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研究課題名(和文) Leveraging Tokyo 2020: can the Olympic and Paralympic Games increase intentions for physical activity in middle and later life?

研究課題名(英文) Leveraging Tokyo 2020: can the Olympic and Paralympic Games increase intentions for physical activity in middle and later life?

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研究成果の概要(和文)：Two research articles in press. Two international conference presentations completed in 2018-2019. One international conference to present during September 2020. Three academic manuscripts currently under review.

研究成果の学術的意義や社会的意義

This research provides valid and reliable baseline data about the physical activity habits of middle-aged and older Japanese as well as information about the environmental conditions associated with hosting the Tokyo 2020. This information will inform longitudinal comparisons.

研究成果の概要(英文)：Two research articles in press. Two international conference presentations completed in 2018-2019. One international conference to present during September 2020. Three academic manuscripts currently under review.

研究分野：Environmental Gerontology

キーワード：Olympic Physical Activity Legacy Older adult Middle-aged adult Environment Population survey Audit

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1 . 研究開始当初の背景 (Background in Research start)

Japan is at the forefront of global population aging and is experiencing rapid demographic change associated with low fertility levels. Population aging is associated with an increased prevalence age-related chronic disease. Behavioral changes in middle and later life are known to affect the onset and course common chronic health conditions. The Leveraging Tokyo 2020 project explores the potential of the forthcoming Olympic and Paralympic Games to facilitate health-related behavior change among middle-aged and older adults. The study measured baseline physical activity levels, intention to change behavior, and awareness of the Olympic Games among representative samples of middle-aged and older adults. It also measured environmental conditions surround key Olympic host venues.

2 . 研究の目的 (Research purpose)

This research sought to measure and elucidate the potential of the Tokyo Olympic and Paralympic Games to change inactive and sedentary behaviors and kindle the spirit of Olympism in an aging society. Four key research questions were addressed:

1. What is known internationally about the capacity of mega-sporting events to influence health outcomes and behavioral intention for change among middle-aged and older populations?
2. What are the current socio-environmental, personal, and behavioral barriers to, and facilitators of, leisure time physical activity in metropolitan Japan?
3. What is the baseline leisure time physical activity level among middle-aged and older Japanese and how does this compare to international norms and recommended activity guidelines?
4. How, if at all, does awareness of the Tokyo Olympic and Paralympic Games influence

intentions to increase levels of leisure time physical activity among middle-aged and older adults?

The central hypothesis of this study was that the Tokyo 2020 Olympic and Paralympic Games will be associated with intentions to increase leisure time physical activity among middle-aged (50 – 64 years) and older adults (65 years and older). This effect will be mediated by socio-environmental, personal and behavioral factors, with the strongest effects evident closer to hosting locations.

3 . 研究の方法 (Research method))

This study was designed as a multi-phase, mixed methods project with systematic sampling among the largest cities in Japan. The primary sampling frame for the study was the Tokyo region. Control samples were also recruited from Osaka, Nagoya, Fukuoka and Sapporo. Power calculations indicated that a total sample of 3,994 older adults will be required to achieve representativeness within Japan. Data were elicited in two phases. In the first phase of the study, information gathering was achieved through the use of a systematic literature review of Olympic legacy research that has been undertaken in the last 30 years. A Delphi study was also conducted with Japanese and international gerontologists and health experts to evaluate informed testimonies about the behavior change potential of the Olympics and the current issues associated with physical inactivity and aging in Japan.

In the second phase of the study, baseline data were gathered and analyzed concerning middle-aged and older Japanese people's physical activity levels, intentions to change their behavior, and awareness of the Olympic and Paralympic games. Survey measures were adapted from valid and reliable international measures that have been previously used in the context of older adults and Japanese populations. Measures included the Japanese translation of the International Physical Activity Questionnaire (IPAQ), a validated international measure of different physical activity

behavior.

An environmental audit of the accessibility of public resources (walking access to green open spaces, recreational spaces, and community centers) was also undertaken in Tokyo around hosting venues using geographic information systems (GIS) analysis and a walking audit methodology. This aspect of the study helped to develop an understanding of the pre-Olympic socio-environmental context that potentially influences physical activity choices and behaviors.

4 . 研究成果 (Research outcome)

Since the completion of my research, I have published two research papers in international and peer-reviewed journals:

- Annear, M., Shimizu, Y., and Kidokoro, T. (2019). Sports mega-event legacies and adult physical activity: a systematic literature review and research agenda. *European Journal of Sport Science* 19(5): 671-685.
- Annear, M., Kidokoro, T., and Shimizu, Y., (In Press). Walking and sitting time among urban-living middle-aged and older Japanese. *International Journal of Gerontology* (In Press).

I have given two presentations at International symposia:

- Annear, M., Shimizu, Y., Kidokoro, T., & Takanashi, M. (2019, 17-20 September). Operationalizing Olympic philosophy to achieve sustainable social legacies: can we leverage Tokyo 2020 to inspire population activity in changing societies? 47th annual conference of the International Association for the Philosophy of Sport, Kyoto, Japan.
- Annear, M., Shimizu, Y., Sato, K., Takanashi, M., Yamauchi, H., & Kidokoro, T. (2018, 4-7 July). Leveraging Tokyo 2020: Can the Olympic and Paralympic games change behavioral intention for physical activity and sports participation among middle-aged and older adults in

Japan? European College of Sport Science (ECSS), Dublin, Ireland.

I have also been accepted to give a presentation on my Kakenhi research at the 2020 Yokohama Sports Conference (to be held online in September due to the pandemic).

Finally, I have three manuscripts that are currently under review with international journals that are based on the Kakenhi-funded study - with publication anticipated in 6-12 months.

This research will also form the basis of future research applications as part of ongoing longitudinal work to track the long-term effect of hosting the Olympic Games on physical activity among middle-aged and older Japanese.

5. 主な発表論文等

〔雑誌論文〕 計1件（うち査読付論文 1件/うち国際共著 1件/うちオープンアクセス 1件）

1. 著者名 Annear, M., Shimizu, Y., Kidokoro, T.	4. 巻 12
2. 論文標題 Sports mega-event legacies and adult physical activity: a systematic literature review and research agenda.	5. 発行年 2018年
3. 雑誌名 European Journal of Sport Science	6. 最初と最後の頁 1-15
掲載論文のDOI（デジタルオブジェクト識別子） 10.1080/17461391.2018.1554002	査読の有無 有
オープンアクセス オープンアクセスとしている（また、その予定である）	国際共著 該当する

〔学会発表〕 計1件（うち招待講演 1件/うち国際学会 1件）

1. 発表者名 Annear, M., Shimizu, Y., Kidokoro, T., Takanashi, M., Sato, K., Yamauchi, H.
2. 発表標題 Leveraging Tokyo 2020: Can the Olympic and Paralympic games change behavioral intention for physical activity and sports participation among middle-aged and older adults in Japan?
3. 学会等名 European College of Sport Science（招待講演）（国際学会）
4. 発表年 2018年

〔図書〕 計0件

〔産業財産権〕

〔その他〕

6. 研究組織

氏名 （ローマ字氏名） （研究者番号）	所属研究機関・部局・職 （機関番号）	備考
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