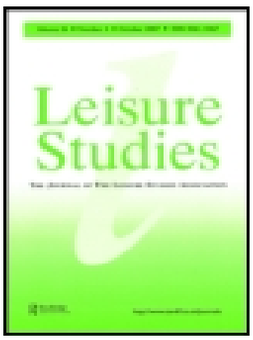

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Event satisfaction, leisure involvement and life satisfaction at a walking event: the mediating role of life domain satisfaction

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ABSTRACT

Given the rising popularity of mass-participant sport, such as walking and running events, research has started to address whether these types of events could promote life satisfaction for participants. Nevertheless, the theoretical link between event participation and life satisfaction has not been fully elaborated. Using bottom-up theory of life satisfaction, this study examined the role of event satisfaction and the three facets of leisure involvement – attraction, centrality and self-expression – in people's life domain satisfaction and life satisfaction. Participants (N = 236) were recruited from a walking event held in western Japan. The results of the study revealed that event satisfaction had positive, indirect effects on life satisfaction through satisfaction with family life and personal achievement. Attraction in walking also had positive, indirect effects on life satisfaction through satisfaction with family life, personal achievement and social life. In contrast, centrality and self-expression in walking were not associated with satisfaction with any life domains and life satisfaction. Findings from this study highlight the importance of life domain satisfaction in the relationship between event satisfaction, leisure involvement and life satisfaction. These findings also suggest that walking events can promote life satisfaction by providing the enjoyment of walking as physically active leisure.

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Quality of life; well-being; bottom-up theory; physically active leisure

Introduction

Participation in mass-participant sport events has gained global attention over the last decade. For example, the Susan G. Komen Race for the Cure, a 5 K run and fitness walk event that started in 1983 with 800 participants, now attracts over 1.5 million participants in more than 150 locations around the world (Susan G. Komen, 2015). Running events, such as marathons, also draw thousands of international participants. In 2014, the world's largest marathons took place in New York (50,504), Chicago (40,801), Paris (38,116), London (35,803) and Tokyo (34,121), and these events increased their number of finishers by 4–33% from 2007 (Association of International Marathons & Distance Races, 2015). Given that mass-participant sport events can serve as a population-based opportunity for physical activity (Murphy & Bauman, 2007), researchers have investigated the capacity of these events to produce behavioural and attitudinal outcomes related to physical activity, including exercise intention (Funk, Jordan, Ridinger, & Kaplanidou, 2011) and running commitment (Ridinger, Funk,

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Jordan, & Kaplanidou, 2012). These outcomes represent noneconomic benefits of hosting mass-participant sport events, which are critical to assessing the effects of hosting these events on cities and communities (Murphy & Bauman, 2007).

Regarding the noneconomic benefits of mass-participant sport events, research has begun to address whether these events could promote life evaluation for a growing number of event participants (Sato, Jordan, & Funk, 2014, 2015; Theodorakis, Kaplanidou, & Karabaxoglou, 2015). For instance, in their study of 827 running event participants in the US, Sato et al. (2014) found that leisure involvement in running was a significant predictor of people's life domain satisfaction. Findings from Sato et al. (2014) broaden the understanding of the role of a distance-running event in leisure involvement and life domain satisfaction; however, the study is limited because the authors operationalised leisure involvement as a single construct consisting of attraction, centrality and self-expression, and such an approach fails to incorporate each facet's distinct contribution to the involvement construct (Havitz & Dimanche, 1997). Sato et al. (2014) also did not assess the potential mediating roles of satisfaction with life domains in the relationship between leisure involvement and life satisfaction implied by prior research (Schimmack & Oishi, 2005). To better understand the role of leisure involvement, it is imperative to examine how the three facets of involvement are associated with participants' life domain satisfaction and life satisfaction.

In addition to the limitations described above, an important drawback of research in the context of mass-participant sport events is that scholars have relied on physically active individuals who participated in distance-running events (Funk et al., 2011; Ridinger et al., 2012; Sato et al., 2014, 2015). Given that mass-participant sport events promote greater attitudinal change among the least active and most inexperienced event participants (Funk et al., 2011), their leisure involvement and life satisfaction might be enhanced more through event preparation and participation than is the case for the active participants. Assessing the relationship between leisure involvement and life satisfaction among less active participants is essential to advancing the field's understanding of the potential of mass-participant sport events.

This study addresses these gaps in the extant research by examining the role of a mass-participant sport event among less active individuals. The primary purpose of the study was to examine the contributions of event satisfaction and leisure involvement to life satisfaction through satisfaction with key life domains. Participants of distance-walking events were the focus of the study because of the global popularity of walking as a physically active leisure opportunity for less active individuals (Alliance for Biking & Walking, 2016; Scheerder et al., 2011).

Conceptual background

Bottom-up theory of life satisfaction

Bottom-up theory of life satisfaction focuses on the role of events and contextual factors in life satisfaction and assumes that life satisfaction is derived from the sum of pleasant and unpleasant life experiences (Heller, Watson, & Ilies, 2004). Specifically, engaging in leisure fulfils one's psychological needs, such as affiliation, autonomy, detachment, meaning and mastery (Newman, Tay, & Diener, 2014). Such needs influence satisfaction with various life domains (e.g, family life, work life), which, in turn, promotes life satisfaction (Newman et al., 2014). Life satisfaction is viewed as an attitude that arises from a cognitive evaluation of one's overall satisfaction with his or her life (Heller et al., 2004). In contrast, life domain satisfaction refers to satisfaction with key domains in life. Bottom-up theory has been used in exploring how life satisfaction is influenced by experiences of leisure activities (Chen et al., 2012; Kuykendall, Tay, & Ng, 2015; Sato et al., 2014).

The present study examines whether experiences related to event and recreational walking might provide opportunities to satisfy individuals' psychological needs for affiliation, autonomy, detachment, meaning and mastery. To assess the experience through preparation for and participation in walking

events, we use the constructs of event satisfaction and three facets of leisure involvement. Following Sato et al. (2014), we use the following six life domains that could be affected by experiences associated with walking as physically active leisure: family life, leisure life, overall health, personal achievement, social life and work life. Based on bottom-up theory, we propose that event satisfaction, attraction, centrality and self-expression in walking contribute to participants' satisfaction with these six life domains, which thereby influences life satisfaction.

Event satisfaction

Theoretically, satisfaction with the sport event experience should contribute to people's life evaluations. Mass-participant sport events stimulate experiential consumption that drives emotional reactions within the leisure context (Funk et al., 2011). Emotional reactions to the event help participants determine their level of satisfaction with the event. Satisfaction is also influenced by a cognitive evaluation of the degree to which a leisure activity produces compared with an individual's predictive expectation (Funk et al., 2011). Therefore, event satisfaction refers to participants' emotional reactions to and cognitive judgements of participating in the event. Consistent with this idea, a recent investigation discovered that satisfaction with a distance-running event had a positive influence on participants' experiential happiness (Theodorakis et al., 2015).

Bottom-up theory indicates that individuals who are satisfied with their event experiences are more likely to fulfil their psychological needs through event participation. For instance, event participation might offer a psychological detachment from work or a social affiliation with family or friends. Evidence supports that event satisfaction helps promote participants' satisfaction with life domains and life satisfaction (Chen et al., 2012; Sato et al., 2014). Sato et al. (2014) reported that satisfaction with participation in a distance-running event was positively associated with a single construct of life domain satisfaction. Likewise, we expect that satisfaction with event experience will predict satisfaction with six life domains.

Leisure involvement

Over the past 30 years, scholars have used leisure involvement to understand people's behaviours and attitudes towards a recreational activity (e.g. Alexandris, Kouthouris, Funk, & Tziouma, 2013; Cheng & Tsaur, 2012; Kyle & Chick, 2004). The construct of leisure involvement was initially introduced from work by Sherif and Hovland (1961) on social judgement theory. During the 1980s, Sherif and Hovland's work was extended to consumer behaviour research to understand the purchasing behaviour of consumer goods (Laurent & Kapferer, 1985) and has since been applied to leisure contexts. A later study defined leisure involvement as an unobservable state of motivation, arousal or interest towards a recreational activity that is evoked by a stimulus or situation and that motivates participation in the activity (Havitz & Dimanche, 1997).

A multifaceted conceptualisation of leisure involvement supported in the literature was developed by McIntyre's (1989) three-facet solution comprised of attraction, centrality and self-expression. Attraction reflects hedonic value and the enjoyment derived from an activity. Centrality relates to how central the activity is to the individual's daily life. Self-expression refers to the self-representation or the impression of the self that individuals wish to convey to others through their leisure participation (Kyle & Chick, 2004).

Drawing from bottom-up theory, Sato et al. (2014) reported that a single construct of leisure involvement was positively associated with life domain satisfaction. Given that each involvement facet has a distinctive meaning, we expect that the three facets of leisure involvement in the activity will differently address psychological needs that promote satisfaction with life domains. For instance, attraction could contribute to a detachment from work; centrality might be more associated with an

affiliation with family or friends; and self-expression could be equated to the pursuit of the meaning in life. Furthermore, because mass-participant sport events can promote greater attitudinal change among the least active participants (Funk et al., 2011), their leisure involvement and life domain satisfaction might improve more through event participation than they do for the more active participants. Further exploration is warranted to assess the contributions of leisure involvement to life domain satisfaction and life satisfaction among less active participants.

Mediating role of life domain satisfaction

Given that satisfaction with key life domains is the most proximal determinant of life satisfaction, examining the predictors of life domain satisfaction provides important information regarding the determinants of life satisfaction (Schimmack & Oishi, 2005). Bottom-up theory indicates that satisfaction with life domains can be influenced by situational characteristics associated with each life domain as well as individual characteristics (Heller et al., 2004). For instance, leisure satisfaction, a widely studied life domain, has been linked to experience with leisure activities and attitudes towards the activity (Kuykendall et al., 2015; Newman et al., 2014). A meta-analysis by Kuykendall et al. (2015) reported that leisure satisfaction mediates the relationship between leisure engagement (e.g. frequency or diversity of leisure experience) and life satisfaction. However, assessing the meditating role of life domain satisfaction in the relationship between event satisfaction, leisure involvement and life satisfaction has been largely ignored.

The present study

Based on bottom-up theory and extant research, this study tested a mediation model (see Figure 1) to investigate the contributions of event satisfaction, attraction, centrality and self-expression to life domain satisfaction and life satisfaction. First, we hypothesised that event satisfaction would be positively associated with satisfaction with family life, leisure life, overall health, personal achievement, social life and work life. Second, we hypothesised that attraction, centrality and self-expression would be positively correlated with satisfaction with family life, leisure life, overall health, personal achievement, social life and work life. Finally, we hypothesised that event satisfaction, attraction, centrality and self-expression would have positive indirect effects on life satisfaction through satisfaction with family life, leisure life, overall health, personal achievement, social life and work life.

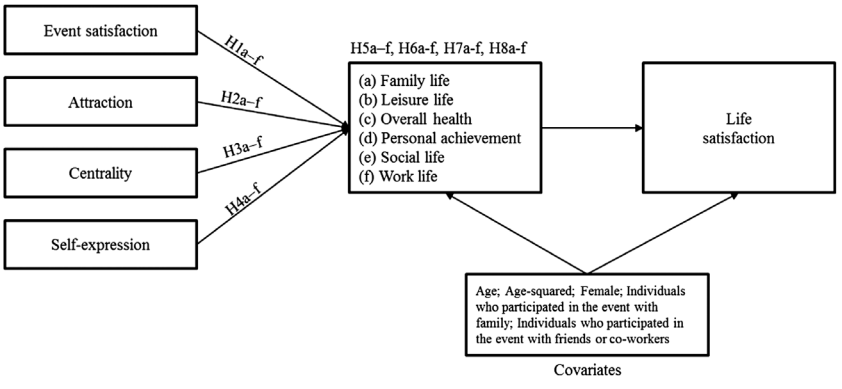

Figure 1. Research model.

Method

Data collection and participants

Participants were recruited from a distance-walking event in a large city in Western Japan. In cooperation with local government and tourism associations, the aim of this walking event was to attract leisure travellers and to promote recreational walking for local residents. The event was held over 2 days and contained four different courses each day (Day One: 42.195, 17, 15, and 5 km; Day Two: 30, 20, 10, and 5 km). During the two-day period, approximately 2700 individuals participated in the event. Through discussions with the event organiser, one researcher determined optimal locations and times to distribute the survey. Ten trained surveyors distributed questionnaires each day at the goal areas after the participants finished walking. The surveyors explained the purpose of the research and provided instructions regarding confidentiality of the results. To ensure that no subject participated in more than one survey, respondents were asked whether they had completed the survey on the first day. Of the 300 questionnaires distributed, 289 respondents completed the survey. Fifty-three cases were excluded from the analysis because of missing data on key variables. Consequently, the effective sample size for this study was 236 or 78.7%.

Demographic characteristics of the sample revealed that participants ranged between the ages of 21 and 86, with a mean age of 55.6 (SD = 13.5); 54.5% were male; and 42.1% were from the prefecture where the event was hosted. Over one-third (38.5%) of respondents participated in the event on both days, whereas 43.0% participated in the 17 km event, 37.3% participated in the 42.195 km event and 19.1% participated in the 20 km event. Most respondents participated in the event with family (33.6%) or friends (28.4%), whereas 28.0% participated in the event by themselves.

Measures

The survey instrument for this study was developed by selecting measures that have been used and validated in prior research. Detailed explanations of each measure are presented in Table 1.

Event satisfaction

Satisfaction with the event experience was assessed using a three-item measure adapted from Funk et al. (2011). The three items were measured on a seven-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Table 1. Factor loadings for the constructs with multiple indicators.

Indicator		ESAT	ATTR	CENT	SELF	LSAT
ESAT	I am satisfied with my decision to participate in this event	**.95**	.42	.09	.21	.41
	I am happy that I participated in this event	**.98**	.42	.12	.21	.39
	I did the right thing by deciding to participate in this event	**.95**	.40	.11	.22	.35
ATTR	I really enjoy walking	.47	**.97**	.54	.55	.47
	I really like walking	.41	**.98**	.61	.61	.43
	Walking is fun	.36	**.97**	.64	.65	.42
CENT	I find a lot of my time is organised around walking	.11	.65	**.95**	.75	.22
	Walking has a central role in my life	.09	.59	**.97**	.79	.22
	I find a lot of my life is organised around walking	.11	.51	**.94**	.82	.16
SELF	Walking tells something about me	.21	.62	.81	**.94**	.22
	Walking says a lot about who I am	.21	.58	.80	**.97**	.23
	Walking gives others a glimpse of the type of person I am	.22	.58	.75	**.95**	.25
LSAT	In most ways my life is close to my ideal	.31	.40	.19	.22	**.91**
	The conditions of my life are excellent	.38	.45	.21	.23	**.95**
	Overall, I am satisfied with my life	.40	.41	.19	.21	**.95**
	So far I have gotten the important things I want in life	.41	.44	.21	.25	**.94**

Note: ESAT = event satisfaction; ATTR = attraction; CENT = centrality; SELF = self-expression; LSAT = life satisfaction. One indicator for life satisfaction ('If I could live my life over, I would change almost nothing') was omitted because of lower factor loading (<.70). Bolded values represent the loadings on the respective factor.

Leisure involvement

Following Ridinger et al. (2012), leisure involvement with walking was assessed by the nine involvement items of attraction, centrality and self-expression using a seven-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Life satisfaction

Life satisfaction was assessed by the five-item Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). Consistent with Sato et al. (2014), each item used an 11-point scale ranging from 0 (*strongly disagree*) to 10 (*strongly agree*).

Satisfaction with life domains

Based on Sato et al. (2014), satisfaction with six life domains (family life, leisure life, overall health, personal achievement, social life and work life) was assessed by a single-item measure using a response scale ranging from 0 (*strongly dissatisfied*) to 10 (*strongly satisfied*).

Covariates

Two demographic variables (age and gender) that might influence the relationship between event satisfaction, leisure involvement, life domain satisfaction and life satisfaction were included as covariates. Given that the relationship between age and life satisfaction has been reported to have a *U* shape (Sato et al., 2014), both age and age-squared variables were included. Gender was measured as a binary variable (1 = female, 0 = male). Respondents were also classified in the following three groups: (a) individuals who participated in the event with family; (b) individuals who participated in the event with friends or co-workers; and (c) individuals who participated in the events by themselves. We included the two dummy variables for the groups of individuals with family and individuals with friends or co-workers as covariates. The group of individuals who participated in the events by themselves was set as the reference category.

Back translation

A back-translation procedure (Brislin, 1970) was used to translate the English-based survey items into Japanese. First, the survey questionnaire was translated into Japanese by a bilingual Japanese–English speaker. Second, the back translation into English was conducted by another native speaker from Japan who is fluent in English. Finally, a US-born American citizen was asked to examine differences in meaning between the original instrument and the back-translated instrument. A comparison of the two forms indicated that both instruments equally reflected each construct domain.

Analysis

The theoretical model was analysed with partial least squares structural equation modelling (PLS-SEM) using SmartPLS 2.0 (Ringle, Wende, & Will, 2005). As an alternative to the covariance-based structural equation modelling (CB-SEM), PLS-SEM has been used in social science (Hair, Ringle, & Sarstedt, 2011). Consistent with CB-SEM, PLS-SEM allows researchers to assess the validity of measurements and the hypothesised causal paths simultaneously within one unified model; however, PLE-SEM makes no strict assumptions about the distribution of the variables and does not need a large sample size required by maximum likelihood techniques (Hair et al., 2011). For robust PLS-SEM estimations, the minimum sample size should be equal to 10 times the largest number of structural paths directed at a particular latent construct (Hair et al., 2011). Our sample size of 236 exceeded the minimum sample size of 110 (i.e. 6 life domains and 5 covariates directed at life satisfaction). Also, because of identification issues, CB-SEM cannot readily handle a theoretical model that includes constructs with fewer items (Hair et al., 2011). Therefore, PLS-SEM was best suited for the present study, as satisfaction with each life domain was assessed by a single item.

PLS-SEM assessment follows a two-step approach that involves a separate assessment of the measurement model and the structural model. The measurement model was assessed by examining item reliability, construct reliability, convergent validity and discriminant validity of the proposed latent constructs (event satisfaction, attraction, centrality, self-expression and life satisfaction). For item reliability, we used Hair et al.'s (2011) approach of examining the standardised loading of each indicator, with a threshold of .70 indicating a reliable item. Construct reliability was evaluated by composite reliability, where values of .70 or higher were regarded as satisfactory (Nunnally & Bernstein, 1994). An average variance extracted (AVE) value of .50 or higher indicates a sufficient degree of convergent validity (Hair et al., 2011). Regarding discriminant validity, the square root value of the AVE of each latent construct should be greater than the latent construct's highest correlation with any other latent construct (Fornell & Larcker, 1981). The statistical significance of path coefficients was assessed by a nonparametric bootstrapping procedure (5000 samples with replacement; Hair et al., 2011). Significance tests for indirect effects were determined by the 95% confidence interval (CI). The effect size for each direct path coefficient was evaluated by means of Cohen's (1988) f^2, whose values of .02, .15 and .35 represent that a predictor latent variable has a small, medium or large effect, respectively, on the endogenous variable in the structural model.

Results

Descriptive results

The measurement items of life satisfaction ranged from 5.21 to 6.26 with a mean score of 5.93. Within satisfaction with life domains, overall health (M = 6.69) and family life (M = 6.61) had the highest mean scores. Also, on average, participants scored above the midpoint (>5.0) on all indicators of life domain satisfaction. The mean event satisfaction score for the sample was 5.48. Regarding leisure involvement, attraction was the highest (M = 5.47), followed by self-expression (M = 3.97) and centrality (M = 3.76). Both self-expression and centrality were below the 4.0 midpoint. Thirty-nine per cent of respondents indicated that it was their first time to participate in a walking event. These results suggest that, although participants on average enjoyed walking as physically active leisure, walking was not central or symbolic to their life among respondents.

It is important to note that the mean scores of attraction, centrality and self-expression in this study were lower than findings in prior research that obtained data from active individuals. For instance, using samples of running-event participants, Ridinger et al. (2012) reported higher mean scores for pleasure (M = 6.24), centrality (M = 5.53) and self-expression (M = 5.33), whereas Sato et al. (2014) reported similarly high mean scores (M = 6.34, 5.03 and 5.54, respectively). Given that walking is considered a less active sport than running (Ainsworth et al., 2000), participants in the present study were deemed appropriate for examining the role of mass-participant sport events in life domain satisfaction and life satisfaction in less active individuals.

Measurement model results

Table 1 summarises the factor loadings of the latent constructs with multiple indicators. All factor loadings of event satisfaction, attraction, centrality, self-expression and life satisfaction were above .70, except one item for life satisfaction (SWLS5 = .68), which was omitted from the subsequent analysis. Composite reliabilities for event satisfaction, attraction, centrality, self-expression and life satisfaction were satisfactory (>.70). The AVEs for event satisfaction, attraction, centrality, self-expression and life satisfaction were greater than .50, suggesting acceptable convergent validity. The square roots of the AVEs of event satisfaction, attraction, centrality, self-expression and life satisfaction were greater than the correlations with other constructs (Table 2), implying that the model demonstrated adequate discriminant validity.

Table 2. Correlations of the latent variable scores.

Construct		CR	AVE	1	2	3	4	5	6	7	8	9	10
1	Event satisfaction	.97	.92	**.96**									
2	Attraction	.98	.94	.43	**.97**								
3	Centrality	.97	.91	.11	.61	**.95**							
4	Self-expression	.97	.91	.22	.62	.82	**.95**						
5	Life satisfaction	.97	.88	.40	.46	.21	.24	**.94**					
6	Family life	–	–	.39	.43	.18	.21	.74	-				
7	Leisure life	–	–	.33	.45	.36	.32	.62	.72	-			
8	Overall health	–	–	.39	.42	.18	.17	.60	.64	.60	-		
9	Personal achievement	–	–	.42	.54	.32	.38	.73	.71	.65	.65	-	
10	Social life	–	–	.28	.50	.35	.36	.75	.70	.75	.58	.73	-
11	Work life	–	–	.31	.44	.25	.23	.65	.70	.63	.58	.76	.71

Note: CR = construct reliability; AVE = average variance extracted. Bolded values on the diagonal are the square root of the AVE.

Table 3. Path coefficients (direct effects).

Parameter	Coefficient	95% CI	Hypothesis
Event satisfaction → Family life	.24**	[.08, .39]	1a
Event satisfaction → Leisure life	.24**	[.09, .40]	1b
Event satisfaction → Overall health	.27***	[.13, .40]	1c
Event satisfaction → Personal achievement	.26***	[.14, .39]	1d
Event satisfaction → Social life	.13	[-.00, .26]	1e
Event satisfaction → Work life	.20**	[.06, .33]	1f
Attraction → Family life	.38***	[.18, .59]	2a
Attraction → Leisure life	.26*	[.05, .48]	2b
Attraction → Overall health	.39***	[.19, .58]	2c
Attraction → Personal achievement	.38***	[.22, .54]	2d
Attraction → Social life	.41***	[.22, .60]	2e
Attraction → Work life	.38***	[.17, .59]	2f
Centrality → Family life	−.04	[-.21, .13]	3a
Centrality → Leisure life	.19	[-.03, .41]	3b
Centrality → Overall health	.03	[-.10, .17]	3c
Centrality → Personal achievement	−.13	[-.32, .07]	3d
Centrality → Social life	−.01	[-.16, .14]	3e
Centrality → Work life	.05	[-.13, .22]	3f
Self-expression → Family life	−.02	[-.19, .16]	4a
Self-expression → Leisure life	−.09	[-.28, .10]	4b
Self-expression → Overall health	−.18	[-.37, .01]	4c
Self-expression → Personal achievement	.14	[-.06, .33]	4d
Self-expression → Social life	.03	[-.13, .20]	4e
Self-expression → Work life	−.12	[-.32, .08]	4f
Family life → LSAT	.32**	[.13, .51]	
Leisure life → LSAT	−.09	[-.24, .05]	
Overall health → LSAT	.06	[-.04, .16]	
Personal achievement → LSAT	.26**	[.08, .44]	
Social life → LSAT	.38***	[.18, .58]	
Work life → LSAT	.01	[-.08, .10]	

Note: LSAT = life satisfaction. 95% confidence interval (CI) is presented in bracket.
*$p < .05$; **$p < .01$; ***$p < .001$.

Results of hypothesis testing

Table 3 presents the estimated path coefficients of the direct effects obtained from the PLS analysis. After controlling for age, gender and the participant type (i.e. individuals who participated in the event with family, individuals who participated in the event with friends or co-workers, or individual who participated in the event by themselves), R^2 values of life satisfaction were .70, whereas R^2 values of satisfaction with each life domain were .25 (family life), .28 (leisure life), .25 (overall health), .37 (personal achievement), .29 (social life) and .24 (work life). As for the hypothesis testing, event

satisfaction was positively associated with satisfaction with family life ($\beta = .24$, $p < .01$, $f^2 = .05$), leisure life ($\beta = .24$, $p < .01$, $f^2 = .06$), overall health ($\beta = .27$, $p < .001$, $f^2 = .07$), personal achievement ($\beta = .26$, $p < .001$, $f^2 = .08$) and work life ($\beta = .20$, $p < .01$, $f^2 = .04$); however, event satisfaction was not associated with satisfaction with social life ($\beta = .13$, $p = .06$, $f^2 = .04$). Attraction was positively associated with satisfaction with all life domains: family life ($\beta = .38$, $p < .001$, $f^2 = .09$), leisure life ($\beta = .26$, $p = .02$, $f^2 = .04$), overall health ($\beta = .39$, $p < .001$, $f^2 = .09$), personal achievement ($\beta = .38$, $p < .001$, $f^2 = .10$), social life ($\beta = .41$, $p < .001$, $f^2 = .11$) and work life ($\beta = .38$, $p < .001$, $f^2 = .08$). However, centrality and self-expression were not associated with satisfaction with any life domains ($p > .05$).

Regarding the mediation analysis, event satisfaction had significant indirect effects on life satisfaction through satisfaction with family life ($\beta = .08$, 95% CI = [.01, .14]) and personal achievement ($\beta = .07$, 95% CI = [.01, .13]). No significant indirect effects were identified between event satisfaction and life satisfaction through satisfaction with leisure life, overall health and work life. Attraction also had significant indirect effect on life satisfaction through satisfaction with family life ($\beta = .12$, 95% CI = [.01, .23]), personal achievement ($\beta = .10$, 95% CI = [.02, .18]) and social life ($\beta = .10$, 95% CI = [.04, .27]). However, no other significant indirect effects were identified between leisure involvement and life satisfaction through satisfaction with life domains.

Significant indirect results were examined by an alternative model with four direct paths from event satisfaction, attraction, centrality and self-expression to life satisfaction. Results of the alternative model confirmed that all direct paths were nonsignificant ($p > .05$). This suggested that satisfaction with family life and personal achievement fully mediated the relationship between event satisfaction and life satisfaction, whereas satisfaction with family life, personal achievement and social life fully mediated the relationship between attraction and life satisfaction.

Regarding the demographic covariates, being female ($\beta = .10$, $p < .01$) was positively associated with life satisfaction. However, age was not associated with life satisfaction. No demographic variables were significant predictors of satisfaction with life domains. Two dummy variables for the participant type were not associated with satisfaction with life domains and life satisfaction.

Discussion

The role of mass-participant sport events in participants' life evaluation has attracted greater attention from researchers. Based on bottom-up theory of life satisfaction, we assessed the relationships between event satisfaction, leisure involvement, life domain satisfaction and life satisfaction. This study contributes to the leisure literature by presenting data from less active individuals at a walking event in the following ways.

First, this study represents an initial attempt to examine the role of event satisfaction and three facets of involvement in life domain satisfaction and life satisfaction. Our results indicate that event satisfaction was positively associated with satisfaction with five life domains except social life. Event satisfaction represents individuals' emotional and cognitive evaluations of participating in the event. The results indicate that positive emotional and cognitive evaluations towards the event might produce various psychological benefits, such as relaxation (detachment), a sense of accomplishment (mastery) and belongingness (affiliation), all of which contribute to people's life satisfaction (Newman et al., 2014). Although social affiliation tends to be a key motive for individuals' participation in these events (Funk et al., 2011), the lack of significant association between event satisfaction and satisfaction with social life indicates that one-time event experience might be insufficient to meet individuals' needs for affiliation. The results are similar to Sato et al. (2014) who reported social life was a nonsignificant indicator of the single-construct of life domain satisfaction. Our findings also reinforce prior research findings that greater event satisfaction led to higher life satisfaction at intercollegiate athletic games (Chen et al., 2012) and higher life domain satisfaction at a distance-running event (Sato et al., 2014).

Regarding leisure involvement, our study found that attraction was associated with satisfaction with all life domains. Attraction represents the enjoyment derived from recreational walking. Consistent with the literature showing the positive relationship between a pleasant life experience and

life satisfaction (Peterson, Park, & Seligman, 2005), increased enjoyment from walking may lead to detachment from work and positive emotions in life, which thereby contributes to satisfaction with key domains in life. In contrast, the results revealed that centrality and self-expression were not associated with satisfaction with any life domains. Centrality reflects how central the activity is to the individual's lifestyle, whereas self-expression provides individuals with an opportunity to express their identities to others through leisure participation (Kyle & Chick, 2004). Both centrality and self-expression might be associated with psychological needs (e.g. affiliation, autonomy and meaning). In previous research, however, those who were less involved with an activity tended to participate in an event or an activity for the enjoyment of the activity, although the activity had not yet become essential to their lifestyle or taken on any personal meaning and identity (Beaton, Funk, & Alexandris, 2009). As such, and similar to our study, less active participants' satisfaction with life domains might have been more influenced by the pleasant aspect of a walking activity than the centrality or the self-expression value attributed to walking. The results demonstrate the need to extend Sato et al.'s (2014) work by operationalising leisure involvement as a multidimensional construct in order to present richer understandings of the construct (Havitz & Dimanche, 1997).

The second contribution of this study is that it reveals the mediating role of life domain satisfaction. Our results found that event satisfaction had positive, indirect effects on life satisfaction through satisfaction with family life and personal achievement. Attraction also had positive, indirect effects on life satisfaction through satisfaction with family life, personal achievement and social life. Given that participation in mass-participant sport events can be expensive and time-consuming (Funk et al., 2011), participants of these events might need to overcome constraints associated with various life domains to pursue their goal of event participation. The results indicate that, when enhancing a person's life satisfaction through recreational walking events, increased satisfaction with family life, personal achievement and social life through event participation is an essential prerequisite of life satisfaction. Our findings also confirm bottom-up theory and corroborate the notion that examining the determinants of life domain satisfaction provides critical information about factors that contribute to life satisfaction (Schimmack & Oishi, 2005).

A third way this study contributes to the literature is by extending the field's knowledge about the role of mass-participant sport events among less active individuals at a walking event. Although research by Sato et al. (2014) has provided support for the notion that people can increase life satisfaction through participating in a US distance-running event, mass-participant sport events could particularly help improve behavioural and psychological benefits among the least active participants (Funk et al., 2011). The relationship between leisure experience and life satisfaction might also differ across countries, because leisure activities are satisfying to the extent that these activities are congruent with individual's values fostered by each country (Kuykendall et al., 2015). Combined with the study of Sato et al., our findings suggest that event satisfaction and leisure involvement are important predictors of life domain satisfaction regardless of location (US and Japan), event type (running and walking events) and activity level (highly active and less active participants). Our study also represents an initial effort to test and validate the construct of leisure involvement in a Japanese context. Consistent with efforts to examine leisure involvement in Taiwanese samples (Cheng & Tsaur, 2012), applying the construct to a Japanese sample advances the leisure literature by extending involvement research in a different context and culture (Havitz & Dimanche, 1997).

Collectively, the present findings contribute new knowledge to the understanding of how event satisfaction and leisure involvement are associated with life domain satisfaction and life satisfaction among less active individuals. It is important to note that females were associated with higher life satisfaction, which is consistent with prior work among nationally representative samples from Japan (Kusago, 2007). This might reflect social pressures males face in a patriarchal society like Japan. Studies from other countries, such as China (Wei, Huang, Stodolska, & Yu, 2015), Germany (Daalen, Sanders, & Willemsen, 2005) and the United States (Huang & Humphreys, 2012), also reported that females had higher life satisfaction than males. Our results reinforce the importance of controlling for gender in examining the role of leisure in life satisfaction.

Based on our findings, we provide several suggestions for event directors to better inform their managerial decisions about the noneconomic benefits of distance-walking events. Important to note is that event satisfaction and service quality of the event experience can influence people's level of happiness (Theodorakis et al., 2015). When managing distance-walking events for less active individuals, event directors should focus on satisfying the participants' needs by providing more enjoyable event and walking experiences. Event directors should use touch points that promote aesthetically pleasing atmosphere, music, design, memorabilia and promotional activities, all of which might contribute to life satisfaction. Our results also indicate that promoting satisfaction with family life and personal achievement through recreational walking could be an effective way to promote life satisfaction. For instance, incorporating activities catering to families as part of the event (e.g. family fun walk) might contribute to their satisfaction with the event, which thereby would contribute to their satisfaction with family life. Another option is to promote the personal achievement of less active individuals. Some ways to recognise personal achievement include providing monetary incentives (e.g. reduced fees for subsequent events to enhance their sense of personal achievement) or providing recognition in event print materials. Consequently, the increased satisfaction with family life and personal achievement might contribute to life satisfaction through participating in these events.

Limitations and future directions

This research has several limitations. First, the use of cross-sectional data prohibits us from inferring a causal influence of event satisfaction and leisure involvement on life domain satisfaction and life satisfaction. Second, this study obtained data from a conveniently selected sample from participants in a walking event in Japan. The findings cannot be generalised to other countries and types of sport participants. Third, this study assumed that respondents were less active based on the mean scores of leisure involvement. Future research should obtain behavioural measures (e.g. frequency) of the activity and investigate to what extent the relationships between event satisfaction, leisure involvement and life satisfaction might be altered by the behavioural level. Fourth, although we used a single-item measure to assess satisfaction with each life domain, future studies might use multiple-item measures of life domain satisfaction (e.g. leisure satisfaction scale; Beard & Ragheb, 1980) to better understand what aspects of the specific life domain are more likely to be influenced by event satisfaction and leisure involvement. Fifth, research has shown the influence of dispositional top-down factors (e.g. personality) on life satisfaction (Kuykendall et al., 2015). Future research should extend the present study by examining how personality traits influence the relationships between event satisfaction, leisure involvement and life satisfaction. Finally, beyond theories to help understand the relationship between physically active engagement and life satisfaction, research on leisure constraints should be used to examine physical inactivity (Godbey, Caldwell, Floyd, & Payne, 2005). Given that individuals in lower socio-economic status tend to be less physically active and have less time for participation in mass participation sport events (Funk et al., 2011), investigating ways to remove perceived barriers to event participation and recreational walking might be an important focus of future research and assist in advancing understanding of the role of physically active leisure in life satisfaction.

Disclosure statement

No potential conflict of interest was reported by the authors.

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