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# The effect of Rugby World Cup 2019 on residents' psychological well-being: a mediating role of psychological capital

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## ABSTRACT

The current study aimed to examine the relationships among residents' impact perception of 2019 Rugby World Cup (i.e. economic impact, cultural interests and new opportunity, community pride, and environmental impact), psychological capital (i.e. hope, self-efficacy, optimism, and resilience), and psychological well-being. The two-wave time-lagged data were collected from residents in the host cities (a following week of the event and eight weeks after the event;  $N = 206$ ). The results indicated that residents' perceptions of event impacts were positively associated with psychological capital, which influenced psychological well-being over time. Cultural interests and community pride were considered particularly influential in enhancing residents' psychological well-being. The findings are useful for policy makers, planning to utilize mega events to boost residents' psychological well-being.

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## KEYWORDS

Mega events; event impact; residents; well-being; psychological capital

## 1. Introduction

Numerous studies have recently valued positive psychological aspects and well-being among residents in the events and tourism contexts (Filep & Laing, 2019; Filo & Coghlan, 2016; Vada et al., 2020). Residents' well-being has been a primary concern especially for tourism policy makers who strive to use the power of tourism (Yolal et al., 2016). Even though efforts on investigating residents' well-being in tourist destinations have been made (e.g. World heritage sites; Chi et al., 2017), a recent systematic review demonstrated that scholars have relatively overlooked how temporal attractions like mega-sport events can contribute to enhancing well-being in the host communities (Vada et al., 2020).

Scholars have considered residents' impact perception of sport events (i.e. economic, social, and environmental impacts; F. Chen & Tian, 2015; K. C. Chen et al., 2018; S. Lee et al., 2012) as the origin of various tourism outcomes such as support for events (Oshimi et al., 2016; Parra-Camacho et al., 2020), quality of life and well-being (Kaplanidou et al., 2013; Lin et al., 2017). In line with the current study, Al-Emadi et al. (2017) examined the relationship between residents' perceptions in hosting the 2022 Qatar World Cup and their well-being, demonstrating that socio-cultural impacts expected by Qatar residents were positively associated with their well-being. Other studies also yielded similar findings that residents' well-being is enhanced by the positive impacts of hosting sport events (Kaplanidou et al., 2013; Prayag et al., 2013).

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These studies have provided notable contributions to the literature, but there remain two research gaps associated with the relationship between the impact of mega-events and residents' well-being. First, most research employed a cross-sectional design, if not repeated cross-sectional, to examine the relationship between event impact and well-being (e.g. Kaplanidou et al., 2013). To overcome this limitation, the authors in the current study examined the relationship model with two-wave data from the same individuals from the host cities (Time 1 = a week following the event; Time 2 = eight weeks after the event). Second, the psychological processes underlying the relationship between mega-event impacts and the well-being of the local community has been limited. To enrich the explanation of the relationship, the authors examined a mediating model incorporating the notion of psychological capital – a positive psychological state focusing on individuals' strengths and full potential (Luthans et al., 2007). Although psychological capital has roots in positive psychology and organizational behaviour in business management, it has been adapted in various disciplines including hospitality management (e.g. Karatepe & Karadas, 2015) and sport management (e.g. M. Kim, Kim, et al., 2017). Because psychological capital has been considered as one such mechanism for achieving sustainable competitive advantages (Luthans & Youssef-Morgan, 2017), examining the role of psychological capital among residents would be meaningful for a better understanding of the relationship between sporting event impacts and residents' psychological well-being.

The purpose of the current research is to examine the relationship among residents' perceived impacts of hosting a mega sport event, psychological capital, and their psychological well-being. Specifically, the authors argue that the impact of the Rugby World Cup, 2019 (RWC 2019) is positively associated with psychological capital among residents in the host cities in Japan, which eventually lead to their psychological well-being over time (eight weeks after the event). The current research can provide new theoretical explanations as to how hosting mega-events can enhance well-being of residents in the host communities. Although hosting mega-sport events is a risk-involving decision for policy makers, the intangible benefits of mega-sport events for residents in the host communities should not be ignored.

## **2. Literature review and hypotheses development**

### ***2.1. Impact of mega events and residents' psychological well-being in host cities***

The relationship between residents' perceptions of event impacts and their well-being has been of concern to tourism scholars (Al-Emadi et al., 2017; Kaplanidou et al., 2013; Y. D. Kim, Magnesen, et al., 2019; Lin et al., 2017). Tourism scholars have applied the bottom-up spill-over theory to argue the relationship between event impact perception and well-being (Chi et al., 2017; He et al., 2020; Huang et al., 2019). The basis of the theory postulates that well-being is an accumulation of one's positive experiences (Diener, 1984). In the context of mega-sport events, experiences of residents in the host communities have been studied by tourism impact. Tourism impacts are usually examined from economic, socio-cultural, and environmental perspectives (Kaplanidou et al., 2013; H. Kim et al., 2006). It has been argued that such multi-faceted impacts can lead to residents' well-being (Kaplanidou et al., 2013; Yolal et al., 2016).

Numerous event impact studies have focused on the economic impact to assist politicians and event organizers to validate event bids (e.g. Crompton et al., 2001; Kwiatkowski et al., 2018; Wan & Song, 2019). In this research terrain, there are mainly two approaches. The first is to estimate economic impacts by calculating monetary values that could be generated by focal events (Agha & Taks, 2018; Andersson et al., 2004; Beckman & Traynor, 2019; Taks et al., 2011). The other approach is to examine economic impacts by measuring people's perceptions regarding the contributions of events to the economic situations in the host cities (e.g. de Boer et al., 2019; S. Lee & Krohn, 2013; Liu, 2016; Prayag et al., 2013). The current study employed the latter approach because the first approach has been criticized as the estimations tend to be inflated greatly (Crompton, 2006), and the primary research interest in this study was to examine residents' perceptions of the event impacts. Mega-events have been considered a substantial economic booster for the host communities

(C. K. Lee et al., 2017; Preuss, 2005), suggesting that economic impact perceptions among residents of host cities can lead to their well-being (e.g. 2010 FIFA World Cup: Kaplanidou et al., 2013).

Scholars have also identified peoples' various socio-cultural impact perception of events such as 'Interest in foreign countries and their cultures' (S. S. Kim & Petrick, 2005; W. Kim et al., 2015; Wang & Wang, 2019) and 'new leisure opportunity and experience' (Mao & Huang, 2016; Oshimi et al., 2016). These impacts could be considered important factors especially in the context of international sporting events (S. S. Kim & Petrick, 2005; Mao & Huang, 2016; Oshimi et al., 2016). Furthermore, community pride is also one of the representative social impacts in mega sporting events (S. C. Chen, 2011; W. Kim et al., 2015) because mega sporting events often arouse community excitement by uniting people in their community/country (Gibson et al., 2014; Heere et al., 2013). Scholars have also accumulated evidence that socio-cultural impacts can contribute to residents' well-being. Y. D. Kim, Magnessen, et al. (2019), for example, found that residents who perceive the impact of local sport team's contributions to community welfare (i.e. social impact) were more likely to feel grateful and experience greater well-being. Previous studies also found that positive impact perceptions such as cultural interests and community pride derived from sport events are positively associated with residents' perception of quality of life and well-being in the host city of the sport event (Ouyang et al., 2019; Tang & Wang, 2020).

Lastly, many studies have investigated the environmental impact of tourism events by measuring peoples' environmental awareness or behaviour (H. Kim et al., 2006; Lorde et al., 2011; Prayag et al., 2013). Environmental impact research has been limited (Collins & Cooper, 2017; Prayag et al., 2013) despite the importance of the triple bottom line (Elkington, 1997; Fredline, 2005). It is therefore imperative to integrate economic, social, and environmental impacts to better understand the mega-event impacts. In fact, scholars also expect the potential of environmental impacts on residents' well-being. K. Kim et al. (2013), for instance, argued that residents' perception of environmental impacts was positively associated with a sense of health and safety, which is a surrogate for well-being. Jeon et al. (2016) also demonstrated that environmental impacts perceived by residents in Massachusetts generated a positive influence on their well-being, implying that residents' perception of environmental impacts derived from mega-events can influence their well-being.

As explained above, abundant research examined the relationships between the impact of sporting events and well-being in the host communities (e.g. Kaplanidou et al., 2013; Ouyang et al., 2019; Pfitzner & Koenigstorfer, 2016; Tang et al., 2020). Indeed, well-being is one of the most essential outcomes in tourism research (Uysal et al., 2016). However, studies in this area have largely focused on a particular type of well-being – subjective well-being (e.g. Dolan et al., 2019; Schlegel et al., 2017). While subjective well-being (SWB) is an evaluation of an individual's state of wellness (Diener, 1984), the measurements were critically affected by the person's temporal affect or mood (Pavot, 2018; Teresi et al., 2017). With that criticism, scholars suggest that positive functioning should correlate with psychological well-being (PWB: Ryff, 1989; Ryff & Keyes, 1995), which is considered a longer-lasting variable compared to SWB (Huta, 2016). PWB consists of six dimensions including self-acceptance, environmental mastery, positive relations with others, personal growth, autonomy, and having purpose in life (Ryff, 1989). Although some studies demonstrated the significance of tourism experiences on PWB (Buzinde, 2020; Matteucci & Filep, 2017; Vada et al., 2019), no study to date has been conducted to understand the prolonged impact of mega sporting events on PWB among residents in the host communities. Incorporating the theoretical background and research gaps, the authors posit that:

H1: Perceived event impacts will predict PWB.

## **2.2. Psychological capital as a bridge between event impact and PWB**

The proposed relationship between positive event impact perceptions and PWB can be limited in explaining the underlying processes. In the current study, we argue that *psychological capital* can

provide theoretical understanding to link event impact and PWB. Psychological capital is a multi-dimensional construct consisting of hope, self-efficacy, optimism, and resilience (Luthans, 2002). The shared commonalities of these first order constructs of psychological capital synergistically interact with one another (Luthans et al., 2007). Individuals with enhanced psychological capital are likely to set up the goals with pathways (i.e. hope), accept challenges with confidence (i.e. self-efficacy), finding new possibilities with a positive outlook (i.e. optimism), and recover from setbacks (i.e. resilience) to pursue their goals and values (Hobfoll, 2002).

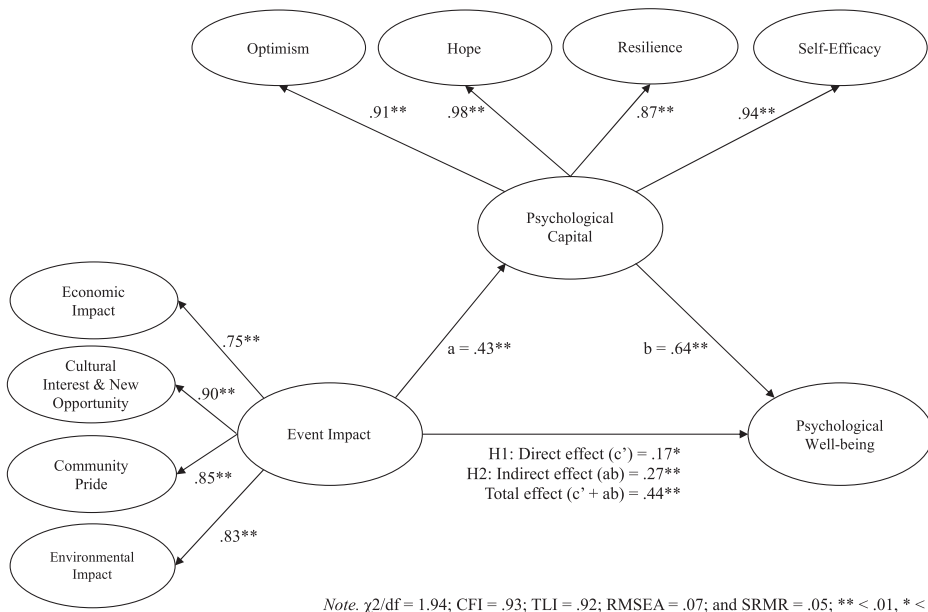
The concept of psychological capital has been proposed theoretically and tested empirically in workplace settings as a means of increasing job performance and augmenting one's PWB. However, due to the positive developmental nature of psychological capital, scholars have recently started to apply it in various contexts, including sport (M. Kim et al., 2017; M. Kim, Kim, et al., 2019; McDowell et al., 2018), hospitality and tourism (Mathe et al., 2017; Prayag et al., 2020). In the current study, examining the role of residents' psychological capital is critical to describing not only how their psychological capital is enhanced but also how their PWB is eventually developed.

Psychological capital has played an important role as a mediator between one's perception and well-being. For example, M. Kim, Kim, et al. (2019) concluded that sport employees' perception for organizational support enhances their psychological capital, which in turn augments their PWB. Newman et al. (2014) proposed a framework articulating the role of psychological capital between various antecedents and outcomes at different levels (i.e. individual-, team-, and organizational-levels) and including interactional factors (e.g. stress, perceived resource constraints). In order to explore the mediating role of psychological capital, this section deals with two related direct effects: (1) the influence of perceived event impacts on residents' psychological capital and (2) the effect of psychological capital on their PWB.

First, the relevance of hosting sporting events to residents' perception in communities is that sports organizations who host sporting events need to consider community development through strengthened social interactions (M. Kim, Kim, et al., 2019). In parallel, the residents in the community (i.e. host city or region) expect to generate welfare-economic gains through sporting events (Solberg & Preuss, 2007). Individuals' psychological capital can be enhanced by not only their characteristics (e.g. identification, passion) but also external contextual features (e.g. supportive environment, public policies). In a recent meta-analysis, Wu (2019) concluded that when people believe that they are supported by the organization they belong to, they will feel hopeful and have a positive outlook even in challenging situations. In relation to mega sporting events, a similar effect can occur boosting their pride in their community and displaying improved mental health and success. In addition, new opportunities to learn about other cultures gained through sporting events would be helpful in seeking alternative pathways and enhancing their self-efficacy through identity construction. To sum up, residents' perception for economic impact, cultural interests, community pride, and environmental impact would positively influence their psychological capital.

Second, enhanced psychological capital is one of the prominent predictors for one's PWB (Sin & Lyubomirsky, 2009). Psychological capital has been emphasized as a key to improve well-being through focusing on strength rather than weakness (Buckingham & Vosburgh, 2001). To be a psychological capital construct, it is required to be state-like capacities, which are developmental (Luthans, 2002). Thus, developmental positive constructs (i.e. psychological capital capacities) allow individuals to focus on personal development and gain a sense of fulfillment in their lives. In our research setting, residents' psychological capital would influence positive psychological functioning in their daily lives. Based on these two direct relationships, authors argue that residents' perceived impact of mega-sport events can develop their psychological capital, thereby enabling them to show augmented PWB. Correspondingly, the second hypothesis is formulated (see Figure 1):

H2: Residents' psychological capital will mediate the relationship between perceived event impact and PWB.



**Figure 1.** Result of the hypothesized mediation model.

### 3. Methods

#### 3.1. Study context

The Rugby World Cup, 2019 (RWC 2019) was held in Japan from September 20th to November 2nd. Host countries of RWC have historically attracted numerous international tourists (Aihara, 2020; Giampiccoli et al., 2015). According to Japan National Tourism Organization (2019), the number of international tourists from participating countries during RWC 2019 reached three-quarter million, indicating 29.4% more than the same period in the previous year of the event. These evidence and industry reports can demonstrate that RWC has been considered an important mega-event from the tourism perspective. During RWC 2019, 48 games were played in 12 different cities (i.e. Sapporo, Kamaishi, Kumagaya, Chofu, Yokohama, Fukuroi, Toyota, Higashi-Osaka, Kobe, Fukuoka, Kumamoto, and Oita). These cities hosted two to five group stage matches, and three cities (i.e. Yokohama, Chofu, and Oita) hosted two to three additional tournament matches.

#### 3.2. Research design and sample

A two-wave time-lagged data collection was employed to obtain data from residents in Japan. The first data collection was carried out in the following week of RWC 2019. The authors employed stratified online sampling methods based on three strata: geographic location, gender and age. By using the market research firm's online panel management system, we recruited participants who lived in seven host cities (i.e. Sapporo, Yokohama, Higashi-Osaka, Kobe, Fukuoka, Kumamoto, and Oita). The selection of the cities was determined based on the regions of the cities and online panel availability. Japan consists of the northern Hokkaido island, the mainland (i.e. the eastern and western Japan), the Kyusyu-Okinawa region, and the Shikoku island where no games were hosted (see Figure 2). We aimed to collect data from all regions except for the Shikoku island. Some host cities were small in size (i.e. Kamaishi, Fukuroi) and excluded from the sample city list because the Japanese market research firm could





**Figure 2.** The map of Japan that shows the locations of host cities.

provide only limited data from those cities. It is also important to note that Chofu (i.e. Tokyo) was excluded from the sample city as the significant margin of people living in Tokyo tend to be relocated from other cities. The authors further stratified based on gender and age to make the sampling frame as similar as the population of the target cities based on each city's public record. The same participants were requested to participate in another survey eight weeks after RWC 2019. Participants answered scales of event impact and psychological capital in Time 1, whereas PWB was measured in Time 2.

A total of 578 participated in Time 1. Of those, 206 participated in Time 2 conducted 8 weeks later. The sample size was determined based on the item-to-response ratio of 1:5 (Hair et al., 2005). According to the finalized questionnaire, the minimum required sample sizes for Time 1 and Time 2 were 130 (26 items) and 30 (6 items), respectively. The average age was 50.29 ( $SD = 14.20$ ), and the gender ratio indicated almost symmetric (Female = 47.1%). The city-based sample distribution was also similar to the population size of each city (Yokohama = 37.9%, Sapporo = 16.5%, Kobe = 18.4%, Fukuoka = 12.6%, Kumamoto = 7.8%, Higashi-Osaka = 3.9%, Oita = 2.9%). These characteristics are considered similar to the Japanese population (Statistics Bureau of Japan, 2016). Some may suspect the possibility that those who did not participate in Time 2 survey can influence the validity of our final data. We conducted the chi-square tests and the independent sample  $t$ -test to compare general characteristics of Time 1 and Time 2 samples. The results showed no differences regarding gender, geographic location, and age (gender:  $\chi^2 = 1.41$ ,  $df = 1$ ,  $p = .24$ ; geographic location:  $\chi^2 = 6.65$ ,  $df = 6$ ,  $p = .36$ ; age:  $t = -1.25$ ,  $p = .21$ ), indicating that those who did not participate in Time 2 were at random.



### 3.3. Measurements

Economic impact measures were adopted from previous literature (e.g. increased business opportunities and investments; Al-Emadi et al., 2017; Kaplanidou et al., 2013; Prayag et al., 2013). Cultural interest and new opportunity were measured by four items adopted from previous research (e.g. Increased interests in foreign cultures; Oshimi et al., 2016). Community pride was measured with three items adopted from several literature with slight modifications to increase the face validity (e.g. Fostered pride among Japanese residents; Baker & Palmer, 2006; Prayag et al., 2013). Environmental impact was measured with three items adopted from past research (e.g. Raised environmental awareness; Al-Emadi et al., 2017). Each event impact item was evaluated on a 7-point scale, ranging from 1 = *Strongly disagree* to 7 = *Strongly agree*.

Psychological capital measurement used in previous literature was work-domain oriented. Hence, we slightly modified the items adopted from previous literature to increase the content validity. Hope was measured with three items (e.g. I can think of many ways to reach my goals; Luthans et al., 2007). Self-efficacy was evaluated based on three items adopted from perceived competence scale (e.g. I feel confident in my ability; Williams & Deci, 1996). We utilized three items to measure optimism (e.g. I am optimistic about what will happen to me in the future; M. Kim, Kim, et al., 2019). Finally, resilience was measured with three items by using a brief resilience scale (e.g. I tend to bounce back quickly after hard times; Smith et al., 2008). Each item pertaining to the above factors was measured on a 7-point scale, ranging from 1 = *Strongly disagree* to 7 = *Strongly agree*.

Lastly, the authors measured PWB by using six items adopted from the short form of the Mental Health Continuum (MHC-SF; Keyes et al., 2008). Participants were asked to answer how often they felt about each statement (e.g. Your life has a sense of direction or meaning to it) during the past month on a 7-point scale ranging from 1 = *Never* to 7 = *Everyday*. The construct reliability scores for the above factors ranged from .87 to .95, indicating an adequate internal consistency. The results of descriptive statistics, correlations, AVE, and squared inter-correlations of each factor were presented in Tables 1 and 2.

### 3.4. Data analysis

Data were analysed by using IBM SPSS 26.0 and Amos 26.0 statistics software programs. First, the convergent and discriminant validity of the measurement model were checked using a confirmatory factor analysis (CFA). As the criterion, we set the average variance extracted (AVE) values greater than .50, and greater than the squared inter-correlations of each factor (Fornell & Larcker, 1981) to determine the psychometric properties of the factors of our interests. To measure the estimation model fit, we employed common goodness of fit indices including the comparative fit index (CFI), the Tucker-Lewis coefficient (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) based on the previous literature (Little, 2013).

We examined the hypothesized mediation role of psychological capital on the relationship between the event and PWB by following the procedure described by Anderson and Gerbing (1988). As is consistent with the suggestions, we conducted latent variable-based Structural Equation Modeling (SEM) after the CFA. Further, we used the bias-corrected bootstrap procedure to test indirect relationships between the event impact and PWB through psychological capital.

## 4. Results

### 4.1. Testing measurement model

We first conducted confirmatory factor analysis (CFA) to determine the psychometric property of each factor measured in the study. Specifically, the measurement model contained nine first-

**Table 1.** Descriptive statistics and inter-item correlation.

	Mean	SD	1	2	3	4	5	6	7	8	9
1 Economic Impact (T1)	4.83	1.08	.62 <sup>a</sup>	.44	.40	.36	.12	.10	.09	.08	.12
2 Cultural Interest (T1)	4.41	1.39	.62**	.75 <sup>a</sup>	.58	.45	.14	.12	.13	.10	.14
3 Community Pride (T1)	4.64	1.40	.63**	.76**	.79 <sup>a</sup>	.46	.13	.08	.10	.09	.15
4 Environmental Impact (T1)	3.87	1.33	.60**	.67**	.68**	.87 <sup>a</sup>	.10	.09	.12	.09	.17
5 Optimism (T1)	4.36	1.37	.35**	.38**	.36**	.31**	.81 <sup>a</sup>	.72	.62	.58	.37
6 Hope (T1)	4.52	1.22	.31**	.35**	.29**	.30**	.85**	.75 <sup>a</sup>	.67	.71	.38
7 Resilience (T1)	4.42	1.27	.30**	.36**	.32**	.35**	.79**	.82**	.81 <sup>a</sup>	.69	.35
8 Self-efficacy (T1)	4.16	1.26	.29**	.32**	.30**	.30**	.76**	.84**	.83**	.76 <sup>a</sup>	.34
9 Psychological Well-being (T2)	4.13	1.05	.35**	.38**	.39**	.41**	.61**	.62**	.59**	.58**	.59 <sup>a</sup>

Note: a = AVE. The figures below the AVE line represent correlations between the constructs. The figures above the AVE line represent squared correlations (SC) between the constructs.

\* $p < .05$ . \*\* $p < .01$ .

**Table 2.** Descriptive statistics and correlation among second-order factors.

	Mean	SD	1	2	3
1 Event Impact (T1)	4.44	1.14	.95 <sup>a</sup>		
2 Psychological Capital (T1)	4.36	1.15	.41**	.97 <sup>a</sup>	
3 Psychological Well-being (T2)	4.13	1.05	.44**	.65**	.90 <sup>a</sup>

Note. a = Alpha; \* $p < .05$ . \*\* $p < .01$ .

order factors (i.e. economic impact at Time 1, cultural interest at Time 1, community pride at Time 1, environmental impact at Time 1, optimism at Time 1, hope at Time 1, resilience at Time 1, self-efficacy at Time, and PWB at Time 2) and two second-order factors (i.e. event impact at Time1 and psychological capital at Time 1), which resulted in adequate model fit indices ( $\chi^2/df = 880.75/453 = 1.94$ ; CFI = .93; TLI = .92; RMSEA = .07; and SRMR = .05) (Kline, 2005; Little, 2013). Then, the AVE values were calculated, which were greater than .50 and the inter inter-correlations of the factors (Table 3).

#### 4.2. Hypotheses testing

We tested our hypotheses using the structural equation modeling (Figure 1). The result showed acceptable model fit indices ( $\chi^2/df = 880.75/453 = 1.94$ ; CFI = .93; TLI = .92; RMSEA = .07; and SRMR = .05) (Kline, 2005; Little, 2013). The model accounted for 18.1% and 53.0% of the variance in psychological capital and PWB, respectively. These results are presented in Table 4 and shown in Figure 1. The findings showed that perceived event impact significantly predicted PWB ( $\beta = .44$ ,  $SE = .08$ ,  $CI_{BC} [.29, .58]$ ), supporting H1. The results also indicated that event impact was significantly associated with psychological capital (path a;  $\beta = .43$ ,  $SE = .08$ ,  $CI_{BC} [.26, .58]$ ). Psychological capital also significantly predicted PWB (path b;  $\beta = .64$ ,  $SE = .07$ ,  $CI_{BC} [.50, .77]$ ). The indirect effect of event impact on PWB through psychological capital was significant ( $\beta = .27$ ,  $SE = .06$ ;  $CI_{BC} [.17, .41]$ ). Yet, the direct impact from event impact to PWB was still significant after including psychological capital ( $\beta = .17$ ,  $SE = .08$ ,  $CI_{BC} [.02, .33]$ ), suggesting that psychological capital partially mediated the relationship. Therefore, H2 was partially upheld.

### 5. Discussion

The current study investigated the relationship between event impact perceptions and PWB among residents in the RWC 2019 host cities in Japan by using two-wave time-lagged data. To extend the previous literature, the authors in this study attempted to explain the underlying psychological processes between event impact perception and PWB by highlighting the mediating role of

**Table 3.** Factor Loadings, Construct Reliability, and AVE ( $n = 206$ ).

Constructs	Items	$\lambda$	CR	AVE
Economic Impact (T1)	Led to the regeneration and redevelopment of the host cities	.72	.87	.62
	Increased business opportunities and investments	.84		
	Provided local residents with more employment opportunities	.86		
	Improved the provision of public services and infrastructures	.73		
Cultural Interest and New Opportunity (T1)	Increased interests in foreign cultures.	.80	.92	.75
	Provided residents with unusual experiences.	.83		
	Enhanced residents' hospitality toward the visitors.	.90		
	Increased opportunities for residents to learn other cultures.	.92		
Community Pride (T1)	Made me proud that the city is hosting an event like this.	.84	.92	.79
	Fostered pride among residents in this city.	.94		
	Made me proud to tell others about my city that is hosting the event.	.89		
Environmental Impact (T1)	Raised environmental awareness.	.92	.95	.87
	Improved environmental conservation behaviours.	.96		
	Encouraged recycling policies and pollution controls.	.92		
Optimism (T1)	I always look on the bright side of things regarding my future.	.87	.93	.81
	I'm optimistic about what will happen to me in the future.	.91		
	Overall, I expect more good things to happen to me than bad.	.92		
Hope (T1)	I can think of many ways to get out of a jam.	.90	.90	.75
	Right now I see myself as being pretty successful.	.91		
Resilience (T1)	I can think of many ways to reach my goals.	.78	.93	.81
	I tend to bounce back quickly after hard times.	.94		
	It does not take me long to recover from a stressful event.	.95		
Self-Efficacy (T1)	I usually come through difficult times with little trouble.	.81	.91	.76
	I feel confident about my ability.	.92		
	I am able to achieve my goals.	.88		
Psychological Well-Being (T2)	I am capable of handling things in my life.	.82	.90	.59
	You liked most parts of your personality.	.85		
	Good at managing the responsibilities of your daily life.	.75		
	You had warm and trusting relationships with others.	.79		
	You had experiences that challenged you to grow and become a better person.	.70		
	You felt confident to think or express your own ideas and opinions.	.72		
	Your life has a sense of direction or meaning to it.	.80		

Note: All factor loadings are significant at the  $p < .001$  level. CR = Composite reliability. Measurement model fit:  $\chi^2/df = 1.94$ ; CFI = .93; TLI = .92; RMSEA = .07; and SRMR = .05.

psychological capital. There are two theoretical contributions that the current study can offer to the literature. First, residents' mega-event impact perceptions can give a prolonged influence on PWB (i.e. eight weeks after the event in this study). Second, psychological capital can further explain the underlying mechanism between event impact and PWB. From a theoretical standpoint, the authors broaden the positive psychology approach by considering residents' flourishing through sporting events and adapting work-domain construct (i.e. psychological capital) into an event management setting.

The event impacts positively influenced PWB among residents in the host cities, as correctly predicted by Hypothesis 1. The findings of the current study were consistent with the previous literature, demonstrating the positive associations between event impacts and well-being and related constructs (e.g. QOL, happiness; Kaplanidou et al., 2013; Ouyang et al., 2019; Tang & Wang, 2020). It is also important to note that the current study indicated the prolonged influence of event impact perception on PWB (eight weeks after the event). Such findings from time-lagged data should be regarded valuable because it further supports the positive associations between event impacts and well-being confirmed by many cross-sectional or repeated cross-sectional studies (e.g. Ouyang et al., 2019; Tang & Wang, 2020).

The findings also showed that psychological capital mediated the relationship between event impact and PWB, supporting Hypothesis 2. Although the direct effect of event impact on PWB was still apparent with the inclusion of psychological capital in the model, the current study

**Table 4.** Standardized estimates, SE, and 95% CIs for the hypotheses testing.

	Total and Direct Effect of Event Impact on psychological well-being		
	$\beta$	S.E.	95% CI
Total effect	.44	.08	[.29, .58]
Direct effect	.17	.08	[.02, .33]
	Indirect Effect of Event Impact on psychological well-being via Psychological Capital		
	$\beta$	S.E.	95% CI
Indirect effect	.27	.07	[.17, .41]

further provided explanations in terms of the underlying mechanism between event impact and PWB. Psychological capital has been examined mainly in workplace settings as a means of achieving competitive advantages in the contemporary industry (e.g. Luthans et al., 2007). Yet, previous literature on psychological capital provides rich explanations when host communities and residents are regarded organizations and its members, respectively. Previous literature evidenced that individuals who perceive support from their organizations feel hopeful and optimistic (Wu, 2019), and such enhanced psychological capital enables them to gain a sense of fulfilment (M. Kim, Kim, et al., 2019). These evidences are analogously congruent with the current study, indicating that residents who perceived positive impacts from hosting the event are more likely to be hopeful, optimistic, confident, and resilient for their lives, which eventually influenced their PWB over time.

It is also noteworthy that sub-constructs of event impact perceptions demonstrated differential contributions to the higher order event impact. Socio-cultural impacts (i.e. cultural interest and new opportunity, and community pride) seemed more powerfully contributed to the enhancement of psychological capital and PWB than economic and environmental impacts. Indeed, the findings are in accordance with past studies that highlighted the relative importance of socio-cultural impacts over economic and environmental impacts on well-being and related constructs (e.g. Kaplanidou et al., 2013). Policy makers as well as scholars tend to pay keen attention to economic impacts of tourism (e.g. Comerio & Strozzi, 2019). Nevertheless, the current study highlighted that socio-cultural impacts can give greater contributions to the host communities when residents' PWB is the central concern. Although the authors must exercise caution in generalizing the findings, the current study extended the literature regarding the relationship between mega-event impacts and PWB by further explaining the underlying mechanism.

The current study can provide useful practical implications. It is imperative to remember that residents' well-being is the major goal to be achieved from the perspectives of policy makers (K. Kim et al., 2013). Although there has been criticism regarding hosting mega-events, the current study still highlighted the usefulness of hosting mega-events to augment the residents' well-being. Japan, the context of the current research, has strived to facilitate the tourism development for approximately 20 years. Although the economic impacts of tourism have been well-communicated backed by the increased number of inbound tourists (Japan National Tourism Organization, 2019), Japanese residents are still anxious and worried about the future, as reported in the census (Cabinet Office of Japan, 2014). It can demonstrate that solely relying on economic impacts of events is limited in its ability to explain residents' well-being. The findings shed light on the usefulness of hosting mega-events if various aspects of impacts are considered. Although the findings are limited in the case of RWC 2019, policy makers need to understand that socio-cultural and environmental impacts are deemed to be more powerful in encouraging residents to be hopeful, confident, optimistic, and resilient for the future, which eventually boost their well-being from the psychological point of view. For example, RWC 2019 developed 'fanzones' across all of Japan for residents and visitors can communicate with each other (Rugby World Cup, 2019). Also, Yokohama, one of the host cities, leveraged RWC 2019 to promote a green city where residents and visitors can experience metropolitan area full of greenery and flowers (Yokohama City, 2019). These examples can be useful for future host cities with regard to increasing the socio-cultural as well as environmental impacts of mega-events.

## 6. Limitation and future research directions

There were several research limitations in this study. First, although the samples were similar to the census data in terms of the basic characteristics such as age and gender, data obtained from the online panel did not represent the population. Second, the findings from the current study are limited to residents in a single country. The current research provided useful insights in terms of the processes as to how the impact of mega-events can influence PWB, but the caution should be exercised when applying the knowledge to other contexts. For example, the host communities in this study are urbanized and possess well-developed social systems (e.g. infrastructure, education). Residents in such communities may react differently to those who reside in rural communities with relatively less developed social systems. Third, it should be noted that the authors collected the two-wave data from the residents, but the time-lag between two data points was only about eight weeks. Although the time-lag was appropriate based on the suggestions from previous literature (Gibson et al., 2014), more follow-up data are needed to further explain the residents PWB. Lastly, the authors of this study did not measure negative impact perceptions as well as potential moderating variables that could influence the proposed relationships because of resource limitations. Future research should include potential moderators such as involvement in sport (M. Kim, Kim, et al., 2019).

Together, the current research used the two-wave time-lagged data to extend the theoretical relationship between event impacts and well-being by incorporating psychological capital. Economic, socio-cultural, and environmental impacts derived from mega-events can be effective in encouraging residents to be more hopeful, confident, optimistic, and resilient. This research highlighted that such positive functioning among residents in the host communities is the important factor, connecting the relationship between event impact and PWB. Future research should include negative impact perceptions and potential moderators to further explain the underlying psychological mechanism between event impacts and residents' well-being.

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