THE JOURNAL OF ALTERNATIVE AND COMPLEMENTARY MEDICINE
Volume 27, Number 10, 2021, pp. 893–896

DOI: 10.1089/acm.2021.0062

JACM

SHORT REPORT

Satisfaction with Online Versus In-Person Yoga During COVID-19

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Abstract

Introduction: During COVID-19 restrictions, yoga classes transitioned to online delivery. This report compares the perceived benefits and barriers to online and in-person yoga and determine the preferred format. A secondary aim was to compare how well each format was perceived to produce common benefits of yoga practice.

Materials and Methods: A cross-sectional online survey of Australian participants.

Results: In-person yoga scored highest for providing mental health/mood benefits, physical satisfaction, and feeling energized. Online yoga scored highest for convenience, mental health/mood benefits, and affordability (initial $N = 156$; follow-up $N = 55$).

Conclusion: Online yoga was acceptable and perceived to provide improved mental health and mood.

Keywords: yoga, mental health, exercise, e-health, COVID-19

Introduction

In light of the mental health ramifications of COVID-19,[1,2] the availability of accessible and scalable evidence-based programs is vital. A recent rapid review[3] listed yoga as one home-based strategy to improve anxiety, depression, psychological distress, and feelings of hopelessness during conditions of social isolation. It is well established that common mental disorders such as anxiety and depression and their related symptoms are associated with increased sedentary behavior[4,5]; similarly, sedentary behavior is associated with increased symptoms of poor mental health.[5,6] Closure of exercise services due to government restrictions to contain COVID-19 prompted health and wellness practices to transition to online services.

Research on online physical activity interventions (including yoga) for mental health-related outcomes is scarce.[7] The aim of this study was to explore which aspects of yoga are most important to consumers, whether changing delivery format affects participants' perceived ability to obtain benefits from their yoga practice, and preference for delivery style.

Methods

A cross-sectional survey was conducted during the Australian government-led COVID-19 containment strategies in August 2020. A follow-up survey was conducted in April 2021. The study was approved by the University of South Australia's Human Research Ethics Committee (Application ID: 203057). Eligible participants were over 18 years, residing in Australia, had engaged in a yoga practice for a minimum of 1 year before lockdown, and were currently engaging in yoga classes online. A convenience snowball sampling method was used through social media, and electronic mail-out by the national association (Yoga Australia) and 12 yoga studios. Recruitment ran from May to August 2020. A link to the follow-up survey was e-mailed to consenting participants in May 2021.

The survey collected the following data: demographic information, yoga practice characteristics, participants perceptions of online and in-person yoga, and current psychological distress as measured by the Kessler-10[8] (K10; Supplementary Data). Likert items were developed for participants to rate the importance of various characteristics of yoga for both delivery methods. Participants also rated the likelihood that they would attend an online or in-person yoga classes: (1) before COVID-19, (2) currently (August 2020), and (3) at follow-up (April 2021). Open-ended questions about perceptions of ''good'' and ''not-so-good'' aspects of both delivery formats were also asked. The follow-up survey collected data on practice frequency over past week, delivery methods used in previous week, current restrictions due to COVID, likelihood of practicing online and in-person in the future (Likert scale) and psychological distress (K10).

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Table 1. Sociodemographic and Yoga Practice Characteristics of Sample

Sociodemographic characteristics	n *(%)*
Age, years	
18–24	6 (4)
25–34	43 (28)
35–44	44 (29)
45–54	34 (22)
55–64	19 (13)
65+	6 (4)
Total *N*	152
Gender	
Male	10 (7)
Female	141 (92)
Nonbinary	1 (1)
Total *N*	152
State of residence	
South Australia	65 (43)
Queensland	14 (9)
New South Wales	31 (20)
Australian Capital Territory	5 (3)
Victoria	27 (18)
Northern Territory	2 (1)
Western Australia	8 (5)
Total *N*	152
Reside in metropolitan area	
Yes	120 (79)
No	32 (21)
Total	152
Highest level of education	
High school	11 (7)
Certificate III and IV	14 (9)
Advanced diploma/associate degree	16 (11)
Bachelor's degree	41 (27)
Graduate diploma	18 (12)
Postgraduate degree	52 (34)
Total *N*	152
Employment status	
Employed	137 (90)
Unemployed	9 (6)
Student	6 (4)
Total *N*	152
Psychological health (K-10)	
Likely to be well	93 (65)
Mild	26 (18)
Moderate	18 (13)
Severe	7 (5)
Total *N*	144
Physical health conditions	
Musculoskeletal (e.g., arthritis and OA)	22 (25)
Diagnosed mental disorder (e.g., depression and PTSD)	13 (15)
Chronic pain	11 (13)
Respiratory condition (e.g., COPD and asthma)	10 (11)
Metabolic conditions (e.g., obesity and diabetes)	7 (8)
Autoimmune (e.g., MS, coeliac)	4 (5)
Hormonal (e.g., PCOS, endometriosis)	3 (3)
Neurologic conditions (e.g., Parkinson's)	2 (2)
Cardiac (e.g., heart disease, high blood pressure)	1 (1)
Total *N*	71
Characteristics of yoga practice	
Length of practice before COVID-19	
<12 months	8 (6)
1–2 years	22 (16)
3–4 years	20 (15)
5+ years	84 (63)
Type of yoga	
Vinyasa	88 (66)
Iyengar	16 (12)
Other (Dru, yogalates, Svaroopa, and intuitive)	13 (10)
Hatha	6 (5)
Bikram	3 (2)
Yin	3 (2)
Restorative	3 (2)
Ashtanga	2 (2)
Location	
Yoga studio	105 (78)
Gym/fitness centre	10 (8)
Home	9 (7)
Community/recreation space	7 (5)
Other (office, school)	3 (2)

COPD, chronic obstructive pulmonary disorder; N, number; MS, multiple sclerosis; OA, osteoarthritis; PCOS, polycystic ovarian syndrome; PTSD, post-traumatic stress disorder.

Paired sample *t*-tests were used to compare in-person and online yoga characteristic ratings. To explore influences on delivery preference pre-COVID, a ''preference'' variable was created through subtracting ratings of likelihood to attend yoga online from ratings of likelihood to attend yoga in-person. Regression analyses were used to assess the unique influence of the following variables on relative delivery preference: practice duration, type of yoga, and K10 scores on likelihood to attend in-person versus online before COVID-19. Comparison of preference for yoga online before COVID, in-person before COVID, and online after COVID were compared through repeated measures analysis of variance.

Descriptive statistics are reported for follow-up survey data. All data were analyzed using the SPSS statistical program (version 26). Qualitative data were analyzed using thematic analysis methods as detailed by Nowell et al.[9] One author coded the open-ended questions using data-driven inductive analysis method, meaning no coding frame or themes were predetermined.[10] Each point raised in an individual's comment was coded separately. The most common codes became themes, and any code that did not form a subtheme of these was regarded as an independent theme. Once all data were attributed to a theme, refinement and cross-checking was completed to confirm all comments within each theme formed a coherent pattern.

Results

A total of 156 Australians completed the initial survey. Respondents were predominantly female (92%), residing in metropolitan areas (79%), and well educated (73% ≥bachelor's degree), with mild-to-moderate K10 scores. Over half (63%) of participants were long-term yoga practitioners (5+ years) and

Table 2. Importance Ratings of Aspects of Yoga Practice and How Well Online and Face-to-Face Delivery Scored for Each

Aspect of yoga practice	*Importance, M (SD)*	*Face-to-face, M (SD)*	*Online, M (SD)*	*Mean difference*
Mental health/mood benefits	3.7 (0.5)	4.66 (0.52)	4.28 (0.79)	0.38*
Feeling physically satisfied	3.5 (0.6)	4.55 (0.56)	3.91 (0.98)	0.64*
Feeling focused	3.5 (0.6)	4.52 (0.57)	3.42 (1.06)	1.10*
Feeling energized afterward	3.4 (0.6)	4.53 (0.56)	4.12 (0.75)	0.41*
Convenience	3.4 (0.6)	3.60 (0.82)	4.54 (0.64)	–0.94*
Affordability	3.1 (0.7)	3.64 (0.94)	4.20 (0.94)	–0.56*
Variety of classes to choose from	2.9 (0.8)	4.04 (1.02)	4.01 (1.15)	0.02*
Feeling connected to other people	2.9 (0.8)	4.39 (0.67)	3.04 (1.12)	1.34*
Socializing before/after class	2.3 (1.0)	4.12 (0.87)	2.96 (1.13)	1.16*

*$p < 0.05$; 0 don't know, 1 strongly disagree, 2 disagree, 3 neutral, 4 agree, 5 strongly agree.
M, mean; SD, standard deviation.

most (66%) cited Vinyasa yoga as their predominant style, and a yoga studio as their main practice setting (78%; Table 1).

Mental health/mood benefits were the most important aspect of engaging in a yoga practice (75% very important; mean ± standard deviation [SD]: 3.7 ± 0.48) followed by feeling physically satisfied (60% very important; mean ± SD: 3.5 ± 0.62) and feeling focused (49% very important; mean ± SD: 3.5 ± 0.57; Table 2).

Online yoga was rated significantly better than in-person for affordability (mean difference [MD]: −0.56) and convenience (MD: −0.94). In-person yoga was rated significantly better for helping with mental health/mood, feeling physically satisfied, feeling connected to people, feeling focused, feeling energized afterward, and contributing to social life (Table 1).

Preferences for practicing yoga online at the time of the first survey were significantly higher than retrospective reports of pre-COVID preferences, $F(2,266) = 370.8$, $p \leq 0.001$. In-person was the preferred delivery mode pre-COVID-19 (MD: −2.16, standard error [SE]: 0.91, $p < 0.001$) with 82% of participants reporting they were *very likely* or *likely* to attend. Following COVID-19 restrictions, 73% of participants reported being *very likely* or *likely* to attend an online yoga class (3.9 ± 0.77). This represented a significant change in self-reported likelihood of online yoga attendance (MD: −1.9 ± 1.0, SE: 0.09, $p < 0.001$).

Follow-up survey

Fifty-five participants responded to the follow-up survey, with 23% indicating restrictions were still in place. Half (51%) were practicing one to two times per week with 51% practicing in studio, 26% practicing at home, and the remainder across both. K10 scores (mean: 17.1, SD: 5.92) reported no difference in psychological distress from August 2020 (mean: 17, SD: 7.2) with scores falling in the "*likely to be well*" range. Since the ease of restrictions, 25% reported they were *very likely* to attend online yoga (Fig. 1).

Thematic analysis

In person. Connection to the teacher and others in the class, as well as the energy of practicing in a group was the most frequently mentioned benefit of in-person yoga. Safety in the form of receiving personal alignment cues, modifications and hands-on assistance, and having a physical space (studio) to attend were also mentioned frequently as benefits of in-person delivery. Disadvantages included the inconvenience of commuting and scheduled class times, experiences pertaining to the class and studio (size, distractions, odor, and cleanliness), cost, and feelings of self-consciousness.

Online. Convenience was the most frequently mentioned positive aspect of online yoga delivery as it eliminates travel time, parking, organizing children, and working around busy work schedules. Other commonly cited advantages were that technological features afforded consumers more privacy and autonomy. The technology was also thought to facilitate access to a wider variety of classes, improve affordability and support establishing a home practice. Disadvantages included not being properly equipped at home, interruptions and distractions, no sense of community, safety concerns due to lack of alignment cues, feedback or modifications, and technological difficulties.

Discussion

COVID-19 restrictions provided a natural quasi-experiment to test the effect of increased online yoga participation on its acceptability. The unavailability of in-person yoga classes did not discourage Australians from participating in yoga. Rather, the current sample appeared to

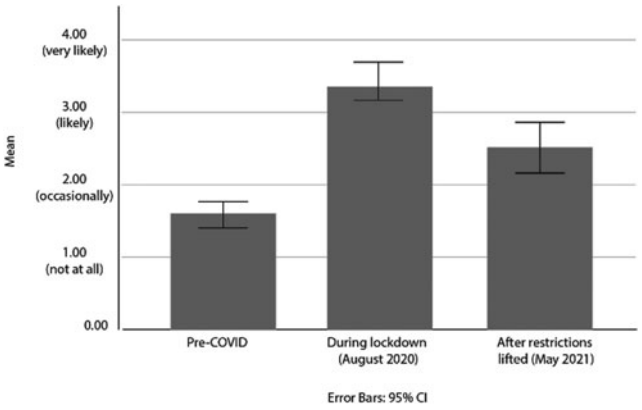

FIG. 1. Likelihood of attending online yoga pre-COVID (retrospective), during lockdown, and after lockdown. CI, confidence interval.

adapt to the online delivery format. A modest follow-up survey conducted after restrictions were lifted showed that participants' acceptance of online yoga remained higher than reported pre-COVID; however, there remained an overall preference for in-person yoga classes. Although socializing and connection may not be the primary motivators for attending yoga, the experience of practicing in a group may fulfil inherent needs for community and social connectedness. It has been shown previously that exercising in a group may elicit greater mental health benefits than exercising alone,[11,12] which may partly explain this phenomenon.

Interestingly, this survey found that the absence of common benefits of practicing yoga such as social interaction, practicing with others, and attending a dedicated space did not greatly diminish the perceived mood/mental health benefits. Despite slightly stronger endorsement that in-person yoga benefits mood, there was strong agreement that online yoga also benefits mood and mental health. Online delivery of yoga and other physical activity interventions increases access to a potentially helpful and low-risk activity to a much broader population, particularly important to people in remote areas where yoga facilities are not available. The advantages of increased access to health support services when delivered online have been demonstrated repeatedly.[13,14]

This survey contains a small convenience sample from Australia and captures participant perceptions, not validated outcome measures. Therefore, future research should employ robust evaluation of effectiveness of online yoga and in-person yoga and consider yoga instructors' preferences and concerns. High-quality randomised controlled trials are needed to clarify the acceptability, feasibility, efficacy, and effectiveness of online interventions.

Conclusions

This study highlights that there are unique advantages and disadvantages of online yoga delivery. Mental health and mood benefits were rated the most important aspect of yoga practice in this sample; and these perceived benefits obtained through online yoga were comparable with those reported from in-person yoga.

Authors' Contributions

All authors conceived and designed the study. J.B. performed recruitment and data collection. J.B. and M.S. analyzed the data. All authors assisted with data interpretation and critically reviewed the article and approved the final version.

Author Disclosure Statement

The authors declare they have no competing interests.

Funding Information

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Supplementary Material

Supplementary Data

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