The Physical Educator Vol. 80 • pp. 527–539 • 2023
https://doi.org/10.18666/TPE-2023-V80-I5-11463

PHYSICAL FITNESS

Attitudes Surrounding Group Cycling Versus Individual Cycling During the COVID-19 Pandemic

Alexis Trumbetti, Selen Razon, Lawrence W. Judge, Olivia Huffman, Meghan G. Ramick

Abstract

Group exercise settings can offer a team-like environment that can enhance social bonding as well as increased physical effort and perhaps higher enjoyment of the activity. During the COVID-19 pandemic, many exercisers were unable to attend their conventional exercise classes. To circumvent this issue, a local spin studio in the Mideast United States allowed members to rent a spin bike and follow along to rides recorded and broadcasted by instructors. The purpose of this study was to survey members' remote cycling experiences during the COVID-19 pandemic. Seventeen adult cyclists (16 female, 1 male, M_{age} = 37.1 ± 12.0 years) responded to a survey that included five Likert scale and six open-ended questions. The results revealed that participants were less motivated, less engaged, and felt less confident while spinning remotely from home. Members reported missing the community component of in-person classes the most. Isolation is sometimes a barrier to chronic exercise; a group fitness class can help motivate participants to push themselves physically and mentally.

Alexis Trumbetti, Department of Kinesiology, West Chester University. Selen Razon, Department of Kinesiology, West Chester University. Lawrence W. Judge, School of Kinesiology, Ball State University. Olivia Huffman, School of Kinesiology, Ball State University. Meghan G. Ramick, Department of Kinesiology, West Chester University. Please send author correspondence to lwjudge@hotmail.com

Regular physical activity can help improve muscular strength and boost endurance. Exercise is well known for its many benefits including the promotion of health as well as the reduction of the risk of chronic diseases and conditions. People with mental health conditions such as depression and anxiety also benefit from physical exercise due to the release of exercise-induced endorphins (Cohen et al., 2009). Daily exercise can help individuals lessen their need for psychopharmacological interventions (Carek et al., 2011). Regular physical exercise training programs can serve as an adjunct therapy for depression in older adults (Blumenthal et al., 1999). Exercise also improves symptoms of anxiety, and high-intensity exercise is especially more effective at doing so (Aylett et al., 2018). This is particularly important as Hoffman et al. (2020) posits that middle-aged to older adults may have felt more isolated and exercised less during the COVID-19 pandemic.

Group exercises include cardio-based dance, step, and indoor spin classes. Although group exercise takes many forms, it commonly involves coordination between co-actors and is performed at medium levels of intensity (Davis et al., 2015). A recent Worldwide Survey of Fitness Trends rates group exercise second out of the top 20 worldwide fitness trends for 2019 (Thompson, 2018). Group exercise can offer a team-like environment and social bonding that can lead to a sense of acceptance and cohesion that individual exercise may not offer (Christensen et al., 2006). There is also increasing evidence that behavioral synchrony similarly affects social bonding and pain modulation (Davis et al., 2015).

Recent investigations on pain processing and perception help to illustrate further the relationship between synchrony, bonding, and group exercise (Davis et al., 2015). It is also important to note that sharing a painful experience (i.e., a challenging exercise bout) compared to a similar, nonpainful experience enhances bonding among strangers (Bastian et al., 2014). This bond can lead to increased exercise ability and perhaps to a higher enjoyment of the activity (Davis et al., 2015). Therefore, it may be plausible that members of conventional group exercise classes enjoy exercising more than those who exercise alone because of the bonds they form with others. Furthermore, the physical effort may seem easier in a group

environment due in part to an increased pain threshold via self-comparison with others (Cohen et al., 2009).

Specifically, in addition to the bond that can be formed during group exercise, exercising in a group environment allows participants to compare themselves to and potentially compete with fellow exercisers. They can do this by qualitatively assessing the effort they are generating in comparison to others as well as by quantitatively assessing their own metrics such as heart rate or power output in comparison to others if these are displayed publicly.

Indeed, indoor spin classes are becoming more popular with studios such as Soul Cycle and Cycle Bar opening in big cities to suburbs (Hambrick, 2017). However, with the onset of the COVID-19 pandemic, regular spin class participants were unable to attend their class as normal due to nationwide shelter-in-place mandates. Nyenhuis et al. (2020) found that home-based exercise programs significantly increased during the COVID-19 pandemic. Therefore, the purpose of this study was to assess a Mideast spin club's current members' attitude toward individual exercise versus group exercise during the COVID-19 pandemic when there was no choice but to exercise individually. We hypothesized that participants would feel less energized and motivated during their spin workout at home compared to a spin workout at the cycling studio.

Method

Study Design

This study was designed to gather information on participants' perceptions of an at-home exercise routine versus one at the spin studio. Although the at-home spin routine was similar to the workouts performed in the studio, the attitudes of participants could vary due to the removal of a group atmosphere during the at-home experience. To circumvent this issue, current, founding members of a Mideast spin club community were given the opportunity to rent one of the spin bikes from the club to use at home during the COVID-19 pandemic. Spin club instructors then broadcasted and recorded choreographed rides for members to view and follow along at home. Links to the rides were sent out via email to club members, who could choose to follow along "live" with the instructor or "on-demand" at a later point in time. As this study was performed during

a global pandemic, it was possible that members may have felt some amount of relief at the opportunity to continue their workout from the comfort and safety of their home. However, it was possible that group fitness enthusiasts may have felt they were missing out on some of the potential benefits of group exercise.

Participants

Study participants were recruited via email from a spin cycling studio in the Mideast United States. Current club members who rented a bike received an email including the details of the study including purpose and inclusion criteria (members of the cycling club over the age of 18 with access to a spin bike) as well as a hyperlink to the survey from the owner/manager of the studio.

Participants were asked to respond to a 14-question survey that included the informed consent (Question 1) followed by two demographic questions, five Likert scale questions (1 = *not true at all* to 5 = *very true*), and six open-ended questions. The survey was formed and distributed with Qualtrics. To verify both content and face validity, researchers, including an expert in the psychology of exercise and fitness, created and reviewed the instrument.

Once participants submitted the survey through Qualtrics, their participation was complete. Completion of the survey took approximately 15 min. Subjects were informed that their responses were completely anonymous. The study was approved by the Institutional Review Board at West Chester University and conformed to the guidelines set forth in the Declaration of Helsinki. Participants must have selected "I give my consent" to proceed to the survey.

Statistical Analysis

Mean and standard deviation for age and the Likert scale questions were calculated with Prism 9. The responses to the six open-ended questions were analyzed with the qualitative method of content analysis (Krippendorff, 1980; Tritschler, 2000). These content analyses included response review, identification of themes, and classification of responses according to the identified themes, thereby giving voice to the viewpoints expressed regarding the difference between group exercise at home or at the studio. These qualitative data add further

depth of discovery regarding key issues surrounding the impact of the global pandemic on group fitness classes. Content analyses allowed researchers to determine dominant themes in participants' responses and categorize them into meaningful clusters.

Results

Seventeen experienced adult cyclists (16 female, 1 male, M_{age} = 37.1 ± 12.0 years) participated in this study. As Table 1 shows, the means of the Likert scale questions (#4–8, ratings ranging from 1 = *not true at all* to 5 = *very true*) revealed that participants were less motivated to spin at home compared to spinning at the spin cycle studio. However, they felt equally energized when they cycled at home compared to when they cycled at the spin cycle studio. Participants enjoyed riding at home less compared to riding at the spin cycle studio and felt less engaged in spinning at home compared to spinning at the spin cycle studio. Participants also felt less confident about their ability to cycle while spinning at home compared to spinning at the spin cycle studio. Overall, these data suggest the favorability lies with cycling at the spin cycle studio as opposed to cycling individually at home.

Table 1
Members' Remote Cycling Experiences Likert-like Survey Questions

Questions	*M*	*SD*
I feel more motivated when I spin at home as opposed to spinning at [the spin studio].	1.63	0.89
I feel less energized when I spin at home as opposed to spinning at [the spin studio].	3.24	1.44
I enjoy riding more when I spin at home as opposed to spinning at [the spin studio].	2.00	1.25
I feel more engaged when I spin at home as opposed to spinning at [the spin studio].	1.27	0.46
I feel better about my ability to cycle when I spin at home as opposed to spinning at [the spin studio].	1.71	1.14

Note. These Likert-like survey questions were rated 1 = *not true at all* to 5 = *very true*.

Regarding qualitative data (Table 2), thematic content analyses yielded to several themes for each of the qualitative items. For the biggest challenge associated with spinning at home, three major categories of challenge emerged: (1) motivational challenges (n = 6), (2) competitive challenges (n = 3), and (3) community-related challenges (n = 3). Some of the responses for motivational challenges included "The music isn't as loud and motivating, lighting is different. Mentally being somewhere different to workout is more motivating to me"; "Getting motivated to get started at home is really tough. Once I register for a [spin studio] class, I am committed"; and "lack of company, lack of motivation, ability to quit or disengage at any point during the ride, lack of competition, the environment." Responses for competitive challenges included "I notice that I am a competitive person, which is why I enjoy in-person classes. I also prefer metrics that document process. While I did this on my own, I prefer an app etc. to keep track"; "lack of competition, lack of company"; and "Not as compelling watching a screen vs. live person w/the music pumping. No overall score to compare rides over time. I definitely push myself harder in the studio with the instructor." Responses to community-related challenges included "I don't feel like I am part of a team. I can't push myself the same without the instructor" and "I'm less motivated at home. I enjoy the energy at [the spin studio] and I feed off the energy of other people. At home I only have myself to be accountable for."

For a relatively large number of the participants, cycling at home was not as motivational as cycling at the spin cycle studio. For others, cycling at home was not as competitive as cycling at the spin cycle studio. Finally, for others, cycling at home lacked the social environment of cycling at the spin cycle studio. Regarding what the participants missed most about cycling at the spin cycle studio, one theme emerged, and that was the community component (n = 14). For many participants, the community created in the studio was a unique aspect of their experience. The home cycling experience did not offer this aspect that individuals otherwise valued.

As to whether participants could see any benefits (other than discounted membership) associated with cycling at home, more participants responded yes (n = 11) than no (n = 6). A major theme that emerged was the flexibility in the schedule (n = 6), followed

Table 2
Members' Remote Cycling Experiences Qualitative Survey Questions and Themes

Question	Theme	*n*
Please identify your biggest challenges in regards to cycling at home as opposed to cycling at [the spin studio]. (Examples may include but are not limited to: lack of company, lack of time, lack of competition, lack of structure, lack of fun).	Motivation	6
	Competition	3
	Community	3
	Misc.	5
What is the one thing that you miss most about spinning at [the spin studio] that you do not experience at home? (Examples may include but are not limited to: community, support, friends, motivation, etc).	Community	14
	Misc.	3
Except for potential savings (e.g., commuting time, etc.), do you see any benefits to cycling at home as opposed to cycling at [the spin studio]?	No	6
	Yes	11
	Flexibility in schedule	6
	Safety	3
	Misc.	2
Have you been engaging in other forms of physical activity (other than spinning) at this time? Please list.	No	4
	Yes	13
	Walking/running	5
	Weight training	3
	Misc.	5
While spinning at home, do you feel like you are able to achieve your health and fitness goals as well as you can in the studio?	No	6
	Yes	5
	Somewhat	5

by increased safety (n = 3). Participants still saw some benefits to cycling at home including greater flexibility of scheduling their own cycling session as well as a greater sense of safety. Participants may have perceived increased safety because they remained in the safety of their own homes as opposed to venturing outside and potentially exposing themselves to the virus.

Many participants (n = 13) responded yes to whether they had been engaging in other forms of activities than cycling. Two major categories of additional activities emerged: (1) walking and running (n = 5) and (2) weight training (n = 3).

To whether they felt like they met their health and fitness goals while cycling at home as opposed to the spin cycle studio, an equal number of participants responded yes (n = 6) and no (n = 6), whereas almost the same number of participants responded somewhat (n = 5).

Discussion

This study of the attitudes surrounding group cycling versus individual cycling during the COVID-19 pandemic indicates that the group environment at the spin cycle studio allows members to be more motivated, energized, engaged, and confident, and makes the experience more enjoyable. One of the major findings of the study is exercisers lack motivation while cycling at home. The Plante et al. (2010) study indicates that when people are paired with a high-fit companion, compared to a low-fit companion, they exercise harder. One reason they may do so involves social comparison theory (Plante et al., 2010), which states,

> Humans have a drive to assess how they are doing and in order to assess how they are doing, they seek standards against which to compare themselves. When objective standards are not available, people look to their social environments and engage in comparison with available others. (Corning et al., 2006, p. 338)

These results align with those from this study that people feel more motivated while cycling in the studio compared to cycling alone at home. This increased motivation at the studio may originate from the ability to compare oneself with other cyclists in the class. It is possible

that when participants see their overall ranking in comparison to others as well as their perception of effort compared to what they perceive from others, it drives them to improve their performance. Specifically, at the spin cycle studio, instructors will occasionally display a "leaderboard" in which participants are ranked according to their cumulative power output across the session. At the end of the class, participants receive an email with their ranking compared to other cyclists, among other personal data collected during the ride. Furthermore, participants can qualitatively compare the effort they perceive others putting forth compared to their own perceived effort and adjust accordingly as participants often conform to the behavior of those around them (Plante et al., 2010). This competition-based exercise may also explain why participants feel more energized during the group setting at the spin cycle studio.

Another finding of this study is people feel more energized while cycling at a spin cycle studio. The attitudes of the surrounding individuals and the instructor may contribute to a more energized atmosphere, potentially increasing motivation in the studio. The community aspect of group exercise that participants value can be described as the support they receive through the friendships they make through working closely together in an exercise setting. This study points to that community factor as being most important to participants, in a comparison to home cycling versus cycling at the studio. From checking in at the studio to riding alongside other participants, there are multiple opportunities for social interaction at the studio that are not present when people cycle at home. Even if a rider does not speak a word to the staff or a neighboring participant, the rider can glean that they are not alone in experiencing the strenuous workout by simply looking around the studio during the workout. Additionally, there are in-studio opportunities for personalized verbal and nonverbal interaction and encouragement from the instructor. For example, sharing painful experiences may increase cooperation among participants, forming a bond between them and creating a greater sense of closeness (Bastian et al., 2014). Creating these bonds as well as having others to motivate you to do your best is the community factor that is one of the most important aspects of group exercise.

Finally, our results suggest that riders favor the sense of flexibility accompanying at-home cycling compared to attending class at the spin cycle studio. When cycling at a spin cycle studio, individuals choose from a list of classes with distinct times. The class time that works best for an individual's schedule may be at capacity, resulting in them picking a less convenient time slot or skipping their workout entirely. Research by Argent et al. (2018) explains the difficulty in creating adherence to at-home workout programs. Locus of control, both internal and external, is a large factor. In this article, Argent et al. discuss the importance for participants to understand whether their locus of control is internal or external. Internal locus of control is when one generally believes the outcomes of their life come from their own actions, whereas an external locus of control is when one generally believes that the outcomes are due to other external factors (Cobb-Clark et al., 2012). Research results point to people with a greater external locus of control having less adherence (Argent et al., 2018). As such, men with a higher internal locus of control tend to have improved health returns with their exercise and diet (Cobb-Clark et al., 2012). Additionally, having some control in decision making can increase the likelihood of people sticking to their exercise regimen. At-home exercise is an example of internal locus of control because choosing when one exercises allows for more flexibility and a greater sense of control over exercise goals. This would benefit from further investigation, specifically an examination of what makes the respondents think they meet or do not meet their fitness goals. Examining this finding further may help practitioners adjust these modalities to meet individuals' needs at higher levels. Isolation is often a barrier to exercise; a group fitness class can further motivate participants to push themselves physically and mentally.

Limitations

Due to the state of the COVID-19 pandemic during this research, there were some limitations to this study. First, our sample size was relatively small. It was not possible for us to go into the spin studio and recruit participants in person because of the COVID-19 restrictions set in place. The lockdown limited our ability to recruit additional participants to increase our sample size. All recruiting of participants had to be done via email, which could have been easily missed, ignored, or forgotten about. While reconfiguring the

research to align with new COVID-19 protocols, potential participants themselves could have limited their willingness to participate.

Conclusion

COVID-19 has accelerated the adoption of hybrid fitness models with a combination of online/in-person workouts. Lifestyles during the pandemic had become suddenly sedentary with no commuting, no travel, lots of working from home, and remote learning (Kaur et al., 2020). The unexpected nationwide lockdown had upended individual fitness regimes. During this time, physical activity levels in the U.S. had declined (Hoffman et al., 2020; Kaur et al., 2020). For people who have continued exercise routines, virtual fitness has been key for youth to elder populations (Kaur et al., 2020). Online and at-home modalities of training have been used in the past and have significantly increased with fitness businesses adjusting for lockdown protocols (Nyenhuis et al., 2020). Nyenhuis et al. (2020) has contended that even as some lockdown orders and business restrictions have lifted and gyms have reopened, online and at-home modalities of exercise training have remained. Understanding the role of group exercise in person's physical and mental health habits has become an important aspect with middle-aged to older people feeling more isolated and having exercised less during the pandemic (Hoffman et al., 2020). Additionally, exercise has been commonly used alongside therapy to reduce depression in older adults (Blumenthal et al., 1999) and as anxiety management (Aylett et al., 2018). One of the most important aspects of group exercise has been the community factor, including bond creation (Christensen et al., 2006; Davis et al., 2015), endorphin production, and increased motivation from others (Cohen et al., 2009). COVID-19 may have caused people to consider their individual fitness and health more holistically. Thus, the relationship between environment, exercise modality, synchrony, bonding, and group exercise has become more important and worth considering.

References

Argent, R., Daly, A., & Caulfield, B. (2018). Patient involvement with home-based exercise programs: Can connected health interventions influence adherence? *JMIR MHealth and UHealth, 6*(3). https://doi.org/10.2196/mhealth.8518

Aylett, E., Small, N., & Bower, P. (2018). Exercise in the treatment of clinical anxiety in general practice – A systematic review and meta-analysis. *BMC Health Services Research*, *18*, Article 559. https://doi.org/10.1186/s12913-018-3313-5

Bastian, B., Jetten, J., & Ferris, L. J. (2014). Pain as social glue. *Psychological Science*, *25*(11), 2079–2085. https://doi.org/10.1177/0956797614545886

Blumenthal, J. A., Babyak, M. A., Moore, K. A., Craighead, W. E., Herman, S., Khatri, P., & Krishnan, K. R. (1999). Effects of exercise training on older patients with major depression. *Archives of Internal Medicine, 159*(19), 2349–2356. https://doi.org/10.1001/archinte.159.19.2349

Carek, P. J., Laibstain, S. E., & Carek, S. M. (2011). Exercise for the treatment of depression and anxiety. *The International Journal of Psychiatry in Medicine, 41*(1), 15–28. https://doi.org/10.2190/pm.41.1.c

Christensen, U., Schmidt, L., Budtz-Jørgensen, E., & Avlund, K. (2006). Group cohesion and social support in exercise classes: Results from a Danish intervention study. *Health Education & Behavior*, *33*(5), 677–689. https://doi.org/10.1177/1090198105277397

Cobb-Clark, D. A., Kassenboehmer, S. C., & Schurer, S. (2012). *Healthy habits: The connection between diet, exercise, and locus of control* (Melbourne Institute Working Paper No. 15). SSRN. https://doi.org/10.2139/ssrn.2146274

Cohen, E. E. A., Ejsmond-Frey, R., Knight, N., & Dunbar, R. I. M. (2009). Rowers high: Behavioural synchrony is correlated with elevated pain thresholds. *Biology Letters*, *6*(1), 106–108. https://doi.org/10.1098/rsbl.2009.0670

Corning, A. F., Krumm, A. J., & Smitham, L. A. (2006). Differential social comparison processes in women with and without eating disorder symptoms. *Journal of Counseling Psychology*, *53*(3), 338–349. https://doi.org/10.1037/0022-0167.53.3.338

Davis, A., Taylor, J., & Cohen, E. (2015). Social bonds and exercise: Evidence for a reciprocal relationship. *Plos One*, *10*(8). https:/doi.org/10.1371/journal.pone.0136705

Hambrick, M. E. (2017). Riding into the future: A financial examination of SoulCycle and the indoor cycling studio trend. *Case Studies Sport Management, 6*(1), 86–94. https://doi.org/10.1123/cssm.2017-0013

Hoffman, G. J., Webster, N. J., & Bynum, J. P. W. (2020). A framework for aging-friendly services and supports in the age of COVID-19. *Journal of Aging & Social Policy*, *32*(4–5), 450–459. https://doi.org/10.1080/08959420.2020.1771239

Kaur, H., Singh, T., Arya, Y. K., & Mittal, S. (2020). Physical fitness and exercise during the COVID-19 pandemic: A qualitative enquiry. *Frontiers in Psychology*, *11*, 1–10. https://doi.org/10.3389/fpsyg.2020.590172

Krippendorff, K. (1980). *Content analysis: An introduction to its methodology.* Sage Publications.

Nyenhuis, S. M., Greiwe, J., Zeiger, J. S., Nanda, A., & Cooke, A. (2020). Exercise and fitness in the age of social distancing during the COVID-19 pandemic. *The Journal of Allergy and Clinical Immunology: In Practice*, *8*(7), 2152–2155. https://doi.org/10.1016/j.jaip.2020.04.039

Plante, T. G., Madden, M., Mann, S., Lee, G., Hardesty, A., Gable, N., Terry, A., & Kaplow, G. (2010). Effects of perceived fitness level of exercise partner on intensity of exertion. *Journal of Social Sciences*, *6*(1), 50–54. https://doi.org/10.3844/jssp.2010.50.54

Thompson, W. (2018). Worldwide survey of fitness trends for 2019. *ACSM's Health & Fitness Journal*, *22*(6), 10–17. https://doi.org/10.1249/FIT.0000000000000438

Tritschler, K. (2000). *Barrow and McGee's practical measurement and assessment.* Lippincott Williams and Wilkins.