

Mitigation of psychosocial consequences of COVID-19 through physical activity - contribution of fitness clubs to social peace and quality of life

Authors Prof. Dr. Niels Nagel & Anna Lisa Martin-Niedecken

Abstract

- The COVID-19 pandemic has a negative impact on the psychosocial (and biological) health of the entire population.
- Targeted, regular physical activity (strength & endurance training) under safe conditions could demonstrably and positively reduce these negative effects.
- There is therefore an urgent societal need for the timely reopening of fitness studios to preserve psychosocial health.

Introduction

According to representative surveys, the perceived threat of the COVID-19 pandemic, the associated social restrictions of the shutdown and the economic consequences for society and its individuals have considerable negative effects on psychosocial health (1; 2). Therefore, even parts of the society that are not acutely infected with COVID-19 are sustainably affected by the pandemic as well (3). Negative developments in social and psychological health can have an impact on biological health and represent an additional health threat to the population (4). There is therefore a risk that parts of the population may not fall ill with COVID-19 itself, but from the consequences of the pandemic (5).

In contrast, there is evidence in numerous scientific publications of the health benefits of regular physical activity in general as well as strength and endurance training in particular. In the following the possible biopsychosocial potentials of health-oriented fitness training in stationary training facilities, the fitness clubs, will be shown. Using scientific sources, it will be discussed to what extent fitness clubs contribute to securing social peace in society. The literature research carried out in the context of this synopsis is intended to provide an initial overview and starting points for further scientific research and publication.

Based on interdisciplinary scientific sources, an overview of the possible psychosocial consequences of the pandemic is first presented. Then, an overview of central scientific findings on positive psychosocial effects of physical activity with a focus on strength and endurance training will be presented. Based on practice-oriented studies and extensive practical experience, recommendations and justifications for the use of fitness clubs to promote health-oriented physical activity are shown.

Psychosocial consequences of the COVID-19 pandemic

The psychological consequences of the pandemic are reflected, among other things, in fears, stress, declining cognitive performance and the higher prevalence of mental illness (6; 7).

Thus, psychological stress in the form of anxiety is a typical consequence of epidemics. People are afraid of falling ill or dying (8). They are afraid of losing their jobs and thus no longer being able to earn a living (8). Isolation can trigger a feeling of helplessness and depression (8; 9).

With regard to the social dimension, there is a potential for conflict. The population meets its fellow human beings with anger and disregard, which are associated with the disease (8). Medical personnel are stigmatised (8). Domestic violence can also be a consequence of isolation, concern about illness and existence (10), often accompanied by alcohol and drug consumption by perpetrators and victims (3). The German medical journal takes up a reference by the organisation "Deutsche Kinderhilfe" (11). It warns of an increase in violence against children, which is due to excessive demands in the context of increased homework, school and daycare closures and thus above-average closeness in everyday life (11; 12). Quarantine as part of the measures to combat a pandemic also has negative, psychological effects. These include post-traumatic stress symptoms, confusion and anger (13).

The shift from office work to home office leads to a number of other risks with possible effects on mental health. On the one hand, the lack of presence of the individual employee in the respective company puts the focus of performance evaluation on the achievement of objectives and can lead to the assumption of overtime, lack of break times and constant availability with corresponding health burdens (14). Conflicts between working hours and leisure time can cause greater work-related exhaustion (14; 6).

In addition to the psychosocial risks of isolation itself, the associated reduction in physical activity leads to other health risks, such as diabetes (15), cancer (16), osteoporosis (17) and cardiovascular disease (6). In this respect, there is very good evidence in numerous scientific publications for the prevention or therapy of existing diseases through strength or endurance training (18; 19; 20; 21).

Psychosocial effects of strength and endurance training

Practical experience shows that fitness training is generally understood to be a combination of strength and endurance training. This is offered in fitness studios preferentially through equipment training and in group classes. In addition, fitness training today includes other forms of training, such as relaxation training, yoga, functional training.

Health-oriented physical activity as part of a strength and endurance combined training has positive psychosocial effects. Physical activity can support the development of mental health in terms of improving stress resilience (22). The German *Ärzteblatt* presents physical activity as part of the therapy of anxiety states of "special interest" (23, p. 4).

Furthermore, the German medical journal explicitly recommends strength training in addition to yoga and Pilates (1) in order to contain the psychological consequences of the CoVid-19 pandemic. Scientific studies also prove the positive effect of strength training in the prevention and therapy of depression and exhaustion (24). Strength training contributes to the improvement of

sleep quality and self-esteem (24). Endurance training and the combination of strength and endurance training can also be used as an adjunct to the treatment of depression (25).

It can therefore be assumed that regular strength and endurance training and the combination of these forms of training could effectively reduce the anxiety and depressive moods that are triggered or intensified by the pandemic. In addition, this intervention can improve resilience.

A non-scientifically published study also shows that fitness training in a fitness club improves the subjective quality of life in key areas (26). The improvement of the subjective quality of life seems to be reasonable at a time when it is negatively influenced by external circumstances, such as restrictions in mobility or isolation.

The neurophysiological effect of muscles activated by strength and endurance training improves the executive functions of the brain (27). The executive functions are, among other things, directly related to learning and work-related requirements (27; 28). Thus they include the ability to suppress external stimuli, to virtualise working memory and to change the focus of attention (29). Thus, the effect of strength and endurance training should contribute to better cope with the demands of the home office.

All in all, it can be shown that strength training and combined strength and endurance training can alleviate the psychosocial burden of the pandemic in many ways. In addition, these forms of training can help to maintain mental performance at school, university, and at work.

Required basic conditions of a fitness training in times of COVID-19

In connection with the prevention and therapy of depression, science points out the importance of orientation to the movement preferences of the exerciser for the success of training measures (25). This shows that it is not only important whether a training measure can have a positive psychological effect on a physiological level. In addition, it is important to offer people a variety of options that correspond to their preferences. In this context, the importance of intrinsic and identified motivation for maintaining health-oriented strength and endurance training is pointed out (30; 31). In terms of intrinsic motivation, trainers should be able to develop satisfaction from and enjoyment of training. With regard to the identified motivation, trainers should identify a link between the training and what they personally consider as important and as corresponding to their individual values (30). The adequate dosage of the training seems to be important also with regard to mental stability, since too intensive training leads to depression-like mood swings in the trainee (32).

In outdoor sports, trainers may be exposed to health risks, such as UV radiation (33). In this respect, training in roofed fitness club facilities is a protective aspect of health, especially in the summer months.

Conclusion and outlook

To mitigate the psychosocial consequences of the COVID-19 pandemic, it is important to provide the population with access to health-oriented physical activities. For strength training and combined strength and endurance training there is scientific evidence of multiple positive effects. It is also clear that the variety of training offers in fitness clubs provides advantages in terms of compliance compared to other settings. In addition, the qualified, health-oriented care of the trainees provides better protection against unintended side effects of the training. It is obvious to minimize the risk of infection for trainers and employees by appropriate measures and rules.

For people who currently do not have access to training in stationary facilities for financial or time reasons, alternatives such as online training with additional support from the trainers in the fitness clubs can be created in cooperation with the fitness industry and prevention providers.

Overall, it seems important to give people timely access to health-oriented fitness training in a fitness club in order to reduce the psychosocial risks and impairments in the context of the pandemic.

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Information on the synopsis: The synopsis was commissioned by the German Industry Association for Fitness and Health. Information about the association: www.difg-verband.de

Author information and contact:

Prof. Dr. Niels Nagel has a doctorate in sports science, is professor at the ISM University in Cologne and managing director of the German Industrial Association for Fitness and Health e.V. in Düsseldorf. Contact: nagel@difg-verband.de

Anna Lisa Martin-Niedecken is a sports scientist and senior researcher at the Department of Design at the Zurich University of the Arts as well as CEO and co-founder of the fitness gaming start-up Sphery. Contact: anna@sphery.ch