



Information Distribution of Sport Social Networking Sites: Their Use in Promoting Psychological Well-Being

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Abstract

Purpose: With the rapid information distribution of sport-related SNS, sport industry has utilized SNS as technical solution to distribute sport and health-related information. The current study examined the effect of SNS information use for running-specific content on running engagement and psychological well-being. **Research design, data and methodology:** Data were collected via online survey of participants in marathon events of United States. Descriptive statistics and Chi-square test were conducted to compare demographics and psycho-behavioral outcomes among SNS information users and non-users for running-specific contents. Multivariate hierarchical regression was next employed to examine research hypotheses. **Results:** A mass-participant running event was used to test seven hypotheses related to the potential role of SNS for running content in promoting running engagement and life satisfaction. In general, findings revealed that use of SNS for running content along with frequency of use can perhaps facilitate running intensity and influence participation in running-related outdoor activities. Furthermore, while overall life satisfaction did not appear to be influenced by use of SNS for running content, there was a demonstrated influence on the individual satisfaction domains. **Conclusions:** The findings of current study suggest that sport SNS is information distribution media enhancing users' engagement and their six life satisfaction domains. Further implications were discussed.

Keywords : Information distribution, Sport-Related Social Networking Sites, Engagement, Psychological Well-Being

JEL Classification Code: I10, I12, I19, I31, I39

1. Introduction

With the advancement of sport-related SNS, sport industry has utilized SNS as technical solution to distribute sport and health-related information, product and service, and further to encourage spectator and participant sport

consumption (Armstrong et al., 2016; Einsle et al., 2022). Sport communication literature posits that sport leisure SNS plays a crucial role in moderating and mediating the perceived benefits of sport consumption in yielding behavioral outcomes including positive word of mouth and behavioral intentions (Lai et al., 2022).

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Physical and mental health is considered important indexes of quality of life and garners interest by scholars in the social sciences (Ozdemir et al., 2020). Participation sport events are believed to contribute to one's well-being by helping to maintain physical and mental health levels (Piper et al., 2022). However, questions remain as to the enduring effects of participation sport events on both physical and mental health and as to how sport SNS contributes to sustaining the psychological effects of sport event

participants. Moreover, computer-mediated communication literature provides a foundation for understanding the potential role of an information distributed by sport social media, yet there is still a lack of knowledge in its influence on sport involvement, physical and mental health of sport event participants. The pervasiveness of social media on the interpersonal communication landscape; that is, those who utilize platforms such as SNS have the opportunity for increased psycho-behavioral engagement in a certain activity. While such propositions could assist in understanding how social media can function in extending physical and mental health benefits of sport event participation, an empirical support in the sport information distribution literature has not been provided.

Research has discovered that new media have the capacity to reshape the lives of individuals in such areas as work, social relationships, and leisure (Esen et al., 2021; Rojas de Francisco et al., 2016; Shen et al., 2021). Thanks to ever-evolving advances in information and communication technology, social media including blogs, social networking sites (e.g., Facebook and twitter) and content communities (e.g., YouTube) have become excessively popular, among these platforms, social networking sites (SNSs) are considered to be the most widely-adopted. As a result, there has been a dramatic increase in the number of users, many of whom have integrated SNS into their daily practices (Shin et al., 2021).

SNSs offer a virtual community where users can interact with others who share interests (Li et al., 2022). Compared to traditional media forms, the multimedia capabilities represent a uniqueness of SNS. These online platforms allow individuals to create profiles, generate novel content, build a social network, and interact with similar others in a variety of ways (Li et al., 2022). User-generated content (UGC) can include text—in the form of messages or 'updates', audio and video, as well as pictures or other images. The various tools featured on SNSs allow for dynamic interactions among users who share interests and activities across a range of domains, including politics, entertainment, shopping, sport, food, and leisure (Li et al., 2022; Parady et al., 2019).

Given the increased interconnectivity offered by social media, this platform can play a role in sustaining a

behavioral engagement of users with a certain shared leisure activity including running event. In consideration of above observations, the current study attempts to explore the function of sport SNS in increasing sport engagement and psychological benefits of well-being. In order to determine the effect of SNS use for sport-specific content on sport engagement, the study collected data from runners with experience of participating running event. For examination of sport engagement, the study examines intensity (i.e., frequency) of running as well as participation in other running-related activities (e.g., triathlons). Concerning the analysis of the effects of SNS use on psychological well-being, the construct of life satisfaction is measured. The research hypotheses were developed from theories in media richness and social capital, each of which has frequently been employed by scholars to explain certain outcomes (i.e., life satisfaction) of SNS use across a variety of contexts (e.g., Cheng et al., 2019; Choi 2019; Wheatley et al., 2019).

2. Literature Review

2.1. SNS Information Use and Engagement

There has been a widespread agreement for the view that SNS use is associated with the positive development of psycho-behavioral engagement and an individual's well-being (Wheatley et al., 2019). The computer-mediated communication (CMC) literature provides two theories that may explain the extent to which use of SNS for running-information could have the capacity to develop psycho-behavioral engagement. Namely, media richness theory (Dennis et al., 1998) and social capital theory (Choi, 2019; Pfeil et al., 2009) could contribute to the understanding of the SNS phenomenon in a sport context.

The media richness perspective posits that media varied in information richness based on the amount of information or knowledge they are able to carry (Shen et al., 2021; Tseng et al., 2020). Given this view, SNS can be considered as a richer communication method than a traditional media (Choi, 2019; Tseng et al., 2020). This is because in addition to text-based communication, SNSs integrate a variety of visual, audio, verbal, and contextual information source and thereby reduce ambiguity and uncertainty (Shen et al., 2021). From a perspective of a leisure information distribution, rich online media foster involvement in a certain leisure sport activity since participants would seek related-information and want to be knowledgeable about that activity, benefits, and opportunities through interactive process (Kol et al., 2021; Mansourian, 2021). Hence, the unique nature of SNSs, information richness, allows users to facilitate interactive processes and increase experiences of interaction involvement. This characteristic helps an individual to be

more engaged in a certain activity with shared interests (Kol et al., 2021; Mansourian, 2021).

The second theoretical foundation is social capital theory. In SNS context, social capital is the resources and relationships that are created through interactions among users and that have a certain value for individuals participating in the network (Pfeil et al., 2009). SNS is a significant means in accumulating social capital since it provides users with a platform to engage in social activities and build and maintain networks (Choi, 2019; Pfeil et al., 2009). Social capital formed from interactions provides participants with the benefits of a sense of social support, integration, self-acceptance, an enhanced self-esteem, and social cohesion among members (Chen et al., 2017; Stanley et al., 2017). In support of this view, prior studies supported that use of leisure sport SNS promotes life satisfaction (Wheatley et al., 2019). From a cognitive psychology view, perceived benefits induce affective commitment that is based on personal involvement in the activities that provide such positive outcomes. SNS has the ability to direct and encourage involvement with a specific leisure activity.

Previous online communication research on media richness and social interaction offers theoretical rationale to understand the potential of leisure sport SNS use in developing participants' psychological and behavioral engagement toward leisure sport activities. Given the rich and interactive environment, it is deemed that leisure sport SNS users actively engage to create the contents, share and react to them, and further build networks with people who have common interest and desire. As a result, they become more knowledgeable, social-able and engaged in the activities with common interests (Choi, 2019; Pfeil et al., 2009). When applying this rationale to participation running event, hence, it is logical to supports the expectation that SNS use for the purpose of seeking running contents is likely to induce behavioral engagement in running activity. The following hypotheses state:

- H1:** Runners using SNS for the purpose of seeking running content will develop higher level of intensity of running exercise (running miles/week and running hours/week) than those not using SNS for the purpose of seeking running content.
- H2:** For runners, the amount of time spent on SNS for running purpose will positively influence the intensity of running exercise (running miles/week and running hours/week).

Concerning the potential influence of SNS on seeking extension of participating in running related-activities, novelty seeking literature provides empirical evidences suggesting that most distance runners display high level of running involvement and they are likely to seek new

experiences due to the influence of novelty seeking factor (Axelsen et al., 2009). Given the richness context of leisure sport SNSs, it is probably that one produces extensive information about relevant activities and exercises beyond running information, and shares it through interactive process. Therefore, synergistic effects of novelty motive and information richness will be emerged. As a result, it was expected that:

- H3:** Runners using SNS for the purpose of seeking running content will develop the extension of participating in related-activities than those not using SNS for the purpose of seeking running content.

2.2. SNS Information Use and Psychological Well-being

The most predominant purpose of SNS use is to meet important social needs (Houghton et al., 2020). To understand the social function of SNS on quality of life, social capital theory is a useful framework since it provides insights to comprehend how SNS users gain mental benefits while achieving these social needs. Social capital is described as "the resources that are created in social networks and relationships between people and that have a certain value for individuals participating in this network" (Pfeil et al., 2009. p. 644). Concerning social network development in online communication, recent CMC research suggests that Internet, especially social networking sites (SNSs) facilitate connections: SNSs have the ability to provides people with an alternative way to connect with individuals who share common interest (Yoon et al., 2016) and thereby to increase the value of relationships, which called 'social capital' (Choi, 2019; Wheatley et al., 2019).

Computer-mediated communication studies point out that social capital accumulated by Internet-based communication is associated with mental wellbeing components such as self-esteem, self-worth, emotional social support, belongings, feeling understood and appreciated, and life satisfaction (Choi, 2019; McKenna et al., 1999; Valkenburg et al., 2006; Valenzuela et al., 2009; Wheatley et al., 2019). For example, in a study determining causes and consequences of social interaction on the Internet, McKenna and Bargh (1999) identified such psychological benefits of relation formation as greater self-acceptance and lessened feelings of social and cultural isolation. They found that these benefits are not limited to online context but integrated into their off-line lives. They conclude that individuals form bonds with others who share common interests and they become accepted members of that social group, as the result of active participation in the online communities.

More recently, communication work disclosed a direct

and indirect impact on life satisfaction. To clarify, Wheatley and Buglass (2019) examined the relationships between online social platform use and subjective well-being. They found that online platform use has the potential to enhance social connectedness and to accumulate social capital, and finally its use is associated with higher levels of overall life satisfaction. Similarly, Choi (2019) tested the impact of smartphone-based SNS use on social capital development. This study discovered that smartphone-based SNS has capabilities to greatly increase bridging and bonding social capital, which are key determinants of user's life satisfaction. In a study examining Facebook use and its impact on life satisfaction, Valenzuela and his colleagues (2009) revealed two significant relationships. They suggested that intensity of Facebook use (i.e., number of friends and the amount of time spent on the network) and Facebook group use (the amount of time spent on reading and posting within online groups) predict respondents' social capital that leads to users' life satisfaction.

Regarding relationships between information richness and social capital, CMC literature suggests that rich information of SNS assists to build and enhance network and relationships among users, as a function of the interaction involvement. This function provides an additional insight on how the unique nature of SNSs, information richness, contributes to building relationships and networks that are critical components of social capital. Therefore, taken together, informative and social-interactive characteristic of SNS could enhance psychological wellbeing of users.

The discussed rationale suggests significant implications for SNS effects in participation leisure sport. This is because social interaction is a central component of leisure activity and social leisure activity has been shown to have a positive influence on the psychological health (Siefken et al., 2019). Today, SNS use is common among leisure sport participants. In the realm of SNS, consider how much sport/leisure UGC (User Generated Content) is produced, shared, and, as such, contributes to the building and maintaining of networks with other participants. It is common that leisure sport participants generate a plenty of personal contents which include any kind of related information using instant messages, links, photos, videos, audio files, blogs, micro-blogs (Twitter and Tumblr), and any other forms of media. The produced contents are synchronized and distributed across SNSs, shared, and developed via reciprocal interactions among SNS users.

Given the rich and interactive settings, as a result, a leisure sport participant can be an active 'prosumer' who engages in both production and consumption of related content. From a uses and gratification perspective, this ability could provide significant foundations on why people use SNS and on how SNS can satisfy their social needs,

which lead to a perceived social support. Importantly, perceived social benefits are found to buffer the impact of life event stress on psychological health (Naslund et al., 2020). Given that nature of SNS (information richness and social capital) and the context of leisure sport SNS, SNS users for running purpose are expected to experience affectionate, positive social interaction, informational, and emotional support while interacting with other runners in SNS. Importantly, these psychological outcomes are the strongest determinant of satisfactory life. The hierarchical model of life satisfaction posits that life satisfaction is functionally related with evaluations of individual life domains (Neal et al., 1999). Therefore, the following hypotheses state:

H4: Runners using SNS for the purpose of seeking running content will present higher level of overall life satisfaction than those not using SNS for the purpose of seeking running content.

H5: Runners using SNS for the purpose of seeking running content will present higher level of satisfaction with specific life domains (i.e., family life, leisure life, overall health, personal achievement, social life, and work life) than those not using SNS for the purpose of seeking running content.

CMC literature suggests that the amount of time spent online communicating with support group reduces the perceived life stress (Acar, 2008; Valenzuela et al., 2009; Wright, 2000). In a similar vein, people who engage in social activities more frequently experience higher levels of perceived quality of life (Lloyd et al., 2002). Therefore, it is logical to expect that the more a runner communicates with network runners on a shared topic of interest (running), the better he or she feel (Acar, 2008).

H6: For runners, the amount of time spent on running-related SNSs will positively influence overall satisfaction with life.

H7: For runners, the amount of time spent on running-related SNSs will positively influence satisfaction with specific life domains (i.e., family life, leisure life, overall health, personal achievement, social life, and work life).

3. Methods

3.1. Participants

The population of interest for this study consists of existing SNS users for running-specific contents. Data were collected via online survey of participants in a marathon,

half-marathon, and 5K event located in a metropolitan area in the United States. The survey participation was voluntarily. The survey presented the purpose of the study, asked agreement of survey participation, and ensured confidentiality. The sample consisted of 1,261 respondents who reported as current SNS users. Of the survey participants, 83.66% (n=956) use SNS for running-specific content.

3.2. Measurements

The survey included items measuring research constructs (running SNS use, running engagement and life satisfaction) as well as certain control variables (past event experience, event satisfaction, and general use of SNS). Previously developed life satisfaction scales were employed in this study. Apart from the usage and frequency items, all scaled measures utilized seven-point (i.e., strongly disagree-strongly agree) Likert scales.

To measure the usage of SNS for running-specific contents, two procedures were employed. First, respondents were asked whether they use SNS for general purposes. In this step, users were asked to select all of the four different sites (e.g., Facebook, Google Plus, LinkedIn, Twitter) they use and to report the frequency of SNS usage per week. Second, of users for general purpose, this study further identified SNS users for running-specific contents by filtering out those who reported as a non-user of running-related SNS. In this step, SNS users for running-specific contents were asked to select all of the five different sites (e.g., Athlinks, Dailymile, Active.com, Marathonguide.com, Runnersworld.com) they use and to report the frequency (hours spent per week).

Running engagement was evaluated using running intensity and participation in running-related enduring outdoor activities. Running intensity was assessed using two ratio type items: "During the last 6 months, how many hours per week did you spend running/walking as part of your physical activity?", and "During the last 6 months, how many miles per week did you run/walk as part of your physical activity?" Participation in running-related enduring outdoor activities were measured by selecting the sport events they participated in in the last 12 months (i.e., adventure racing, duathlon, cycling, mountain biking, swimming, and triathlon).

Overall Life Satisfaction (SAT) was assessed using a five-item scale (Diener, Emmons, Larsen, & Griffin, 1985). Respondents were asked to rate their level of agreement with five statements: "In most ways my life is close to my ideal", "The conditions of my life are excellent", "Overall, I am satisfied with my life", "So far I have gotten the important things I want in life", and "If I could live my life over, I would change almost nothing". In addition, satisfaction with

specific life domains was assessed using a single score of the following six life domains: Family Life, Leisure Life, Overall Health, Personal Achievement, Social Life, and Work Life (Diener et al., 1985; Kelly et al., 1994).

Participation sport event research on running behavior suggests that event satisfaction and experience of event participation promote involvement, intensity, and duration of running exercise (Funk et al., 2011). Consequently, although event satisfaction and experience were not the focus of the study, these were included as control variables in the regression model predicting running engagement. Event satisfaction was measured using a three-item scale adapted from Oliver (1980). Participants were asked to indicate their level of agreement with three statements: "I am satisfied with my decision to participate in this event", "I am happy that I decided to participate in this event", and "I did the right thing by deciding to participate in this event". For past event experience, participants were asked to answer a single, ratio-type item: "Approximately how many running events do you participate in each year?"

Scholarly literature in communication has suggested that intensity of SNS use facilitates users' life satisfaction (Choi, 2019). Therefore, the current study included frequency of general SNS use (i.e., hours spent per week) as a control variable in the model predicting life satisfaction.

3.3. Data Analysis

Descriptive statistics and Chi-square test were conducted to compare demographics and psycho-behavioral outcomes among SNS users and non-users for running-specific contents. Multivariate hierarchical regression analysis was next employed to examine research hypotheses.

4. Results

4.1. Descriptive Analysis

Internal consistency of all scaled measures was assessed using Cronbach's alpha, which ranged from .69-.85 and were line with existing research (e.g., Diener et al., 1985; Oliver, 1980). For the purposes of analyses, the sample was split into two groups: those who use SNS for running content (n=956) and those who do not (n=305). The profiles of the two groups were examined and compared (Table 1). There were significant differences in the behavioral profile of the two groups. Specifically, those in the SNS user group (8.83 hours/week) reported using social media in general to a greater extent than non-users (5.48 hours/week). Similarly, the SNS users for running contents appeared to be more engaged in running activity, as this group reported more miles and hours spent per week for running than the non-

user group.

In terms of psychological well-being, there was no significant difference ($p > .05$) between the two groups in overall life satisfaction. For the six satisfaction domains, however, differences were observed between the two groups. User group reported as being more satisfied than non-users in family, leisure, health, personal achievement, social, and work aspects of life satisfaction ($p < .001$).

Table 1: Differences between SNS Information Users and Non-users for Running Contents on behavioral and Psychological Outcomes

	SNS users for running	Non-users for running	Significance
SNS time (hours/week)	8.83	5.48	$t = 7.026, p < .001$
Running SNS time (hours/week)	3.52	-	
Run miles	27.16	24.61	$t = 3.923, p < .001$
Run hours	7.57	7.02	$t = 3.562, p < .001$
Overall life SAT	5.39	5.39	$t = -.008, p = .994$
Family life SAT	5.53	5.34	$t = 4.933, p < .001$
Leisure life SAT	5.75	5.56	$t = 5.219, p < .001$
Overall health SAT	6.11	5.99	$t = 3.812, p < .001$
Personal achievement SAT	5.93	5.79	$t = 3.726, p < .001$
Social life SAT	5.56	5.32	$t = 6.072, p < .001$
Work life SAT	5.31	5.20	$t = 2.724, p < .01$
Event SAT	6.49	6.50	$t = -.340, p = .734$
Event experience	5.62	4.83	$t = 6.783, p < .001$

4.2. SNS Information Use for Running Contents and Running Engagement

Concerning the relationship between SNS usage and running engagement, it was hypothesized that SNS use for running content would positively influence overall engagement with running (as measured by running intensity, and participation in running-related activities). To this end, a series of hierarchical multiple regressions were conducted, with the control variables (i.e., past running event experience and event satisfaction) entered into the first step followed by the independent variable (Running SNS use) in step two. The overall model results indicated a significant change of R-square ($p < .01$), suggesting that use of SNS for running content is a significant predictor of running engagement.

Specifically, results pointed to the independent variable as positively influencing both miles per week ($\beta = .041, p < .05$) and hours per week ($\beta = .036, p < .05$) spent running, after controlling for past event experience and event satisfaction. In all, these findings supported the premise (H1)

that those who use SNS for running content appear to be engaged in running to a greater extent than non-users.

Table 2: Hierarchical Multiple Regression of SNS Use for Running Contents Predicting Running Engagement (control variables: number of past events and event satisfaction)

	Running miles / week			Running hours / week		
	β	t	ΔR^2	β	t	ΔR^2
Step 1			.055**			.048**
Past events	.229**	13.267		.220**	12.706	
Event SAT	-.047**	-2.734		-.001(ns)	-.007	
Step 2			.002*			.001*
Past events	.224**	12.918		.216**	12.395	
Event SAT	-.047**	-2.734		-.001(ns)	-.012	
Running SNS use	.041*	2.347		.036*	2.052	

Note. * $p < .05$. ** $p < .01$.

The next set of hypotheses explored the potential influence of time spent using SNS for running content on running intensity. The results (Table 3) indicated that time spent using SNS for running content appeared to exert a significant influence on both miles per week ($\beta = .065, p < .01$) as well as time per week ($\beta = .119, p < .01$) spent running, which supports H2. This finding was consistent with the expectation that people will be more engaged in running as they spend more time using SNS for running content.

Table 3: Hierarchical Multiple Regression of Hours Spending Running SNS Use predicting Running Engagement (control variables: number of past events and event satisfaction)

	Running miles / week			Running hours / week		
	β	t	ΔR^2	β	t	ΔR^2
Step 1			.062**			.053**
Past events	.239**	11.669		.230**	11.201	
Event SAT	-.061**	-2.965		-.004(ns)	-.208	
Step 2			.004**			.014**
Past events	.230**	11.172		.214**	10.422	
Event SAT	-.061**	-3.001		-.006(ns)	-.270	
Time spent on running SNS use	.065**	3.175		.119**	5.781	

Note. * $p < .05$. ** $p < .01$.

To test the effects of using SNS for running content on participation in running-related enduring outdoor activities (H3), Chi-square significant tests were performed (Table 4). Tests revealed non-significant differences for both mountain biking and swimming. However, results pointed to significant differences in participation for adventure racing (Chi-square = 5.360, $p = .021$), cycling (Chi-square = 6.783, $p = .009$), duathlon (Chi-square = 11.933, $p = .001$), and triathlon (Chi-square = 14.624, $p = .001$). These findings appeared to provide partial support the hypothesis (H3) that

users of SNS for running content are more likely to be engaged in other running-related outdoor activities than non-users.

Table 4: Differences of Experience with Enduring Outdoor Activities between Running SNS Users and Non-users

	SNS users for running (n=956)	Non-users for running (n=305)	Chi-square/sig
Adventure racing	7.6%	5.4%	5.360/.021
Cycling	24.4%	20.3%	6.783/.009
Duathlon	5.9%	3.1%	11.933/.001
Mountain biking	5.6%	5.4%	.024/.876
Swimming	14.4%	12.5%	.2116/.146
Triathlon	19.0%	13.0%	14.624/.001
Others	17.1%	19.9%	4.076/.043

4.3. SNS Information Use for Running Contents and Life Satisfaction

Concerning the relationship between use of SNS for running content and life satisfaction, it was hypothesized that using SNS for running content would positively influence both overall satisfaction as well as each of the six individual life domains (family life, leisure life, overall health, personal achievement, social life, and work life). Similar to the engagement regression models, a control variable (general usage on SNS) was entered in the first step followed by the independent variable (use of SNS for running content) in the model. The results yielded a non-significant effect for use of SNS for running content on overall life satisfaction, thus, failing to support H4. To the contrary, results of the individual life domain models pointed to use of SNS for running content as a significant predictor of each of the six aspects of satisfaction (Table 5). Taken together, SNS use for running contents positively influences participants' satisfaction with all six life domains; hence H5 was supported.

Table 5: Hierarchical Multiple Regression of Running SNS Use Predicting life Satisfaction (control variable: SNS usage for general purpose)

		Step 1	G_use	Step 2	G_use	RSNS
O_SAT	β		-.055**		-.057**	.0164(ns)
	t		-2.757		-2.838	.7674
	Δ R2	.003**		.001(ns)		
FL	β		-.017**		-.031(ns)	.102**
	t		-.867		-1.539	5.086
	Δ R2	.001(ns)		.010**		
LL	β		-.012(ns)		-.026(ns)	.107**
	t		-.601		-1.334	5.537
	Δ R2	.001(ns)		.011**		

		Step 1	G_use	Step 2	G_use	RSNS
OH	β		-.020(ns)		-.032(ns)	.092**
	t		-1.036		-1.654	4.793
	Δ R2	.001(ns)		.008**		
PA	β		.008(ns)		.001(ns)	.060**
	t		.401		.001	3.094
	Δ R2	.001(ns)		.004**		
SL	β		.024(ns)		.011(ns)	.100**
	t		1.242		.534	5.057
	Δ R2	.001(ns)		.010**		
WL	β		-.017(ns)		-.028(ns)	.085**
	t		-.831		-1.391	4.144
	Δ R2	.001(ns)		.007**		

Note. *p < .05. **p < .01. G_use: General SNS use, RSNS: Running SNS use, O_SAT: Overall life SAT, FL: Family life, LL: Leisure life, OH: Overall health, PA: Personal achievement, SL: Social life, WL: Work life

It was further expected that time spent using SNS for running content would predict both overall life SAT (H6) as well as the six individual SAT domains (H7). The results pointed to a pattern similar to the other SAT analyses. In particular, the independent variable was not a significant predictor (p > .05) of overall life SAT; this failed to provide support for H6. Contrary to the earlier SAT models, time spent using SNS for running content was not a significant predictor of both overall health satisfaction and personal achievement satisfaction. However, time spent using SNS for running content induced significant effects on satisfaction with the remaining four domains (family life, leisure life, social life, and work life). These findings appeared to provide partial support for H7.

Table 6: Hierarchical Multiple Regression of Time Spending Running SNS Use Predicting life Satisfaction (control variable: SNS usage for general purpose)

		Step 1	G_use	Step 2	G_use	TS
O_SAT	β		-.050*		-.067**	0.04
	t		-2.271		-2.750	1.626
	Δ R2	.003*				
FL	β		-.035		-.074	.089**
	t		-1.580		-3.024	3.631
	Δ R2	.001				
LL	β		-.024		-.066**	.096**
	t		-1.139		-2.794	4.046
	Δ R2	.001				
OH	β		-0.17		-.035	.039
	t		-.819		-1.463	1.658
	Δ R2	.001				
PA	β		0.07		.008	-.003
	t		.326		.350	-.130
	Δ R2	.001				

		Step 1	G_use	Step 2	G_use	TS
SL	β		0.010		-.021	.070**
	t		.479		-.853	2.875
	ΔR^2	.001				
WL	β		-.032		-.053*	.048*
	t		-1.438		-2.139	1.949
	ΔR^2	.001				

Note. *p < .05. **p < .01. G-use: General SNS use, TS: Time spent, O_SAT: Overall life SAT, FL: Family life, LL: Leisure life, OH: Overall health, PA: Personal achievement, SL: Social life, WL: Work life.

5. Discussion

The study examined the capacity of SNS use for developing running engagement as well as psychological well-being. A mass-participant running event was used to test seven hypotheses related to the potential role of SNS for running content in promoting running engagement and life satisfaction. In general, findings revealed that use of SNS for running content along with frequency of use (hours/week) can perhaps facilitate running intensity (miles/week and hours/week) and influence participation in running-related outdoor activities. Furthermore, while overall life satisfaction did not appear to be influenced by use of SNS for running content, there was a demonstrated influence on the individual satisfaction domains.

The first perspective of this study involved an examination of the effects of SNS use for running content on running engagement as measured by running intensity and participation in running-related outdoor activities. As expected, individuals who reported using SNS for running content (H1)—as well those who spend more time on these sites (H2)—appeared to be more involved in running, spend more time for running exercise, and tend to run more miles than individuals who indicated they do not use SNS. These findings were consistent with existing literature that has posited SNS use as having the potential to develop psycho-behavioral engagement in certain activities (Kol et al., 2021; Mansourian, 2021; Wheatley et al., 2019).

In the current context, one explanation for this finding could be that using SNS for running content provides runners with a more media-rich environment that allows them to be engaged beyond participating in the activity itself. That is, SNS could have the potential to offer increased access to running information (e.g., event information or training tips) that allows an individual to ‘stay connected’ to others with a similar interest in the sport.

Another compelling finding indicated that SNS users for running content also display a tendency to participate in a variety of running-related activities (H3). Compared to non-users, SNS users indicated higher participation rates (Table 4) in such activities as adventure racing, cycling, duathlon, mountain biking, and triathlon. From a social capital

perspective, this particular finding could imply that SNS promotes a sense of cohesion among runners which, in turn, can foster an increased willingness to diversify participation across a variety of running-related activities.

As demonstrated in the current study, those who use SNS for running content appear to be more engaged in running and related activities than non-users, especially in terms of the amount of time dedicated to the activity. The scholarly literature on leisure activity participation behavior has offered that sport events—such as marathons—offer an environment for participants to gather and socialize with each other (Axelsen et al., 2009). The social nature of SNS could provide a natural extension of this for participants over time. That is, connecting through SNS with other runners might lengthen the positive effects of a particular event long after the event has concluded. This finding could serve to assist organizers to develop strategies related to the potential ‘social leverage’ of their event. According to scholars, social leveraging can have the potential to increase the marketability of such events (Axelsen et al., 2009; Chalip, 2006). Perhaps implicit in this line of work is the ability for SNS to “foster social interaction” (Chalip, 2006, p.114) beyond the event itself. As social interaction has not yet been explored in this context, additional research is needed to investigate this proposition.

Furthermore, the pervasiveness of social media among the runners in the current sample seemed to indicate that SNS users are exposed to an abundance of information as compared to runners who do not utilize these platforms. Scholars have posited that the availability of information is a critical indicator in determining one’s involvement in choice behavior (Park et al., 2008). Taken together, these results provided evidence of the role played by SNS in increasing engagement with running. However, these findings should be regarded as preliminary and additional research is necessary to perhaps confirm these relationships.

Overall, use of SNS for running content, along with frequency of use, was shown to have an interesting pattern of influence on life satisfaction. In particular, results indicated that SNS use was not a significant predictor of overall life satisfaction (H4). This finding appeared to depart from existing literature, which posits that SNS users positively evaluate their feelings with life compared to non-users. One possible explanation for this lack of significance could be the existence of a ceiling effect in this sample. Support for this proposition may be found in the scholarly literature on leisure, which has offered that participation in leisure activities can lead to individuals having a more positive outlook on life (Lloyd et al., 2002). As such, it could be proposed that it is participation in the activity itself that drives one’s level of life satisfaction rather than other factors (e.g., SNS use).

Another perspective of this set of analyses was to

explore the effect of SNS use on the six dimensions of SAT (H5). Contrary to the findings related to overall life satisfaction, use of SNS for running content was found to be a significant predictor of all six domains. This particular finding seemed to follow existing research which has found leisure sport participation to act as a buffer between stress and aspects of mental health. Moreover, SNS use has been shown to be a factor in determining satisfaction in social aspects of life. Indeed, those individuals who maintain connections with others through SNS could be happier (Choi, 2019). In a participation sport event setting, runners who utilize social media for the purpose of connecting with other runners may translate those positive feelings to other areas of their lives (e.g., family or work).

Similar to the finding of SNS use on overall life satisfaction, regression results related to the effects of frequency of SNS use on life satisfaction (H6). Regarding the effect of frequency of SNS use on the SAT domains, findings indicated significant influence on family life, leisure life, social life, and work life. However, it was not a significant predictor of the overall health and personal Achievement dimensions.

An explanation for the partial support of this hypothesis (H7) could be drawn from the work on motivations for SNS use. Research in this area has put forth that social, as opposed to individual, factors drive SNS use. Thus, it would follow that the life satisfaction domains related to interpersonal contact—namely, family, leisure, social, and work—are more likely to be positively influenced by the frequency of SNS use whereas the more ‘individual’ domains (i.e., overall health and personal achievement) might not be. In the current context, it could be explained that socially-motivated runners spend more time using SNS for running content and, in turn, feel better about those aspects of life that directly involve other people, including leisure (running) partners, family members, or work colleagues.

Many of the research hypotheses was supported and the findings provided insights and implications for promoting running engagement and enhancing psychological well-being. Furthermore, the methodology employed was sound. However, there were limitations. First, since the constructs and scaled measures utilized here were part of a larger mass participation sport event research project there were concerns regarding survey length and participant fatigue. In particular, some constructs were assessed with a single item as opposed to employing a multi-item scale. As such, future studies that seek to investigate the relationships examined here may look to employ surveys that include only the constructs of interest.

Direction for future research comes from the changing effects of mass participation sport event on life satisfaction over time. The effect of marathon event participation

experience on participants’ life satisfaction is temporary and likely to decrease over time. It is critical to buffer its decreasing effects on life satisfaction after event. The findings of current study suggest that running related-SNS is information rich media enhancing six life satisfaction domains. Plus, it plays a role as a platform to promote social network and social capital for runners. That is, it is assumed that running-related SNS could be an effective method for runners to sustain satisfaction with their life through sharing information and interest about running. In all, leisure sport SNS is likely to buffer the negative effect of time in the context of mass participation event context. Additional research is necessary to explore the moderating effect of leisure sport SNS usage in the relationship between participation experience and life satisfaction.

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