

Exercise and COVID-19: reasons individuals sought coaching support to assist them to increase physical activity during COVID-19

Stephen Barrett,^{1,2} Kane Rodda,³ Stephen Begg,¹ Paul D. O'Halloran,⁴ Michael I. Kingsley^{5,6}

COVID-19 appears to be having a major impact on physical activity (PA) behaviours.¹ Physical distancing, while a safe measure, might have the unintended negative consequence of reducing PA.^{2,3} Prolonged periods of staying at home can lead to increased sedentary behaviours, resulting in an increased risk of physical inactivity and related chronic health morbidity.⁴ The measures required to limit the spread of COVID-19 may exacerbate the longstanding issues of physical inactivity and sedentary behaviour.⁵ The syndemic nature of the COVID-19 threat requires a nuanced approach to minimise the spread of the virus alongside the strong health rationale for maintaining PA.^{2,4-7}

Opportunities to be physically active have been restricted in the state of Victoria, Australia, during the COVID-19 pandemic. In March 2020, the Victorian Government introduced a variety of physical distancing policies under 'Stage 3' restrictions, including the closure of gyms, pools, community-based exercise centres and outdoor exercise groups. The suspension of traditional PA opportunities coupled with prolonged periods of self-isolation can increase the risk that adults do not undertake sufficient PA.⁸ In general, adults who report being socially isolated spend less time engaging in PA and more time in sedentary behaviours when compared to adults who do not report being socially isolated.⁹

Efforts have been made to address these barriers to PA. For example, scholars in a

Abstract

Objective: This paper explores the experiences of individuals who reported substantially decreasing physical activity (PA) as a result of COVID-19 and sought coaching support to increase PA.

Methods: A qualitative study using phenomenological analysis. Eight individuals participated in semi-structured interviews that focused on their experiences of decreasing PA as a result of physical distancing measures, and why they sought PA coaching to overcome these issues. Responses were analysed thematically.

Results: The participants reported markedly decreasing their PA following the enactment of physical distancing measures. The inability to subsequently engage in regular PA was a source of frustration for participants. Interview analysis revealed two themes that contributed to the understanding of why these individuals felt they needed PA coaching to increase PA; namely, a desire for both listening support and PA self-regulation support.

Conclusion: The individuals who decreased PA due to COVID-19 desired an autonomy-supportive counselling style, centred on listening support and self-regulatory support. Online PA interventions were not highlighted as strategies to overcome PA barriers.

Implications for public health: The effect of physical distancing measures on the determinants of overall PA is important, particularly if prolonged physical distancing is required.

Key words: exercise barriers, motivation, self-determination

variety of fields have published articles on the importance of maintaining PA during physical distancing periods¹⁰⁻¹² and official bodies have disseminated information on how to remain active during COVID-19 by exercising at home.¹³ However, individuals who did not engage in regular PA before COVID-19 are unlikely to increase their daily PA during COVID-19, and may potentially do even less.² Indeed in Canada, individuals who were physically inactive prior to COVID-19 decreased their PA even further.¹⁴ Broad-based messaging around maintaining PA is important, but it is unlikely to have much

impact on this group.^{15,16} The social impacts of the COVID-19 restrictions and the influence of this on psychophysical wellbeing may require more targeted behaviour change approaches to address barriers to PA engagement.^{6,17}

The Healthy 4U-2 (H4U-2) study used telephone coaching to increase PA in adults attending secondary care clinics in a tertiary hospital in regional Australia.¹⁸ Insufficiently physically active patients were referred to the study by their consulting clinicians and a number of these individuals (n=32) declined to participate as they did not believe they

1. La Trobe Rural Health School, La Trobe University, Bendigo, Victoria

2. Health Promotion Department, Bendigo Health Care Group, Bendigo, Victoria

3. Outpatient Rehabilitation Services, Bendigo Health Care Group, Bendigo, Victoria

4. School of Psychology and Public Health, La Trobe University, Bundoora, Victoria

5. Holsworth Research Initiative, La Trobe Rural Health School, La Trobe University, Bendigo, Victoria

6. Department of Exercise Sciences, University of Auckland, Newmarket, New Zealand

Correspondence to: Professor Michael Kingsley, Holsworth Research Initiative, La Trobe University, Victoria; e-mail: M.Kingsley@latrobe.edu.au; Michael.Kingsley@Auckland.ac.nz
Submitted: October 2020; Revision requested: December 2020; Accepted: January 2021

The authors have stated they have no conflict of interest.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

Aust NZ J Public Health. 2021; Online; doi: 10.1111/1753-6405.13089

would benefit from PA coaching. Following the introduction of physical distancing measures as a result of COVID-19, the H4U-2 research team received unsolicited calls from eight of these individuals who had reported substantially decreasing their PA. A period of more than nine months had passed since the initial contact with the study team. These individuals had initially declined PA coaching but were now expressing the desire for coaching support to help them be more physically active during the physical distancing period.

This contact provided the opportunity to explore with these individuals why they felt in need of coaching support to increase their PA during COVID-19 restrictions and what elements of PA coaching they were seeking. The aim of the research was to explore the experiences of individuals who had decreased PA as a result of the COVID-19 pandemic, and what components of PA coaching people think are important in assisting them to increase PA.

Methods

Study design and participants

A qualitative study design using semi-structured interviews was undertaken. An empirical phenomenological approach was used to obtain detailed descriptions of the experiences of individuals who decreased PA as a result of the COVID-19 pandemic.¹⁹ Phenomenological research is used to describe commonalities of lived experiences across a population and provides a deeper understanding of the phenomenon studied.^{19,20}

The eight individuals who contacted the research team seeking coaching support to be physically active were invited to participate in this study. All eight individuals consented to participate and made up the convenience sample of study participants. The interviews were completed between 10 June and 24 June 2020. The participants were reflecting on the time period from March 2020 up to the time of the interview. The Stage 3 restrictions introduced by the Victorian State Government only permitted four reasons to leave home: food and supplies, medical care, exercise, and work or education. Organised exercise programs were ceased, and outdoor gyms were closed. The State Government restrictions were eased somewhat on 13 May 2020, with outdoor exercise activities permitted in groups of up to 10 people, although the requirements on

physical distancing remained. Up to the time of the interviews, no changes were made to the restrictions on indoor exercise.

Ethics approval for this research was gained from the human research and ethics committee of the participating hospital and the associated university. The study objectives and voluntary nature of the study were explained to participants. Verbal informed consent was obtained before each telephone interview. Confidentiality was assured by using numbers instead of names (participant 1, participant 2 etc.), and by removing identifying information from transcripts. All audio recordings and transcripts were saved on a password-protected computer. Throughout this study, we followed the Standards for Reporting Qualitative Research guidelines.²¹

Procedures

Semi-structured, in-depth telephone interviews were done at a time convenient for participants. With participant permission, all interviews were audio-recorded. Each participant's age, marital status, employment and living arrangement were obtained at the start of the interview. Open-ended questions and question-related probes were used in the interviews to obtain detailed descriptions from the participants (Supplementary File 1). Data collection occurred concurrently with data analysis. The interviews were carried out over the telephone by the first author. The audio recordings were transcribed verbatim.

Analysis

In keeping with the phenomenological approach, the analysis included reading the transcript multiple times to gain an understanding of meanings conveyed, identifying significant phrases and summarising them in general terms, or codes.¹⁹ The codes were grouped to formulate meanings, with the validation of meanings through research team discussions to reach consensus. Finally, the codes were organised into categories, before a full description of themes was developed. Several strategies were used to ensure trustworthiness and credibility. Two co-authors analysed all the transcripts independently. Findings were then compared and discussed by the two co-authors until consensus on codes, categories and themes was achieved. Emergent categories and themes were discussed amongst the research team. Transferability was established by considering variations of participant characteristics and sufficient

quotations collected through in-depth interviews. The audit trail was maintained to ensure all analysis steps could be traced back to original interviews.

Results

The sample consisted of five females and three males aged between 40 and 61 years. Seven of the participants were employed and one participant was retired at the time of interview. Interviews lasted approximately 20 to 25 minutes. Participant characteristics and the normal PA they undertook pre-COVID-19 are summarised in Tables 1 and 2. Two broad themes emerged from the analysis with respect to what these individuals were seeking to assist with increasing PA during the COVID-19 restrictions: i) listening support; and ii) PA self-regulation support.

Listening support

This theme reflected participants' desire for a person-centred style of interaction, providing support that was centred on listening. For the most part, participants felt that they knew what to do to increase their PA; the problem manifested in doing so in an environment that they felt discouraged it. Although most participants received a degree of social support and encouragement from significant others in relation to their PA, the support offered was generally directive in nature. The participants were not always receptive to the style of these interactions.

I knew that I couldn't make the transition to home exercise alone. My husband was great; is great. But he isn't the deep listener ... he sees things in black and white. If he said, "tomorrow I'm going for a run" then he would do it. So, I don't think he has ever understood my battles with exercise. So, I wanted a voice to talk this through. To problem-solve together. Participant 2 (P2)

So, I imagine it [physical activity coaching] would be more about why – why don't I do it ... why not and this and that. Which is different to the 'do this, do that' advice. I don't need that. P6

The desire for listening support was particularly present among those who not only changed their PA as a result of COVID-19 but were required to change their daily schedules, necessitating a change to working from home and assisting with home-schooling. The participants expressed a desire for coaching support that provided validation of the issues they were facing and permitted the individual to explore potential avenues to address the problems.

Table 1: Participant characteristics.

Age (years)	
Mean	51
SD	7
Range	40–61
Marital Status	
Married/living together	7
Widowed	1
Highest completed education	
Secondary/high school	2
Post-school vocational	4
University	2
Employment	
Full-time	6
Part-time	1
Retired	1

I want someone to hear my problems, my unique problems. Someone who isn't my husband. Someone who might have heard similar things and can give their perspective to my situation. P7

I'd like to be listened to, to be heard. But I'd also like to be questioned I think, by a neutral party, because I think some worthwhile questions might force me to soul-search a bit and work out the solutions. P3

Alongside being listened to, the importance of having autonomy was also apparent. It was important to individuals that they could lead the conversations and consultations. Individuals felt that the drive for change needed to come from themselves, and listening support could help verbalise, explore and solve problems. Within this, support and encouragement were deemed necessary components, but the provision of advice was not necessarily wanted.

I don't need to be told what to do, I already know. But I do need some help in doing it. P6

Physical activity self-regulation support

The second theme reflected participants' desire for PA self-regulatory support. The participants expressed a feeling that they had lost a degree of control over their capacity to be physically active. They voiced a desire to not only increase PA but to gain personal control back over their PA routines that had been impacted by COVID-19 restrictions.

Well now, my sense of control has been taken from me. I don't have the option to go to the gym, so that's gone. P1

... I was trying to wrestle back some control. P2

Table 2: Overview of participants' pre COVID-19 physical activity.

Participant	Age	Gender	Pre COVID-19 physical activity
1	54	Female	Gym: 3–4 sessions/week – mixture of spin classes, body pump, body combat and yoga
2	44	Female	Boot-camp group training: 3 sessions a week
3	61	Male	Strength training: 2 days a week Walking group: 1 day a week
4	40	Male	Swimming: 2 sessions a week Basketball: 1 session a week
5	48	Female	Parkrun: 1 session a week Gym: 2 sessions a week – mixture of weights and cardio
6	57	Female	Walking: 4 x 5km walks a week
7	51	Female	Gym: 3 sessions a week – mixture of weights and cardio
8	50	Male	Mixed Martial Arts: 3 sessions a week

The participants reported a shift from undertaking regular PA before the lockdown to undertaking little to no PA in a short period of time. To have lost the capacity to self-regulate their PA during the restrictions was a source of frustration and accounted for the desire for help.

And that's what's disappointed me, my failure to do something I know I can do. P3

The changes to daily routine and the loss of structured exercise options greatly impacted the PA levels of the participants.

The participants did not account for the impact of the COVID-19 physical distancing policies on their PA patterns and did not have contingency plans or coping strategies to remain physically active. In the face of competing demands, participants were unable to regulate their PA and sought out support to assist with the physical and psychological ramifications. The effect of the restrictions and the desire for support is exemplified by the following quote:

I think I needed to keep face with my family, that we were okay, and home-school and me working on the business was all fine. So, I didn't want to appear weak or helpless in any way, even though I guess I was helpless now thinking about it. So, I put this front on to keep them happy and motivated. While I was crumbling a bit underneath. And again, I think that the role of the external person, to listen to these issues and be outside of them. So perhaps that was what I was seeking the most. P2

Female participants appeared to find it particularly difficult to self-regulate PA while navigating changes to their employment and social roles. The females reported investing significant time in home-schooling and work-from-home tasks, dedicating time to family and co-workers at the expense of allocating time towards their own PA. The males, in contrast, did not highlight the impact that home-schooling had on their

PA self-regulation, although only one male participant had dependent school-aged children.

Home-schooling has been an issue. It's taken up some of my time to be present with my kids when they have needed the time. So, I have to prioritise them. And, of course, my own work, and navigating the work from home situation. Some days at the beginning I was sitting at my desk at 9.00pm doing some work things, and not because I was busier than pre-corona, but I hadn't gotten my timing and schedules right. P1

... but also a lack of, or failure in prioritisation I think. I've failed to put my wellbeing up front, or as a priority. I invested lots of energy making sure my son was comfortable with his home-schooling ... And then I threw myself into work as well, to show that I could run my team from home, so demonstrating my capacity to my boss, and also to my staff as a leader. Again, did I do too much? I'm not sure. But I have accountability in my role, so I felt I needed to step up. And I wanted my staff to feel like I was there for them, to get them through it. To look after their needs. P7

Discussion

This study explored the experiences of individuals who significantly decreased their PA as a result of COVID-19 and sought coaching support as a means to increase activity. Pervasive throughout the participants' descriptions was the conflict between their desire to be more physically active and their actual participation in PA. The qualitative approach permitted the capture of the range of influences that impacted PA behaviour during the physical distancing restrictions imposed due to COVID-19. The findings are important in relation to PA behaviour change and also in relation to the design of interventions that seek to maintain PA changes in general.

Lack of support

A dominant theme that emerged from the analyses was the desire for a support specific to their PA issues. At the time of interview, all participants were staying at home due to physical distancing rules. The only PA support they received was from partners – support which was typically directive in nature. Participants perceived these interactions as negative experiences. They felt like they were being told what to do and were not being listened to. This was one of the factors that led to them seeking external support. Interactions perceived as unsupportive to psychological needs are likely to undermine autonomous motivation and self-efficacy.²² This highlights the importance of person-centred interventions to support PA change, and points to the significance of an autonomy-supportive influence, as outlined by self-determination theory, which posits that the quality of support will impact both the motivation and well-being of individuals.^{22,23} Supportive interactions using empathy and non-judgemental understanding have been shown to build the autonomy and motivation required to maintain PA.^{24,25}

The individuals felt constrained by a lack of listening support within their social environment. This highlights some of the issues faced by individuals when the social environment does not support both physical and psychological needs. Individuals ambivalent about behaviour change can benefit from sufficient feedback or information to foster self-efficacy,²⁶ which these individuals did not receive. A lack of appropriate support means that individuals are less likely to receive the necessary feedback to support the success of their PA changes. This in turn undermines individual competence and can result in reduced self-efficacy.²⁷ Further to this, a lack of social support from significant others in the home is known to impede efforts to maintain autonomous motivation and can hinder psychological needs.²⁸ This can subvert autonomous motivation, which leads to failed attempts at behaviour change and maintenance.

Lack of self-regulation

The second main theme that emerged from individuals who significantly decreased PA during COVID-19 physical distancing measures was a lack of PA self-regulation. This is consistent with existing evidence

suggesting that self-regulation mediates exercise behaviour.²⁹ The participants in this study reported decreasing almost all PA once the physical distancing rules were enacted and they were unable to subsequently increase PA up to the time of interview. The participants had remained physically active where structural supports were present but could only persist with their behaviour as long as the external support was available. It is likely that they had externalised their PA support system, and could no longer self-regulate PA in the absence of this support.³⁰ Hardcastle et al. (2011) detailed that individuals who internalised PA support and perceived the structural PA as supportive of their autonomy tended to view PA as part of their self.²⁸ In that study, the individuals were able to continue with behaviour change even when the structural support was removed.²⁸ The degree to which a PA intervention is perceived as autonomy-supportive is likely to influence motivation, internalisation of behaviour and overall self-regulatory behaviour change.³¹

The findings highlight the importance of self-regulation, which reflects one's self-belief and self-efficacy to be physically active. Such strategies usually involve behaviour planning, which has been shown to be very effective in promoting motivation alongside self-efficacy.³² The participants maintained self-regulation over their employment and household duties, but not over PA scheduling and actions. The inability to maintain self-regulation over PA was particularly prevalent amongst the females in this study who, consistent with the literature, tended to prioritise their family responsibilities over their own PA.³³ The desire to gain personal control over PA is consistent with the importance of self-regulation. Self-regulation is an important component of psychosocial theories of PA behaviour, and lack of self-regulatory skills are associated with low adherence to PA.³⁴ Increases in PA self-regulation were observed following behavioural interventions that focused on individuals developing their own strategies to regulate their PA.³⁵ The participants in our study expressed a desire for a coaching style that supported their autonomy and assisted them to regain control of self-belief. PA coaching interventions can show patients how to recognise signs of self-regulatory depletion or failures, and individuals can learn to monitor their self-regulatory capacity, which could help them to engage in regular PA.³²

Limitations

The limitations of this study include the use of opportunistic convenience sampling, which resulted in a relatively homogenous study population. More research is needed to assess whether the barriers presented in this study are the same in a more heterogeneous population. The opportunistic convenience sample also resulted in a small sample of individuals seeking support to be physically active. These individuals may have been more motivated to engage in PA, which may have introduced bias into the results. Although the opportunistic convenience sample may reduce the generalisability of these results to other populations, the results do provide understanding and insight into experiences and perceptions of participants who decreased PA due to COVID-19 restrictions.³⁶ Finally, convenience sampling meant that theoretical saturation was not known to have been reached due to the small sample of participants.

Implications for public health

The participants in this study did not express a desire to perform PA at home. A recent study indicated that online exercises could be easily integrated into everyday routines and were positively regarded by inactive adults.³⁷ Some of the participants in our study had tried online exercise videos, but none persisted with them. This suggests that despite their appeal, online tools are not the panacea for overcoming PA barriers related to physical distancing. To maintain PA during periods of restricted opportunities, and to encourage PA in general, there are motivational factors that need to be considered when developing PA messages. Information needs to be targeted to the audience's existing views and practices to produce more powerful persuasive effects.³⁸ Messages to promote PA could also be targeted towards significant others in an individual's environment and portray the importance of a non-judgemental form of listening support.

Long-term PA adherence is difficult;³⁹ however, numerous forms of structural and social support can result in adherence to PA.⁴⁰ For the participants in this study, support from structural agents such as gyms and exercise groups were important in their regular attainment of PA. The removal of support manifested in recidivism to physical inactivity. Despite facilitating regular PA, the exercise programs undertaken

by the participants had not fostered an internalisation of PA control. Formal exercise-based programs may benefit from incorporating behaviour change theories into the design of exercise interventions to build self-efficacy and PA self-regulation.⁴¹ Addressing determinants of PA relapse such as those highlighted in this study may be beneficial for PA adherence within formal PA programs such as cardiac rehabilitation, where we know PA maintenance remains suboptimal post-completion.⁴²

While the findings of this small sample cannot be applied to the general community, it is relevant to consider how the physical distancing rules have impacted PA behaviours within the community at large. It is also relevant to consider the self-regulatory capacity within the broad community, its implication on PA levels, and how this can be addressed to assist in the promotion and maintenance of PA during ongoing COVID-19 restrictions.

Conclusion

Individuals who decreased PA due to physical distancing measures desired a PA coaching intervention to build autonomy support. The individuals were not seeking PA advice, rather, listening and self-regulatory support were deemed necessary for these individuals to increase PA. Due to the high proportions of the population who are insufficiently physically active, and the ongoing physical distancing restrictions imposed in Australia at time of writing (December 2020), this study highlights the importance of understanding the perspectives of insufficiently active individuals when attempting to increase PA levels in this group.

It is likely that the world will recover from COVID-19 and a period of 'new normal' will emerge. It is just as likely that the world will be challenged by future pandemics and that levels of insufficient PA will continue or even worsen by that time. An understanding of the needs of insufficiently physically active individuals can contribute to the development of behavioural and educational strategies to increase PA levels.

Acknowledgements

The authors thank the participants for giving their time to undertake the interviews.

References

- Hammami A, Harrabi B, Mohr M, Krusturup P. Physical activity and coronavirus disease 2019 (COVID-19): specific recommendations for home-based physical training. *Manag Sport Leis*. 2020. doi: 10.1080/23750472.2020.1757494
- Hall G, Laddu DR, Phillips SA, Lavie CJ, Arena R. A tale of two pandemics: How will COVID-19 and global trends in physical inactivity and sedentary behavior affect one another? *Prog Cardiovasc Dis*. 2020. doi: 10.1016/j.pcad.2020.04.005
- Giustino V, Parroco AM, Gennaro A, Musumeci G, Palma A, Battaglia G. Physical activity levels and related energy expenditure during COVID-19 quarantine among the Sicilian active population: A cross-sectional online survey study. *Sustainability*. 2020;12:4356.
- Pratt M, Varela AR, Salvo D, Kohl III HW, Ding D. Attacking the pandemic of physical inactivity: what is holding us back? *Br J Sports Med*. 2020;54(13):760-2.
- O Ozemek C, Lavie CJ, Rognmo Ø. Global physical activity levels-Need for intervention. *Prog Cardiovasc Dis*. 2019;62(2):102-7.
- Maugeri G, Castrogiovanni P, Battaglia G, et al. The impact of physical activity on psychological health during Covid-19 pandemic in Italy. *Heliyon*. 2020;6(6):e04315.
- Horton R. Offline: COVID-19 is not a pandemic. *Lancet*. 2020;396(10255):874.
- Elovainio M, Hakulinen C, Pulkki-Råback L, et al. Contribution of risk factors to excess mortality in isolated and lonely individuals: An analysis of data from the UK Biobank cohort study. *Lancet Public Health*. 2017;2(6):e260-6.
- Schrempft S, Jackowska M, Hamer M, Steptoe A. Associations between social isolation, loneliness, and objective physical activity in older men and women. *BMC Public Health*. 2019;19(1):74.
- Rodríguez MÁ, Crespo I, Olmedillas H. Exercising in times of COVID-19: What do experts recommend doing within four walls? *Rev Esp Cardiol (Engl Ed)*. 2020;73(7):527-9.
- Jiménez-Pavón D, Carbonell-Baeza A, Lavie CJ. Physical exercise as therapy to fight against the mental and physical consequences of COVID-19 quarantine: Special focus in older people. *Prog Cardiovasc Dis*. 2020;63(3):386-8.
- Ravalli S, Musumeci G. Coronavirus outbreak in Italy: Physiological benefits of home-based exercise during pandemic. *J Funct Morphol Kinesiol*. 2020;5(2):31.
- Fallon K. Exercise in the time of COVID-19. *Aust J Gen Pract*. 2020;49. doi: 10.31128/AUGP-COVID-13
- Lesser IA, Nienhuis CP. The Impact of COVID-19 on physical activity behavior and well-being of Canadians. *Int J Environ Res Public Health*. 2020;17(11):3899.
- Grady PA, Gough LL. Self-management: A comprehensive approach to management of chronic conditions. *Am J Public Health*. 2014;104(8):e25-31.
- Dishman RK, Motl RW, Sallis JF, et al. Self-management strategies mediate self-efficacy and physical activity. *Am J Prev Med*. 2005;29(1):10-18.
- Saladino V, Algeri D, Auriemma V. The psychological and social impact of COVID-19: New perspectives of well-being. *Front Psychol*. 2020;11:2550.
- Barrett S, Begg S, O'Halloran P, et al. A physical activity coaching intervention can improve and maintain physical activity and health-related outcomes in adult ambulatory hospital patients: The Healthy4U-2 randomised controlled trial. *Int J Behav Nutr Phys Act*. 2020;17(1):1-11.
- Alase A. The Interpretative Phenomenological Analysis (IPA): A guide to a good qualitative research approach. *Int J Educ Lit Stud*. 2017;5(2):9-19.
- Karlsson G. *Psychological Qualitative Research from a Phenomenological Perspective*. Stockholm (SWE): Almqvist & Wiksell International; 1993.
- O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: A synthesis of recommendations. *Acad Med*. 2014;89(9):1245-51.
- Deci E, Ryan R. Intrinsic motivation. In: Weiner I, Craighead WE, editors. *The Corsini Encyclopedia Of Psychology*. Hoboken (NJ): John Wiley & Sons; 2010:2.
- Teixeira PJ, Carraça EV, Markland D, Silva MN, Ryan RM. Exercise, physical activity, and self-determination theory: A systematic review. *Int J Behav Nutr Phys Act*. 2012;9(1):78.
- Chatzisarantis NL, Hagger MS, Biddle SJ, Smith B, Wang JC. A meta-analysis of perceived locus of causality in exercise, sport, and physical education contexts. *J Sport Exerc Psychol*. 2003;25(3):284-306.
- Hagger M, Chatzisarantis N. Self-determination theory and the psychology of exercise. *Int Rev Sport Exerc Psychol*. 2008;1(1):79-103.
- Miller WR, Rollnick S. *Motivational Interviewing: Helping People Change*. New York (NY): Guilford Press; 2012.
- McAuley E, Blissmer B. Self-efficacy determinants and consequences of physical activity. *Exerc Sport Sci Rev*. 2000;28(2):85-8.
- Hardcastle S, Hagger MS. "You Can't Do It on Your Own": Experiences of a motivational interviewing intervention on physical activity and dietary behaviour. *Psychol Sport Exerc*. 2011;12(3):314-23.
- Hallam JS, Petosa R. The long-term impact of a four-session work-site intervention on selected social cognitive theory variables linked to adult exercise adherence. *Health Educ Behav*. 2004;31(1):88-100.
- Ortega-Smith EM, Payne LL, Mowen AJ, Ho CH, Godbey GC. The role of social support and self-efficacy in shaping the leisure time physical activity of older adults. *J Leis Res*. 2007;39(4):705-27.
- Williams GC, McGregor HA, Zeldman A, Freedman ZR, Deci EL. Testing a self-determination theory process model for promoting glycemic control through diabetes self-management. *Health Psychol*. 2004;23(1):58.
- French DP, Olander EK, Chisholm A, McSharry J. Which behaviour change techniques are most effective at increasing older adults' self-efficacy and physical activity behaviour? A systematic review. *Ann Behav Med*. 2014;48(2):225-34.
- Sciomer S, Moscucci F, Maffei S, Gallina S, Mattioli AV. Prevention of cardiovascular risk factors in women: The lifestyle paradox and stereotypes we need to defeat. *Eur J Prev Cardiol*. 2019;26(6):609-10.
- Hagger MS, Wood CW, Stiff C, Chatzisarantis NL. Self-regulation and self-control in exercise: The strength-energy model. *Int Rev Sport Exerc Psychol*. 2010;3(1):62-86.
- Murray TC, Rodgers WM, Fraser SN. Examining implementation intentions in an exercise intervention: The effects on adherence and self-efficacy in a naturalistic setting. *J Appl Soc Psychol*. 2009;39(10):2303-20.
- Jager J, Putnick DL, Bornstein MH II. More than just convenient: The scientific merits of homogeneous convenience samples. *Monogr Soc Res Child Dev*. 2017;82(2):13-30.
- Wichmann F, Fischke CR, Jürgens D, Darmann-Finck I, Koppelin F, Lippke S, et al. Requirements for (web-based) physical activity interventions targeting adults above the age of 65 years—qualitative results regarding acceptance and needs of participants and non-participants. *BMC Public Health*. 2020;20(1):1-4.
- Goethals L, Barth N, Guyot J, Hupin D, Celarier T, Bongue B. Impact of home quarantine on physical activity among older adults living at home during the COVID-19 pandemic: Qualitative Interview Study. *JMIR Aging*. 2020;3(1):e19007.
- Springer JB, Lamborn SD, Pollard DM. Maintaining physical activity over time: The importance of basic psychological need satisfaction in developing the physically active self. *Am J Health Promot*. 2013;27(5):284-93.
- Seefeldt V, Malina RM, Clark MA. Factors affecting levels of physical activity in adults. *Sports Med*. 2002;32(3):143-68.
- Rajati F, Sadeghi M, Feizi A, Sharifirad G, Hasandokht T, Mostafavi F. Self-efficacy strategies to improve exercise in patients with heart failure: A systematic review. *ARYA Atheroscler*. 2014;10(6):319.
- Everett B, Salamonson Y, Davidson PM. Bandura's exercise self-efficacy scale: Validation in an Australian cardiac rehabilitation setting. *Int J Nurs*. 2009;46(6):824-9.

Supporting Information

Additional supporting information may be found in the online version of this article:

Supplementary File 1: Physical Activity and COVID-19 Interview guide.