



Impact of COVID-19 Restrictions on the Physical Activity Level of Asian Communities across Tāmaki Makaurau Auckland

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Contents

Acknowledgements	4
Introduction	5
Objective and Purpose.....	5
Background	5
How to Read this Report.....	5
Methodology	6
Main Findings	6
Results	7
1. Demographics: Survey Respondents' Profile	7
2. Behaviour Changes Between Pre- and During-Lockdown 2021	8
2.1 Change in Exercise Regularity	8
2.2 Change in Activity Type.....	8
2.3 Change in Activity Level	10
2.4 Reasons behind Behaviour Change.....	10
3. Attitude Change	11
3.1 Change in Attitude Towards Physical Activity.....	11
3.2 Relationship between Attitude, Activity Level and Behaviour Change	12
4. Comparison of Physical Activity Participation between Level 4 Lockdown 2020 and Level 4 Lockdown 2021	12
4.1 Reasons for Reduced Exercise, Quit Exercise or Did Not Exercise at All.....	13
4.2 Reasons for Increased Exercise.....	13
4.3 The Relationship between Exercise Habits and Participation in Physical Activities: Before and During Lockdown 2021	14
4.4 Comparison between Participation Frequency and Activity Types during Lockdown 2021 ..	15
4.5 Female Participation in Physical Activities: Before vs During Lockdown.....	16
5. Addressing the Needs of Asian Communities	17
5.1 Support due to the Impact of COVID-19.....	17
5.2 Support Related to Sport and Physical Activities.....	17
5.3 Need and Support in Other Areas.....	18
Discussion	19
Lockdown Support	19
Goal Setting and Habit-Building.....	20
Equities and Inclusion	20
Exercise Paradox	20
Conclusions	21

Limitations 21

 Lack of Tamariki and Rangatahi Respondents 21

 Inconsistency in the Data 21

 Multiple Interpretations of ‘Active’ 21

Recommendations for Future Studies 22

Appendix 1—Survey Questions 23



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We must also acknowledge and thank the 319 Asian respondents who willingly took the time to participate in our survey. Without their contribution, this report would not have been possible. Their input is invaluable, providing insights into how they have been engaging in sport and physical activities through COVID-19 Level 4 lockdown, allowing determinations around how the sporting sector can improve the accessibility and quality of play, active recreation and sport experience while building resilience for our Asian communities.

Introduction

Objective and Purpose

The objective of ActivAsian's regional research on the Impact of COVID-19 Restrictions on the Physical Activity Level of Asian communities is to gather information on the following:

- The Asian communities' behaviour changes and attitude of physical activity before and during 2021 lockdown;
- Reasons for behaviour change;
- Relationship between attitude, activity level and behaviour change;
- The Asian communities' participation in physical activity in 2020 lockdown compared with 2021 lockdown;
- Barriers and enablers to getting active physically;
- The Asian communities' needs;
- Approaches to support members of our communities to actively engage in sport and physical activities and to improve their overall wellbeing.

The purpose of the research is to provide insights into how Asian communities have been engaging in sport and physical activities through COVID-19 Level 4 lockdowns. These insights will be used to improve the accessibility and quality of play, active recreation and sport experiences, and to build resilience for our Asian communities.

Background

After successfully managing COVID-19 spread during 2020, New Zealand, particularly in Tāmaki Makaurau (Auckland), we once again found ourselves dealing with extended lockdown restrictions from August 2021 onwards in response to the Delta strain. On one hand, these social and physical distancing measures reduced the spread of the virus; while on the other hand, they had an impact on the ability to partake in sport and physical activity.

During Level 4 lockdown restrictions, many sporting events, competitions and programmes were postponed or cancelled, and team sports involving close contact were severely impacted, therefore, people could only physically interact with those in their household bubble. Many facilities such as courts, fields, pools, stadiums and playgrounds became dormant. These restrictions posed challenges for all to maintain healthy levels of physical activity.

To understand these impacts the Regional ActivAsian Delivery Partners: Aktive, CLM Community Sport, Harbour Sport, Sport Auckland and Sport Waitākere conducted an online survey—"Asian Communities' Physical Activity Level—Impact of COVID-19" (Appendix 1)—to investigate the effect of COVID-19 restrictions on Asian communities' physical activity and wellbeing. The survey collated self-reported physical activity levels using both quantitative and qualitative questioning. It was open to any person who identified themselves as "Asian".

This report aims to digest the results of the survey and present key findings and insights to the sporting sector about its Asian communities, as New Zealand finds itself dealing with changing norms due to COVID-19.

How to Read this Report

The 'lockdown' that is mentioned in this report refers to the periods of Levels 3 and 4 COVID-19 restrictions that Tāmaki Makaurau experienced from August to December 2021. This survey was only open during

September (details below), and thus captured the experience of the Asian communities during the first third of what ended up being an over-three-month lockdown.

Throughout this report, you will see participant figures given in the following format: (x; y%). In this, x = number of responses, and y = the percentage of those responses out of the total number of responses. Some sections will discuss respondents or participants when referring to the number of people who responded to that question, and other sections discuss responses to refer to the collected responses for a question (e.g., for a multi-choice survey question, one participant could give multiple responses, and all those responses were captured for analysis).

Methodology

The research applied a combination of quantitative and qualitative methodology in the form of a survey designed to gather insights into Asian communities' participation in sport and physical activities before and during the lockdown. The survey consisted of twelve closed questions and four open-ended questions on barriers and enablers to being physically active and included opportunities for additional comments.

This study targeted Asian communities in Tāmaki Makaurau who are 16 years old or above. The survey was available in English, Chinese, Korean and Japanese, and respondents could select the preferred language before starting the survey. These different language options made this survey more accessible to Asian communities and increased the response rate for Asian immigrants. Survey questions and responses in non-English languages were translated in-house by native speakers, which reduced or prevented respondents' miscomprehension of questions or misinterpretation of the responses handled by translators.

The survey was voluntary and anonymous. It was distributed online by Active, Harbour Sport, Sport Auckland, and Sport Waitākere through email, newsletter, Facebook and WeChat, as well as coordinators in the Chinese community network.

The survey was open for 22 days: From 9 September to 30 September 2021. During this period, a total of 319 respondents completed the survey.

For context, Tāmaki Makaurau experienced Level 4 restrictions from 18 August to 21 September 2021, then Level 3 restrictions from 22 September to 2 December 2021. On 3 December 2021, Tāmaki Makaurau moved into the 'Red Light' setting, as the country transitioned to the traffic light system. This survey was open during Level 4 and Level 3 restrictions, and the region still feels the impact of COVID-19 with the most recent outbreak of the Omicron strain at time of publication.

Main Findings

This section provides a summary of the main findings of the survey as outlined below:

- COVID-19 and its resulting lockdown measures have had a powerful impact on Asian communities' overall wellbeing and their participation in sport and physical activities.
- Barriers to participation in sport and physical activities during lockdown include lack of motivation, lack of exercise goals and habits, lack of time, being occupied with other commitments, and undesirable weather, in addition to COVID-19 and lockdown restrictions.

- Enablers to participation in sport and physical activities during lockdown include time availability, availability of exercise equipment and sport gear, digital exercise resources, companionship, improved mental and physical health, and being close to facilities, such as parks.
- Asian communities have developed an increased focus or interest in physical activity and wellbeing since the start of Level 4 Lockdown in August 2021.
- Participants who had developed exercise habits prior to the lockdown were more likely to be physically active during lockdown than those who had not.
- The support needed by Asian communities to get active physically focuses on five areas: Lockdown support, sport and physical activities, facilities and venues, companion and motivation, and physical literacy.
- Asian communities also express a strong need for services to improve their mental health, enrich knowledge on nutrition, and increase opportunities to enhance social connectedness.

Results

1. Demographics: Survey Respondents' Profile

A total of 319 people completed the survey: 77% of the respondents were female and 23% male.

A majority (202 respondents; 63.3%) of the respondents were aged between 35 and 64 years. See Table 1 for more detail.

The survey also saw 182 Chinese respondents (57.1%), 88 Korean respondents (27.6%), and 43 Japanese respondents (13.5%). Descriptive details of the respondents are provided in Table 1.

Table 1. Survey respondents' demographic profile.

Variable	Category	Number of Respondents	Percentage
Gender	Female	246	77%
	Male	73	23%
	Gender Neutral	0	0%
	Prefer Not to say	0	0%
Age Group	7 years old or under	1	0.3%
	8-11 years old	3	0.9%
	12-14 years old	0	0%
	15-17 years old	1	0.3%
	18-24 years old	9	2.8%
	25-34 years old	43	13.5%
	35-49 years old	100	31.3%
	50-64 years old	102	32%
	65-74 years old	48	15%
75 years old or older	12	3.8%	
Ethnicity	Chinese	182	57.1%
	Korean	88	27.6%
	Japanese	43	13.5%
	Indian	2	0.6%
	Fiji/Indian	1	0.3%

	Filipino	1	0.3%
	Malaysian/Chinese	1	0.3%
	Korean/Japanese	1	0.3%
	Other	0	0%

2. Behaviour Changes Between Pre- and During-Lockdown 2021

2.1 Change in Exercise Regularity

This question captured information how on regularly the participant exercised pre-lockdown, and during-locking. Overall, the largest change reported was the 10.4% decrease in people who reported they exercised regularly. However, there was a 7.7% increase in people who exercised, but not regularly.

The number of respondents who exercised a bit, but not regularly, increased slightly from 126 (39.5%) before lockdown to 139 (43.6%) during lockdown. However, the number of respondents who exercised regularly before lockdown dropped from 155 (48.6%) to 122 (38.2%) during lockdown.

While there was a slight increase in respondents who did not exercise and did not intend to start before lockdown (17 respondents; 5.3%) compared with during lockdown (21 respondents; 6.6%), there were more respondents who did not exercise but thought about starting to exercise before lockdown (21; 6.6%) compared with during lockdown (37; 11.6%).

A closer look into the 21 respondents who did not exercise but thought about starting to exercise before lockdown shows the majority (13; 62%) remained the same during the lockdown. However, five of them (24%) had changed to exercising a bit but not regularly, and two of them (10%) had even changed to exercising regularly. Only one of them (4%) did not exercise and did not intend to start.

Among 17 respondents who did not exercise and did not intend to start before lockdown, 11 of them (65%) remained the same during lockdown, two of them did not exercise but were thinking about starting (12%), three of them (18%) had changed to exercising a bit but nor regularly, and one of them (5%) had even changed to exercising regularly.

Table 2. Change in exercise regularity.

Exercise Behaviour	Before Lockdown		During Lockdown		Change
	Number	Percentage	Number	Percentage	
Not exercise, not intend to start	17	5.3%	21	6.6%	1.3%
Not exercise, but think about starting to exercise	21	6.6%	37	11.6%	5%
Exercise a bit but not regularly	126	35.9%	139	43.6%	7.7%
Exercise regularly	155	48.6%	122	38.2%	-10.4%

2.2 Change in Activity Type

The results show that the lockdown has an impact on the types of physical activities that Asian communities engage in. Sport and other physical activities have seen a decrease in participation during

the lockdown, while general light/moderate exercises and activities have experienced a slight increase. Due to lockdown restrictions, group classes/activities, water activities and gym workouts were not allowed to proceed. However, online group classes/activities compensated for the unavailability of some of the above activities. Seven respondents made positive comments on their participation in online classes/activities. Comments from three respondents can be seen below.

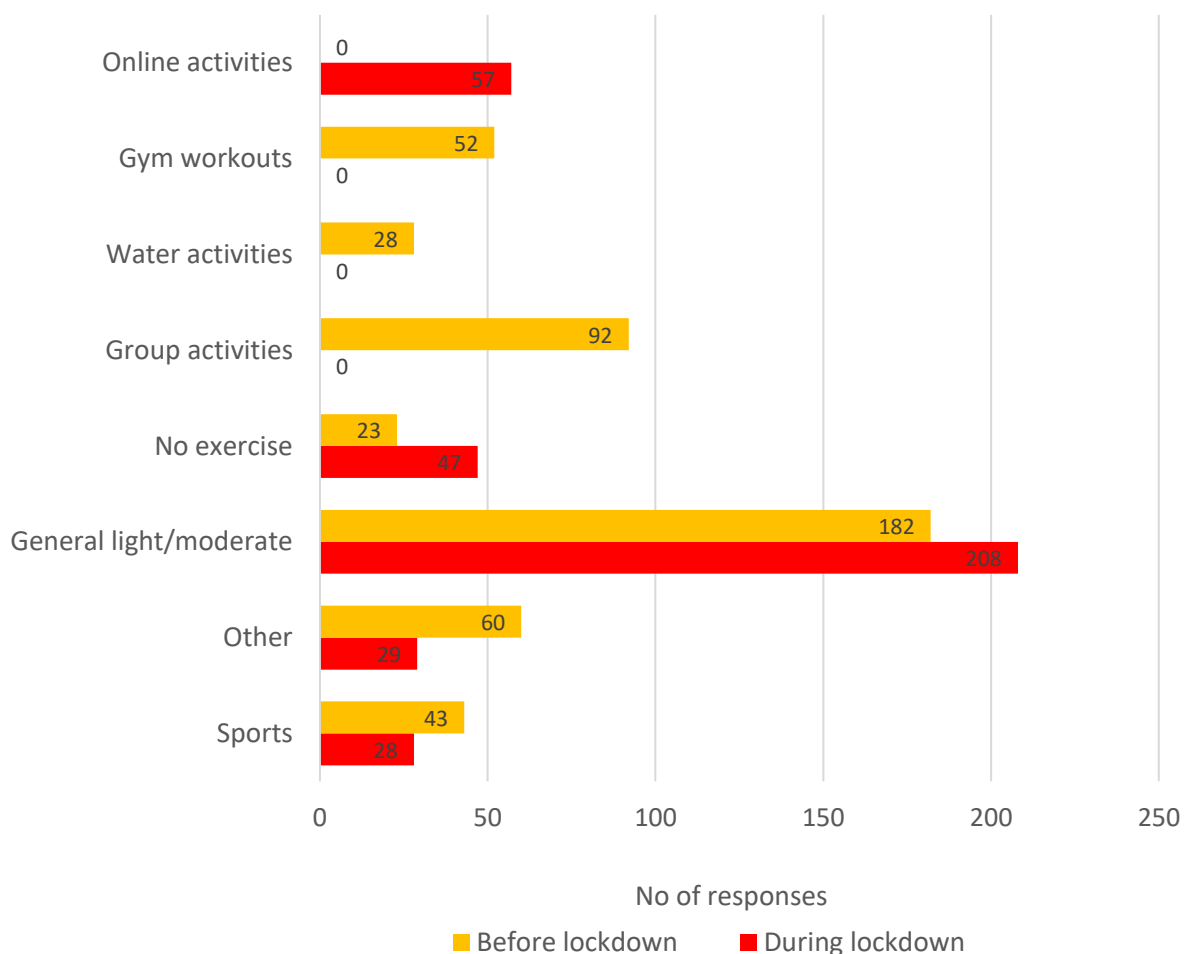
“Zoom exercise enables me to exercise with a group of people. Awesome!”

“(The online exercise class) push(es) myself to do exercise and improve immunity”

“This year I join online exercise, but I didn't do any exercise during the last lockdown”.

All these respondents had significantly increased, somewhat increased or remained the same in participation in physical activities during Level 4 Lockdown in 2021 compared with the pre-lockdown period. This shows that online group classes/activities are beneficial for enhancing wellbeing, building social connections and increasing/maintaining participation during the lockdown.

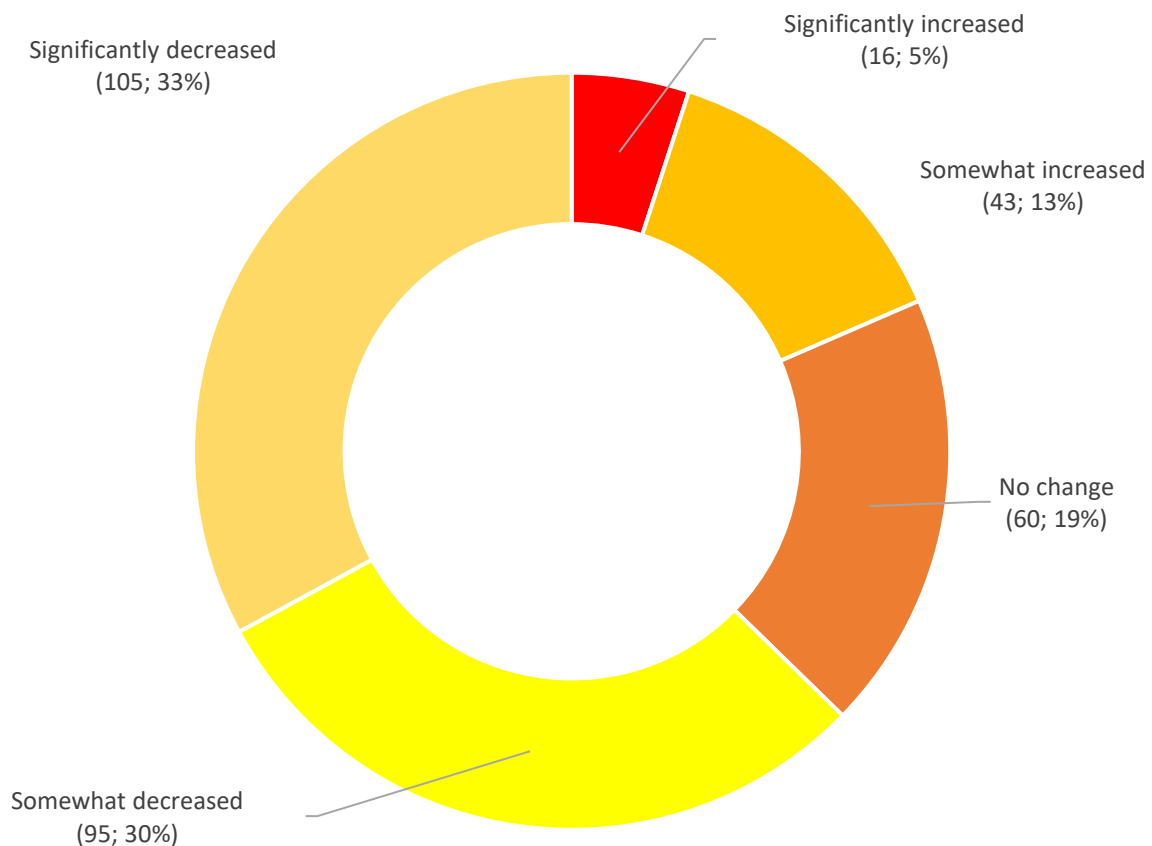
Figure 1. Comparison of types of activities done before and during lockdown.



2.3 Change in Activity Level

More than half (200; 63%) of respondents recalled that their participation in exercise had either “somewhat decreased” or “significantly decreased” during the lockdown compared with the pre-lockdown period. A total of 60 respondents (19%) expressed that their participation in activity level remained the same, while almost about the same percentage (59; 18%) of respondents have either somewhat increased (43; 13%) or significantly increased their activity level (16; 5%).

Figure 2. Change in activity level during lockdown.



2.4 Reasons behind Behaviour Change

An intriguing insight from this report is how the same factors can negatively or positively impact someone’s physical activity habits. For example, while “Fear/Anxiety” may be a motivating factor for some, it can be a demotivating factor for others.

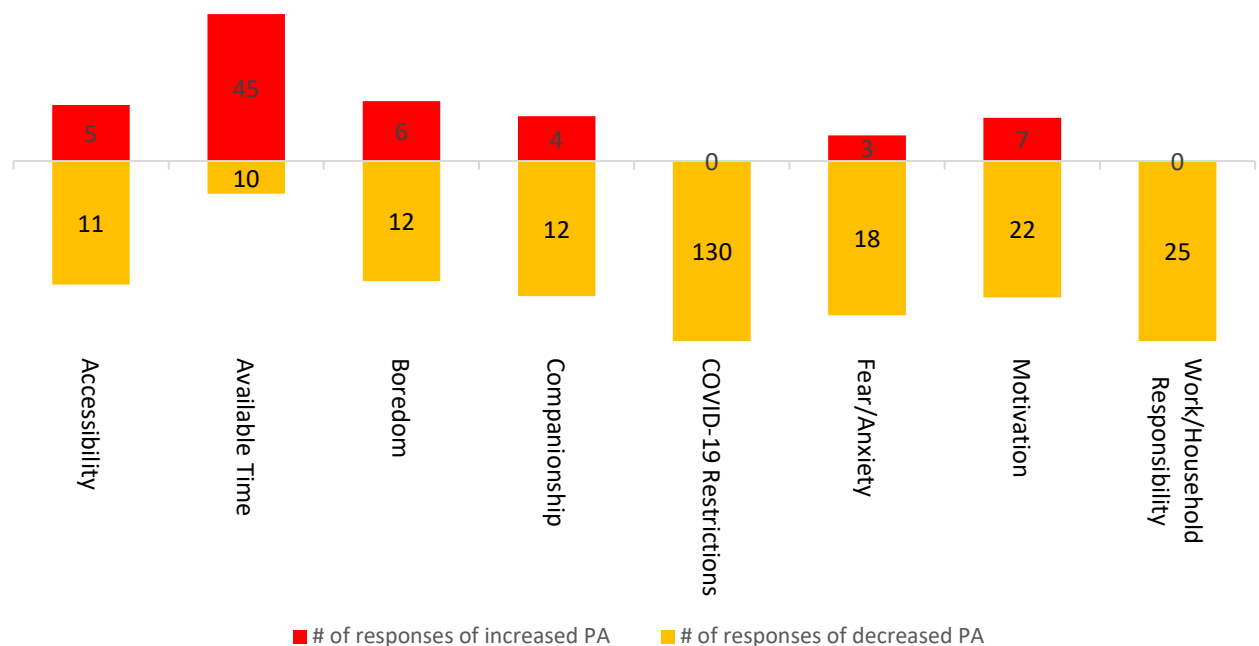
Out of the 59 respondents who experienced an increase in physical activity (18%) during lockdown, 45 (14%) reported that having more “available time” was the primary factor behind this trend. Conversely, the majority of respondents (200; 63%) saw a decrease in physical activity, these respondents report “COVID-19 lockdown restrictions” as the primary influence for this change in behaviour (130; 41%).

While 45 responses reported that “available time” was the reason for an increase in physical activity, 10 responses attributed "available time" to a decrease in physical activity. Twenty-five responses

reported that “Work/Household responsibility” also contributed to decreased physical activity. In addition to “available time”, there were common reasons for both increased physical activity and decreased physical activity during lockdown, including “Accessibility”, “Boredom”, “Companionship”, “Fear/Anxiety”, and “Motivation”. However, overall these reasons appeared to be negative drivers to being active, whereas available time was more of a positive driver to being active.

Figure 3. Primary influences for observed behaviour changes during lockdown.

Comparison of reasons for increased/decreased physical activity during lockdown 2021

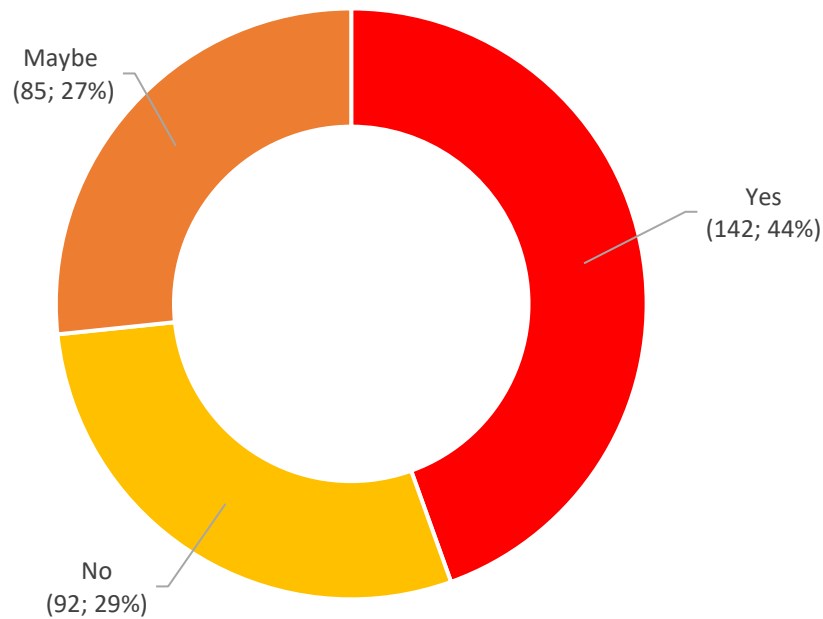


3. Attitude Change

3.1 Change in Attitude Towards Physical Activity

Respondents were asked if they had developed an increased focus or interest in physical activity and wellbeing since the start of Level 4 Lockdown in August 2021. It was encouraging to see 142 respondents (44%) reporting they had developed an increased focus or interest in physical activity (Figure 4).

Figure 4. The proportion of respondents who developed an increased focus or interest for physical activity during Level 4 lockdown.



3.2 Relationship between Attitude, Activity Level and Behaviour Change

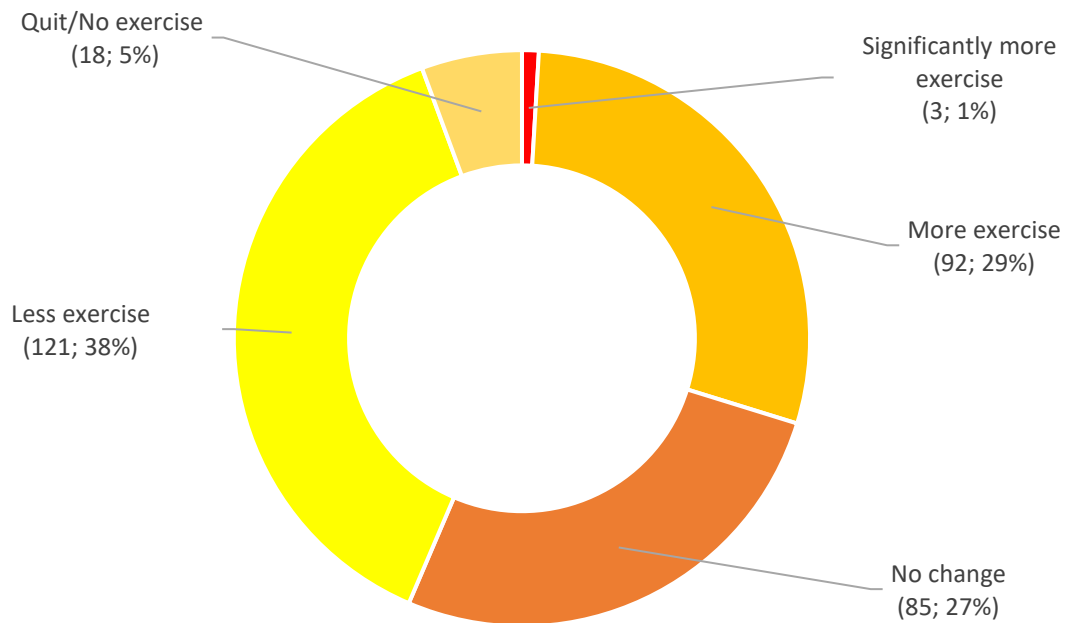
When looking deeper, it is no surprise to see those who experienced a decrease in physical activity also did not develop an increased interest towards or focus on physical activity. Again, lockdown restrictions were cited as the main factor. This is similar to participants who selected “maybe”—most of whom have also experienced a decrease in physical activity.

When looking at respondents who reported an increased focus toward physical activity and wellbeing, only 49 of these 142 (34.5%) respondents actually experienced an increase in physical activity. The majority (72; 50.7%) experienced a somewhat contradictory decrease in their physical activity. This contradiction shows us that a potential opportunity exists to provide physical activity experiences within the realms of a lockdown environment to those who are interested in physical activity but have not done much to actually increase their physical activity.

4. Comparison of Physical Activity Participation between Level 4 Lockdown 2020 and Level 4 Lockdown 2021

The respondents were asked, “What are the differences in participation for you in physical activity during the current Level 4 Lockdown as compared to last year’s (2020) Level 4 Lockdown?” (Question 13). The results show that a total of 139 respondents (43%) reduced exercise, quit exercise, or did not exercise at all during the 2021 Level 4 lockdown, compared with 95 respondents (30%) who did more or significantly more exercise. Only 85 respondents (27%) remained at the same level of exercise in the 2021 Level 4 lockdown as that of 2020 (Figure 5).

Figure 5. Exercise participation comparison between Level 4 Lockdown 2020 vs 2021.



4.1 Reasons for Reduced Exercise, Quit Exercise or Did Not Exercise at All

Of the 139 respondents (43.6%) who reduced exercise, quit exercise, or did not exercise at all during the 2021 lockdown, 78 people made comments.

According to some responses (33; 42%), COVID-19 and lockdown restrictions in 2021 had a more powerful impact on their participation in exercise compared with participation during Level 4 lockdown in 2020. Eighteen respondents mentioned they were afraid of contracting COVID-19, and did not feel safe to do exercise outdoor (e.g., “Lots of people don’t practise social distancing or wear masks”). Two respondents who did exercise regularly but reduced the intensity or time of exercise explained “face coverings cause breathing difficulties and shortness of breath”. Eight respondents mentioned the unavailability of facilities was the reason (e.g., restriction in the use of the gym, inaccessible court, and lack of venue during lockdown). Two respondents mentioned lack of company and three mentioned lack of group exercise/team sport.

Lack of motivation is the second main reason that people (23; 29%) did less exercise or no exercise at all. This was partly because of a lack of exercise goal or habit (11; 14%), and negative emotions (10; 13%) such as anxiety, boredom, depression, frustration, and loneliness.

In addition, some respondents (22; 28%) were motivated but did not exercise as much as they used to do in the Level 4 Lockdown 2020. Eight of them pointed out other contributors such as lack of time and being occupied with other commitments (e.g., work, study, childcare); four respondents stated health or physical condition (e.g., “injury”, “treatment”, “pregnancy” and “giving birth”); and ten stated undesirable weather were barriers to getting physically active.

4.2 Reasons for Increased Exercise

Of 319 respondents, 95 respondents (30%) provided reasons for increased exercise. These included:

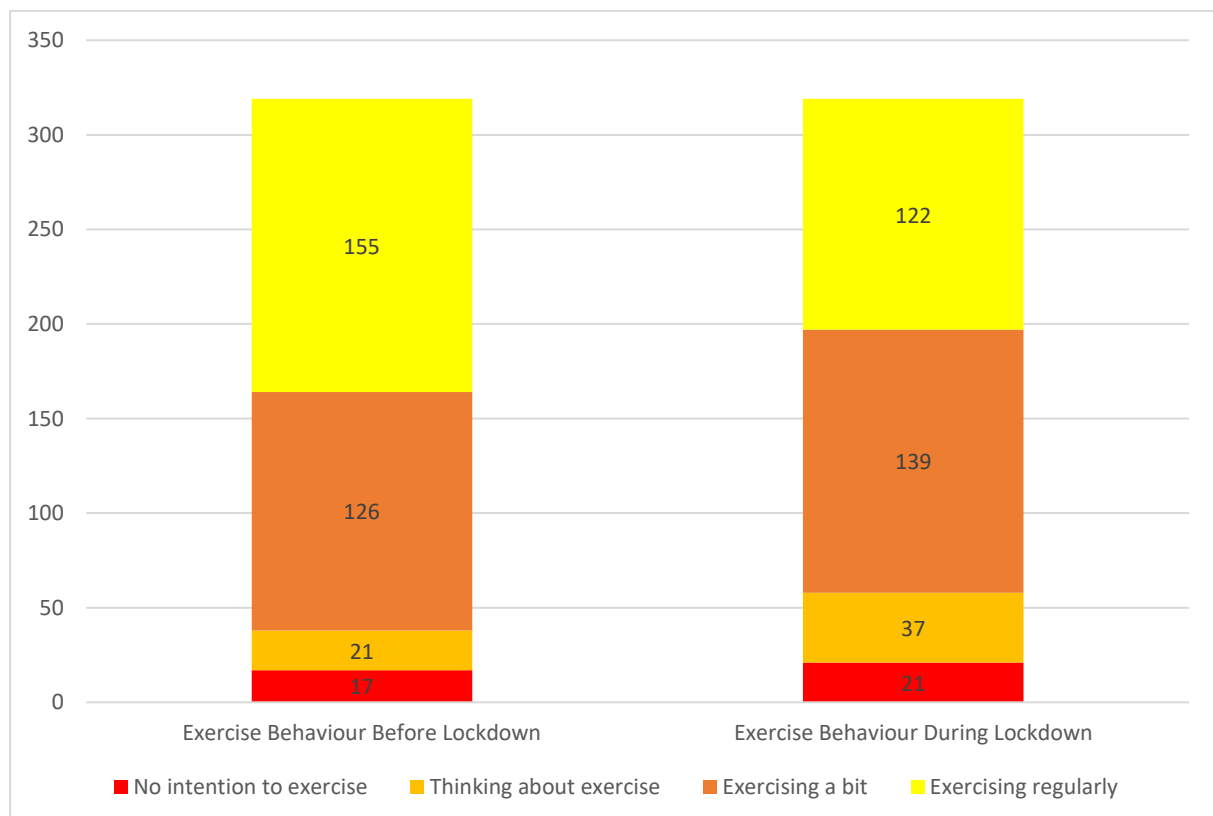
- Joining an online exercise class or following workout videos,
- Going for a walk at nearby parks with family,
- Gardening,
- Improved mental and physical health, and
- Availability of exercise equipment or sport gear at home.

This showed that these respondents realised opportunities to become physically active that they had not discovered or taken advantage of before the lockdown.

4.3 The Relationship between Exercise Habits and Participation in Physical Activities: Before and During Lockdown 2021

Exercise level alone cannot provide a full picture of Asian communities’ participation in physical activities because the variation of exercise level depends on individual situations. However, the responses showed there was a correlation between exercise habits (i.e. those exercising regularly) and participation in physical activities, as shown in Figure 6.

Figure 6. Exercise behaviour changes: Before lockdown vs during lockdown 2021.



Of the 155 respondents who reported they exercised regularly before the lockdown, 103 people maintained exercising regularly during the lockdown, 38 people reported they still exercised but only a bit and not regularly, and only 14 people stopped exercising (with 10 stating they were thinking about exercising, and four reporting they had no intention to start).

Similarly, of the 126 respondents who exercised a bit but not regularly before the lockdown, 93 people maintained the same, 16 people increased their exercise regularity to “exercising regularly”, and only

17 people regressed to no exercise (with 12 stating they were thinking about exercising, and five reporting they had no intention to start).

On the contrary, of the 21 respondents who did not exercise but were thinking about exercising before the lockdown, 13 people remained the same status, one person had changed from having an intention to start to no intention to start, five people reported they were exercising a bit but not regularly, only two people stated they were exercising regularly.

Among the 17 respondents who did not exercise and had no intention to start, 11 remained with no intention to exercise, two people transitioned to “thinking about exercising”, three people began exercising a bit but not regularly, and only one person began exercising regularly.

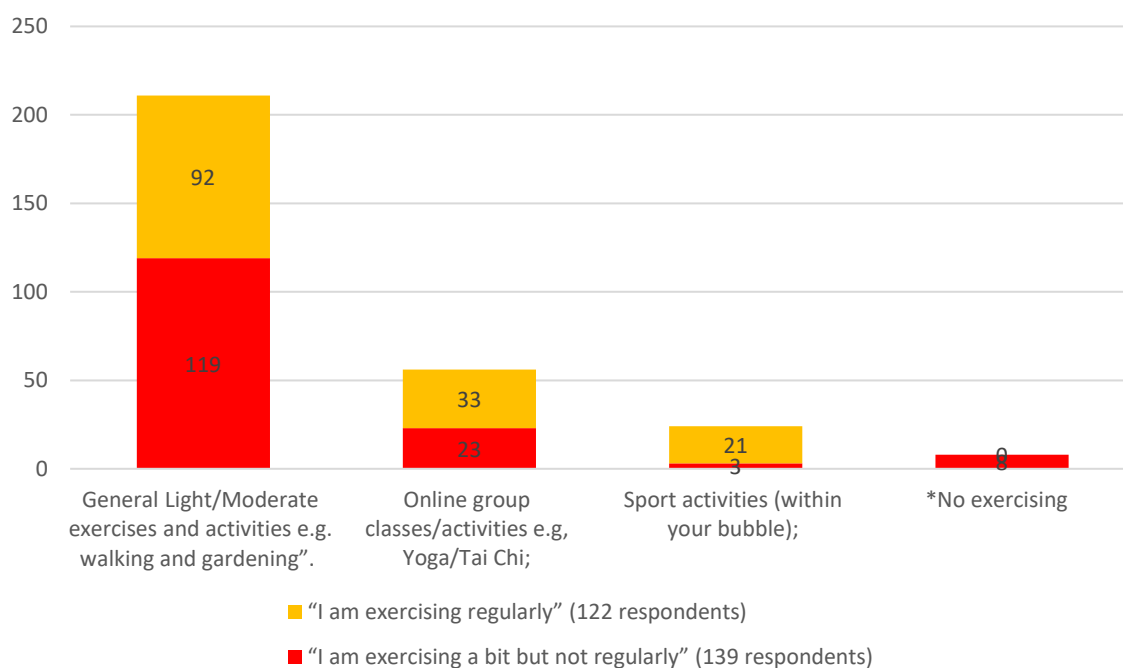
The data show that most people were likely to maintain their exercise status as they were before the lockdown, i.e. 103 out of 155 respondents (66%) remained exercising regularly, 93 out of 126 respondents (74%) maintained exercising a bit but not regularly, 13 out of 21 respondents (62%) remained no exercising but “thinking about exercising”, and 11 out of 17 respondents (65%) remained with no intention to exercise.

Respondents who had developed exercise habits were more likely to be physically active than those who had not built up a habit. Although some respondents with exercise habits (whether they exercised regularly or not before the Lockdown) changed exercise types, reduced exercise intensity or decreased exercise time due to lockdown restrictions, they were more likely to keep exercising during lockdown than those who did not have a habit.

4.4 Comparison between Participation Frequency and Activity Types during Lockdown 2021

Comparing the 139 respondents who exercised a bit, but not regularly, and the 122 respondents who exercised regularly during the 2021 Lockdown, we found that those exercising regularly had a higher participation level in online group classes/activities and sport activities within their bubble than those exercising a bit but not regularly (Figure 7). This indicates that companionship in group activities and sport might help people to keep a habit and get active on a regular basis. In addition, people who had access to facilities and sport equipment to play sport were more likely to be physically active during the lockdown.

Figure 7. Comparison of activity types between exercising regularly and not regularly.



**Note: A total of eight respondents commented "no exercising" in Level 4 Lockdown 2021 but they selected the option "I am exercising a bit but not regularly" in the previous question. This ambiguity may be because some respondents took part in alternative activities that could not be categorised in the given activity type options.*

4.5 Female Participation in Physical Activities: Before vs During Lockdown

Asian female respondents comprised a large proportion of the total respondents who completed the survey (246; 77%). The table below shows General Light/Moderate exercises and activities were the most popular activity type both before and during the lockdown. During lockdown, there was increased participation in online group classes/activities as group classes/activities in person were not available. While gym workouts were replaced by home workouts, overall, much fewer females did workouts during the lockdown. Participation in sport remained at almost the same level both before and during the lockdown. Participation in other physical activities decreased, while the number of people who reported not exercising increased during lockdown.

Table 3. Female participation in physical activities—before vs during lockdown.

Activity Type	Before Lockdown Response (Percentage)	During Lockdown Response (Percentage)
General Light/Moderate exercises and activities e.g. walking and gardening	154 (42%)	181 (60%)
Group classes/activities, e.g., Yoga/Tai Chi/Bushwalking	79 (22%)	N/A
Online group classes/activities, e.g., Yoga/Tai Chi	N/A	53 (18%)
Gym workout	33 (9%)	N/A
Home workout	N/A	6 (2%)
Sports, e.g., Football/Volleyball/Badminton/Cricket	21 (6%)	24 (8%)
Water activities, e.g., Swimming/Surfing/Kayaking	17 (5%)	N/A

Other physical activities (e.g., catwalk [modelling], skipping rope, indoor biking, etc)	44 (12%)	5 (2%)
No exercising	15 (14%)	33 (11%)

5. Addressing the Needs of Asian Communities

As part of the survey, we asked the following four questions:

- Do you have any concerns or issues with regards to your physical activity level and wellbeing during the current Level 4 lockdown? (Q12)
- What support/services would motivate you to be more physically active during and post the current Level 4 lockdown? (Q14)
- Apart from physical activities and physical health, what other areas of wellbeing are you interested in currently? (Q15)
- What services would you like to receive from the Regional ActivAsian team to support you to live healthy active lifestyles? (Q16)

These are the themes we have identified from the survey response:

5.1 Support due to the Impact of COVID-19

The survey showed that respondents need support under the COVID-19 impact, including:

- Digital resources, such as online workout classes, online interactive exercise, online sport course, and exercise videos,
- Guidance on safe participation in sport and active recreation during lockdown,
- Guidance on outdoor exercise.

5.2 Support Related to Sport and Physical Activities

The responses also indicated other areas where support was needed regarding physical activity level and wellbeing during the 2021 Level 4 lockdown. In addition, services needed to live a healthy active lifestyle during and after the lockdown were identified (Table 4.).

Table 4. Areas of need and support related to sport and physical activities.

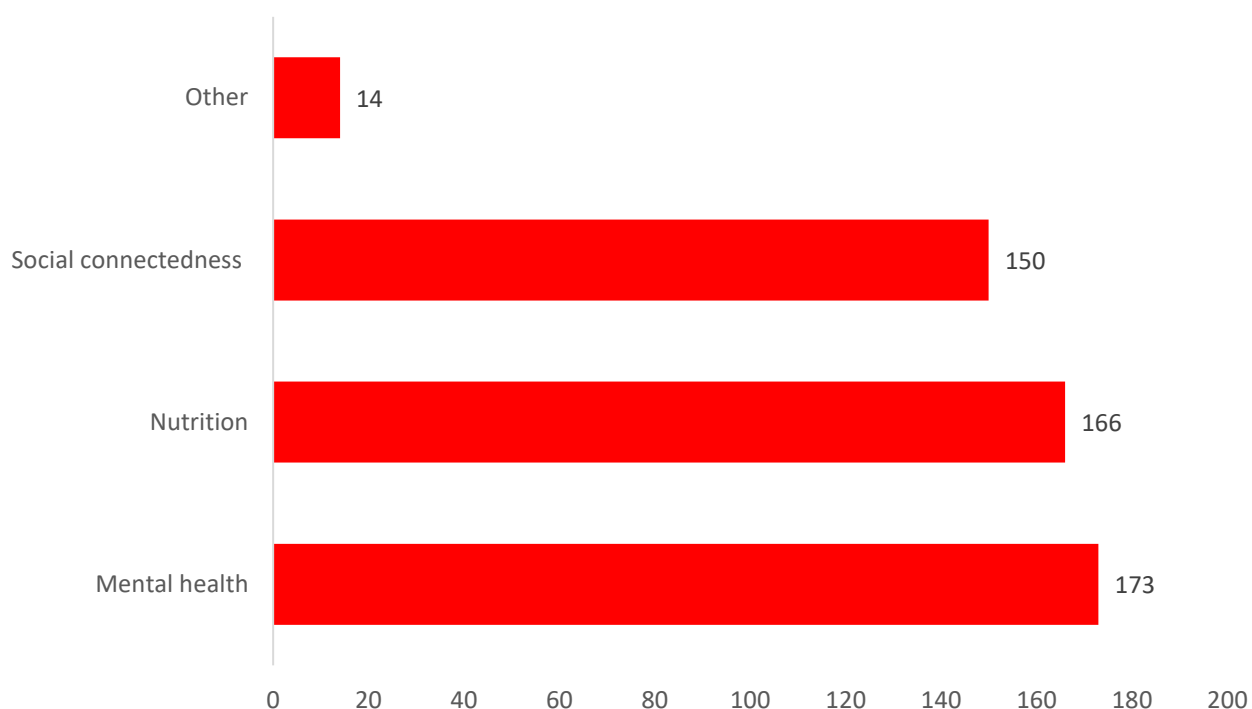
Area of Need and Support	Description
Sport and Physical Activities	<ul style="list-style-type: none"> • Free or low-cost group exercise and team sport opportunities; • Subsidies for swimming lessons; • Increase the variety of organised physical activities and sport programmes, such as badminton, basketball, cycling, dancing, walking, water sport, easily accessible workout programme, exercise programme for beginners, organic gardening, and tree planting; • Increase activities for targeted groups, such as boxing and self-defence workshops for girls and women, sport for children and young people, dancing and Tai Chi for seniors, and home-based/outdoor activities for families.

Facilities and Venue	<ul style="list-style-type: none"> • Increase exercise and sport facilities in the neighbourhood and parks, such as badminton court, basketball hoops, table tennis table, tennis court and workout equipment; • Increase access to free or low-cost facilities/venues, such as badminton courts, swimming pool, and indoor facilities; • Provide multi-language venue information on sport venue, for example, where to do sport or activities; • Suggestion and supply for sport equipment at a reasonable price.
Companion and Motivation	<ul style="list-style-type: none"> • Goal settings for people with different fitness levels; • Organise daily/weekly challenge as well as regular sport competition; • Create a supportive environment to encourage participation in active recreation, for example, an online motivation group; • Encourage interaction and connection among people with the same interests and passion for the same sport or physical activities; • Provide volunteering opportunities associated with sport and exercise; • Acknowledge active participation in sport and physical activities.
Physical Literacy	<ul style="list-style-type: none"> • Precautions before and after exercise; • Exercise suggestions and guidance on fitness workout; • Knowledge about sport; • Knowledge on sport injury prevention and management; • Health and physical education.

5.3 Need and Support in Other Areas

In addition to the needs and support in sport and physical activities, respondents expressed a strong need for services to improve their mental health, enrich knowledge on nutrition, and increase opportunities to enhance social connectedness (Figure 8).

Figure 8. Responses on needs and support in other areas.



Discussion

Based on the responses and insights gained, recommendations are made as follows to support Asian communities to recover from the COVID-19 lockdowns and build resilience, ensure a safe return to sport and physical activities following the reduction in lockdown restrictions, and inspire them to live a healthy and active lifestyle in the long term.

Lockdown Support

COVID-19 and lockdown restrictions bring new challenges to Asian communities' participation in sport and active recreation, which means more people are much less able to get active physically. According to Sport New Zealand's Active NZ's COVID-19 Insights Report June 2020 ([link](#)), there was an overall national decrease in weekly participation between April and June 2020. However, the decrease for Asian communities was more pronounced. European and Māori participation decreased by 8% each, while the decrease in participation for the Asian population was 11%. It should be noted the most impacted community was the Pasifika community, with a decrease of 16%.

Despite the ActivAsian team not being able to engage with its communities in person during lockdown, we have identified their needs for increasing participation and improved physical health through online digital resources, including workout classes, interactive exercise, sport courses and exercise videos. Although we connected with Asian communities through digital platforms during lockdown, we are aware that not everyone has access to or has a preference for online engagement. People without high-speed Internet access or who experience financial barriers that prevent them from accessing digital devices or Internet services are more significantly impacted by lockdown restrictions. To support them, we need to focus on available outdoor resources and make them more accessible to the wider community. We also need to provide guidance for our communities to ensure their safe participation in sport and active recreation while living with COVID-19.

Goal Setting and Habit-Building

Our research showed that people who already had a habit of exercising were more likely to maintain some level of physical activity during the 2021 lockdown. Therefore, by supporting our communities to develop and build this habit, we will be encouraging our Asian communities to be more resilient to ongoing COVID-19 restrictions, and potentially even other environmental challenges.

Knowledge and understanding of being active are crucial to Asian communities' overall wellbeing. It has an influence on why, how and whether our communities participate in sport and physical activities. Based on the responses to Question 16 (see Appendix below), to support our Asian communities, we need to:

- Educate community members about why we need to get active physically,
- How to do sport and physical activities in a safe manner,
- Provide information on health and physical education,
- Introduce sport injury prevention and management,
- Provide support in effective exercise, and
- Collaborate with our delivery partners to support Asian communities with information on mental health and knowledge on nutrition.

Once our communities have this knowledge and understand the importance of being physically active, we need to help them to develop an increased focus and interest in sport and physical activities. It is important that we start with goal setting for targeted groups based on their age, gender, interest, and physical condition. We also need to create a fun, friendly and supportive environment to help our communities build participation habits. Once our communities have set up goals and made exercise a habit, they are more likely to be self-motivated and continue being active physically in the long-term despite environmental challenges, such as lockdown restrictions.

Equities and Inclusion

To address inequities and ensure everyone has access and opportunity to participate, we need to promote diversity and inclusion and meet the needs of Asian communities—particularly Asian youth and females. Adaptations need to be applied so that participation in physical activities can increase and the development of sport skills can happen. Examples of opportunities for females are the introduction of dancing, yoga and Zumba programmes, and self-defence workshops for girls and women. The 'Have-a-go Day' and Fun Sport programmes for Asian families are examples of providing opportunities for participation.

Exercise Paradox

It was revealing to find that many respondents (72; 51%) experienced an 'exercise paradox'. They felt a strong interest towards and focus on physical activity but did not report an actual increase in their physical activity levels; in some instances, the opposite occurred. The exact reasons behind this observation are not entirely apparent from our analysis, and so further research is required to uncover any underlying factors. Understanding these underlying factors may prove to be useful when attempting to offer alternative or modified exercise opportunities to support those who experience this paradox in the future under restrictions due to COVID-19.

Conclusions

The COVID-19 pandemic, and subsequent lockdown restrictions in 2021, have had an impact on Asian communities' participation in sport and physical activities, as well as their overall wellbeing. In summary:

- Lockdown restrictions reduce physical activity levels of Asian communities. They result in a lower exercise regularity, a change in activity types, and reduced participation time spent on sport and physical activities.
- Most people (142; 44%) developed an increased focus and interest towards physical activity, but half of these people (72; 51%) experienced a decrease in their physical activity during lockdown. This provides an opportunity where people are likely motivated and willing to engage in physical activity, they just need guidance and support to navigate through lockdown restrictions.
- People who had an established exercise habit (whether they exercised regularly or irregularly) were more likely to keep exercising during lockdown than those who did not have an exercise habit.

Limitations

It is important to note the study is subject to several limitations.

Lack of Tamariki and Rangatahi Respondents

The majority of the respondents (202; 63.3%) were aged between 35 and 64 years. Only four respondents were between 7-11 years old age group, and ten between 12-24 years old. The underrepresentation of Asian tamariki and rangatahi in the data was mainly due to challenges reaching those populations during the lockdown, for example, lack of communication with schools and universities. This indicates further research on the participation of Asian children and youth in play, active recreation, and sport is needed to complement this current piece of research.

Inconsistency in the Data

When analysing the data, instances of inconsistency were discovered. The survey contained a mixture of questions to capture exercise behaviour and physical activities. Some respondents reported they were not physically active, but then went on to describe physical activities they were undertaking. This also occurred vice-versa. The reasons behind these inconsistencies are not entirely clear, but it did make comparisons difficult between exercise behaviour/frequency and physical activities.

Multiple Interpretations of 'Active'

When asking how active the respondents were during the Level 4 Lockdown in 2021 compared with the pre-lockdown period, multiple interpretations were discovered during the analysis of the data. Being active was associated with "duration", "intensity", and "regularity" of exercise. Therefore, to avoid ambiguity of questions in future, questions need to be phrased to ensure there is only one understanding regardless of translation to different languages.

Recommendations for Future Studies

Building on the learnings of this study, we recommend and propose the following areas for future studies:

- Increasing the proportion of tamariki (aged 5-11 years) and rangatahi (aged 12-17 years) respondents in the study and aligning these age groups with Aktive's and Sport NZ's data for consistent comparison;
- Changing the options in the Gender question to "Female, Male, Non-binary, Prefer not to say, and Prefer to self-describe";
- Conducting a comparison between the 2020 and 2021 COVID-19 Impact survey responses.

Appendix 1—Survey Questions

Personal Information

1. Gender – please select
 - Male
 - Female
 - Gender Neutral
 - Prefer not to say
 - Other – Self Describe
2. Age – please select
 - 7 years old or under
 - 8 – 11 years old
 - 12 – 14 years old
 - 15 – 17 years old
 - 18 – 24 years old
 - 25 – 34 years old
 - 35 – 49 years old
 - 50 – 64 years old
 - 65 – 74 years old
 - 75 years old or older
3. Ethnicity – multiple choices if applicable
 - Chinese
 - Korean
 - Japanese
 - Indian
 - Filipino
 - Other – Self Describe

Physical Activity Level and Wellbeing

Physical Activity Guidelines agreed to by the Ministry of Health and Sport NZ:

- *Children and Young People: At least one hour a day of moderate to vigorous physical activity seven days a week.*
 - *Adults: At least 30 minutes of moderate or 15 minutes of vigorous activity, at least five days a week.*
 - *Older Adults: 30 minutes of moderate physical activity on 5 days or more per week*
 - *Moderate activity is ‘any activity that caused a slight, but noticeable increase in breath’ (could still have a conversation).*
 - *Vigorous activity is ‘any activity that had you out of breath’ (couldn’t do this activity and have a conversation at the same time).*
4. *Please select the statement that was closest to your exercise behaviour BEFORE lockdown (i.e. with no restrictions on travelling and play, active recreation and sport)*
 - I did not exercise and did not intend to start*
 - I did not exercise but was thinking about starting*
 - I was exercising a bit but not regularly*
 - I was exercising regularly*
 5. *Please select the physical activity(s) that you were doing BEFORE lockdown (i.e. with no restrictions on travelling and play, active recreation and sport (multiple choice)*
 - Group classes/activities e.g. Yoga/Tai Chi/Bushwalking*
 - Water activities e.g. Swimming/Surfing/Kayaking*
 - Sports e.g. Football/Volleyball/Badminton/Cricket*

- Gym workouts
 - General Light/Moderate exercises and activities e.g. walking and gardening
 - Other physical activities
 - No exercising
6. Please select the statement that is closest to your exercise behaviour NOW (i.e. with COVID-19 Level 4 restrictions)
- I do not exercise and do not intend to start
 - I do not exercise but am thinking about starting
 - I am exercising a bit but not regularly
 - I am exercising regularly
7. Please select the physical activity(s) that you are doing NOW (i.e. with COVID-19 Level 4 restrictions) (Multiple Choice)
- Online group/classes/activities e.g. Yoga/Tai Chi
 - Sport activities (within your bubble)
 - General Light/Moderate exercises and activities e.g. walking and gardening
 - No exercising
 - Other – Self Describe
8. How active are you NOW compared to pre-lockdown period?
- My participation in physical activity has significantly increased – go to Q9
 - My participation in physical activity has somewhat increased – go to Q9
 - My participation in physical activity remains same – go to Q11
 - My participation in physical activity has somewhat decreased – go to Q10
 - My participation in physical activity has significantly decreased – go to Q10
9. What are the reasons for the increase in your participation in physical activity? Please select all the appropriate answers
- Costs
 - Motivation
 - Available Time
 - Accessibility
 - Boredom
 - Fear/Anxiety
 - Work/Household responsibility
 - Companionship
 - Other – Self-describe
10. What are the reasons for the decrease in your participation in physical activity? Please select all appropriate answers
- Costs
 - Motivation
 - Available Time
 - Accessibility
 - Boredom
 - Fear/Anxiety
 - Work/Household responsibility
 - Companionship
 - Other – Self describes
11. Have you developed an increased focus and/or interest for physical activity and wellbeing since the start of Level 4 lockdown in August?
- Yes
 - No

Maybe

12. Do you have any concerns or issues with regards to your physical activity level and wellbeing during the current Level 4 lockdown? Please type "N/A" if you have no comments
13. What are the differences in participation for you in physical activity during the current Level 4 lockdown as compared to last year's Level 4 lockdown?
14. What support/services would motivate you to be more physically active during and post the current Level 4 lockdown? i.e. Lower Alert Levels
15. Apart from physical activities and physical health, what other areas of wellbeing are you interested in currently? Multiple Choice
 - Mental Health
 - Nutrition
 - Social Connectedness
 - Other – Self Describe
16. What services would you like to receive from the Regional ActivAsian team to support you to live healthy active lifestyles? Please type "N/A" if you have no comments.