Pridgeon & Grogan, 2012) which found that loss of

social support led to exercise dropout, regardless of the purpose that social support served (e.g., commitment, increased enjoyment, distraction). Although facilitators and intentions to reduce disorder-specific anxiety with exercise appear to have benefits for exercise participation in the short-term, our results suggest that relying only on these factors may not lead to long-term adherence for people with ARDs.

Our findings present several implications for future research and the development of interventions intending to increase exercise participation for people with ARDs. First, our results suggest that interventions that do not specifically target exercise anxiety for people with ARDs may be unlikely to result in long-term exercise adherence. Second, although interventions that provide information about benefits of exercise, target motivation, or provide participants with exercise facilitators (e.g., social support, exercise facilities, money) may increase exercise behaviour in the short-term, results from our study indicate that this behaviour change may be transient. Third, our findings point to the potential role of cognitive-behavioural interventions such as cognitive restructuring (for review see Beck, Emery, & Greenberg, 2005), interoceptive exposure (for review see Stewart & Watt, 2008), countering emotion-driven behaviours and emotional exposure (for review see Barlow et al., 2017) for targeting the cognitive, physical, and behavioural components of exercise anxiety. For instance, participants in our study reported they avoided exercise because the physical sensations that they experienced reminded them of anxiety symptoms. Both cognitive restructuring and interoceptive exposure could be used to identify and counter the fears that are maintaining avoidance and to reduce the distress associated with these physical symptoms. Emotional exposures could also be incorporated to systematically encourage these individuals to face feared exercise environments. Despite the promise of the application of cognitive-behavioural interventions for targeting exercise anxiety, research is needed that evaluates whether these psychological interventions can produce long-lasting changes in exercise behaviour for people with ARDs.

Although results from this study provide much needed clarity into the processes underlying and maintaining exercise anxiety and avoidance for people with ARDs, there are several limitations that should be considered when interpreting our results. First, despite our attempts to recruit a diverse sample of participants, only individuals identifying as female and women completed the online eligibility screener and participated in our trial. Given that women are more likely to experience ARDs (McLean, Asnaani, Litz, & Hofmann, 2011) and tend to report lower levels of physical activity (Azevedo et al., 2007; Eyler et al., 1998), these trends indicate that women might experience barriers to exercise that men do not. In line with this possibility, past research has identified a range of barriers to exercise participation, due in part to differences in socialization practices, that may be uniquely experienced (or experienced to a greater extent) by women. These barriers could be contributing to the difficulty of beginning and maintaining an exercise regime for women with anxiety and include normative female gender role responsibilities such as child care and housework (Verhoef & Love, 1994; Verhoef, Love, & Rose, 1993), not wanting to prioritize their own needs over the needs of their family, (Welch, McNaughton, Hunter, Hume, & Crawford, 2009), and increased body dissatisfaction, (Davis & Cowles, 1991). These barriers could make women, particularly women with ARDs, self-conscious about how they may be perceived in an active space. Indeed, all participants in our study reported concerns about being perceived negatively by others when exercising. Many participants further reported that they found it challenging to find time to exercise, in part, because of the demands of other responsibilities in their life (e.g., family, school). More research is needed to replicate this study with participants who do not identify as women. Another limitation of the current study is that we excluded physically active individuals because we wanted to understand the experience of exercise for people with ARDs who were struggling to maintain a consistent exercise regime. Excluding physically active participants, however, limits what we were able to learn about factors that increase long-term engagement of exercise. An important future direction will be replicating our current investigation with a group of physically active individuals with ARDs. Lastly, although a qualitative approach, such as the grounded theory methodology used in the current trial, is a recommended strategy for developing novel frameworks for areas lacking in research, findings from qualitative research may not be transferable beyond the sample being studied. For instance, in the current study, although the criteria required for data saturation were met (Guest, Bunce, & Johnson, 2006), our results may not generalize to all individuals with ARDs due to the sample size and unique demographics of the participants in our study. Instead, our results provide a starting point, from which more research, qualitative and quantitative, is needed to evaluate and build upon our findings.

Paradoxically, our results show that exercise is not only a potent anxiolytic (Asmundson et al., 2013), but also a source of anxiety. Thus, there is a need to understand the interplay between the psychological processes that fuel engagement and disengagement from exercise participation for people with ARDs. This study presents a model of exercise anxiety that accounts for the exercise avoidance behaviours that have been consistently reported for people with ARDs. Our model also identifies several factors which can facilitate exercise participation for people with ARDs, and explains how the loss of these factors can ultimately lead to exercise anxiety and avoidance. Targeting exercise anxiety, perhaps through the use of cognitive-behavioural interventions, may be necessary for people with ARDs to achieve long-term adherence and benefits.

Ethics approval and consent to participate

The study was approved by the University of Regina Institutional Research Ethics Board. We complied with Canadian Psychological Association ethical standards in the treatment of our sample. All interested persons were directed to a website with study details and were required to explicitly indicate consent before proceeding.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix A

Interview Guide

Interviewer checklist:
Describe the project ☐
Describe the interview process ☐
Review interview guide with participant ☐

Purpose: We are interested in understanding the barriers to- and facilitators of- exercise participation for people with anxiety-related disorders

Date: _____

Place: _____

Interviewer: _____

Interviewee: _____

Gender:

Probing Questions:

1. Prior to this study what has prevented you from exercising regularly?

a. What benefits of regular exercise were you aware of prior to participating in this study? Has this changed?
b. What benefits (if any) did you personally experience from not exercising?
c. What negative consequences (if any) did you personally experience from not exercising?

2. How does exercise impact your mental health?

a. How (if at all) does exercise positively impact your mental health?
b. How (if at all) does exercise negatively impact your mental health?

3. How do you feel about continuing an exercise program?

a. Has participating in this study affected any of your beliefs about exercise?
b. Are there potential barriers that may prevent you from exercising?
c. Are there potential facilitators that could help you engage in regular exercise?
d. Is there a type of exercise program (i.e., weight training vs. cardio) and/or intensity (i.e., high, medium, low) that you would prefer? If so why?

4. Is there anything I have not asked you that I should have asked you?

Non-verbal cues:

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