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PERFORMANCE AND ATTITUDE TOWARDS PHYSICAL ACTIVITY AMONG VIRTUAL WALKATHON PARTICIPANTS IN THE POST-PANDEMIC PERIOD

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ABSTRACT. *Introduction*: The "new normal" has defined societal functioning in recent years and remains a crucial consideration as communities continue their path toward recovery and adaptation. Strategic disruption-proof wellness initiatives were explored to strengthen readiness of institutions. *Objective:* This study was conducted to find out the actual performance and attitude towards physical activity among the participants of a virtual walkathon in the post-pandemic period. *Material and Methods*: This one-group pretest–posttest quasi-experimental study involved 211 college students who had completed the requirements for inclusion. The participants had to have an internet connection and a pedometer app installed on their phones and were required to complete the Attitude Towards Physical Activity questionnaire before and after the activity. Frequency, percentage, mean, and standard deviation were used in analyzing the data. Tests such as the Wilcoxon Signed Ranks, Kruskal-Wallis, Mann-Whitney and the Spearman's Rho were utilized in comparing and finding the difference and relationships in the variables. *Discussion:* Results revealed a significant difference in all the sub-domains of the attitude towards physical activity among the participants when responses were compared before and after the intervention. Likewise, it shows that age have significantly affected the actual performance of the participants. There is an inverse relationship between the actual performance and the attitude towards physical activity particularly in the physical activity as a social experience. *Conclusions:* The findings revealed that active participation in innovative activities can foster desirable attitudes toward physical activity, thereby promoting desirable health practices and supporting the institutionalization of wellness programs.

Keywords: attitude; performance; wellness; physical activity; walkathon

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INTRODUCTION

The “new normal” has characterized global life for several years and remains a crucial consideration as societies continue to recover from the unprecedented disruptions caused by the pandemic (Tria, 2020) (Ma et al., 2023). Various sectors implemented diverse strategies to mitigate its adverse impacts and sustain essential functions despite widespread interruptions (Abideen et al., 2020) (Ebrahim et al., 2020). Strict health and safety protocols such as physical distancing, frequent handwashing, and the use of face masks or face shields were enforced during its height to prevent further transmission (World Health Organization, 2020).

Preventive health protocols have led to a marked reduction in physical activity and exercise routines worldwide (Ainsworth & Li, 2020) (Bichescu et al., 2021). Many public spaces that foster social interaction were closed, while educational institutions and workplaces were either suspended or transitioned to alternative operational schemes to sustain their functions (Assefa, 2023). This situation underscored the need for recalibrating and enhancing wellness through accessible physical activity (PA) opportunities (Amini et al., 2021) (Sallis et al., 2020a). In response, (Sallis et al., 2020b) emphasized the importance of developing research and initiatives that address several key areas: (a) promoting PA as a mitigation strategy to lessen pandemic impacts; (b) refining PA measurement tools relevant to crisis contexts; (c) examining behavioral changes in PA; (d) reducing disparities in PA engagement; (e) designing interventions that consider social, cultural, and environmental influences; and (f) translating findings into practical applications and policies for current and future public health challenges.

Innovative initiatives promoting physical activity emerged during the global health crisis to sustain wellness and engagement despite restrictions on movement (Reyes et al., 2021) (Ritmak et al., 2023) (Markovič et al., 2021). Experts and union organizations have suggested physical activity at home in this regard (Aguirre-Loaiza et al., 2021). In the United Arab Emirates, for instance, several virtual fitness events were organized, including the Virtual Marathon in Dubai, the Stay at Home Virtual Run in Abu Dhabi, the ADNOC Abu Dhabi Virtual Marathon, the Stay at Home FBMA Ladies Run, and the RAK Medical and Health Sciences University (Stay Home, Be Fit) Virtual Mini Marathon (Elmagd, 2020). In Romania, the study of (Iconaru et al., (2023) emphasized the promotion of guided interventions for recovery and healthier living as part of the post pandemic landscape. These creative undertakings exemplify adaptive strategies that are likely to shape the evolving landscape of wellness promotion and sports participation in the post-pandemic era (Gould et al., 2020).

Healthier living while moving forward requires a sound mindset that supports continuous growth and the fulfillment of individual and communal goals within society (Fariss et al., 2023). Initiatives aimed at shaping individual behavior toward sustainable living, improved health, and acceptance of innovative practices have largely relied on strategies centered on information dissemination and attitude transformation. Research suggests that changes in attitudes can significantly influence behavioral outcomes (Verplanken & Orbell, 2022). Moreover, aligning physical education with individual needs and interests may further enhance positive attitudes, serving as an additional motivating factor. A favorable attitude toward physical education has also been identified as a potential predictor of one's inclination to engage in physical activity (Rullestad et al., 2021). Despite the fact that consciously developed intentions do not always result in actual behavior, the implementation of strategies that strengthen positive implicit attitudes toward exercise and reduce negative implicit attitudes toward exercise may greatly contribute to the promotion of increased physical activity participation (Hagger et al., 2020).

Current digital technologies can be effectively utilized for training, performance monitoring, and enhancing athletes' overall development and exercise habits across diverse populations (Specker Sullivan & Reiner, 2021). For instance, pedometer applications are among the most widely used tools for tracking physical activity, particularly walking (McCormack et al., 2022). The integration of such technologies into daily routines or environments has the potential to influence individuals' level of effort and sustain positive behavioral changes over time (Robinson et al., 2020) (Goodyear et al., 2023). The innovative electronic educational tool represents a novel academic methodology for physical activity and a health promotion strategy that empowers students, advocates for healthy lifestyles, and facilitates an improved quality of life (Vankova & Videnova, 2020). The utilization of these technologies in physical education demonstrates the capacity to holistically address the objectives of physical education and foster the human attributes (Corrales & García-Fernández, 2023).

To explore the effectiveness of integrating technology and innovative approaches in promoting physical activity, Aklan State University implemented a virtual walkathon aimed at fostering proactiveness and resilience in light of lessons learned from the recent global health crisis. The data collected from participants particularly regarding the effects of the intervention and the degree of correlation among key variables will serve as a valuable basis for enhancing policy frameworks that support a more resilient and health-conscious community.

MATERIAL AND METHODS

Participants

The study was conducted among the students of the five campuses of Aklan State University. From the 5 campuses of ASU, there were 543 volunteer college students included in the population for the study. Out of the population, 211 had successfully finished the intervention and completed the required tasks and were counted-in as the samples of the study. The approval of the University Ethics Committee was secured as well as informed consent was obtained from all the participants. Similarly, this study complied with the Declaration of Helsinki's rules (World Medical Association, 2013).

Procedure and Materials

The one group pretest-posttest quasi-experimental research design was used. Each participant was instructed to download the Pedometer app (free via app stores) and be installed in their cell phones. Participants have accomplished a registration form and the Attitude Towards Physical Activity questionnaire through Google Forms. An online page was provided for registered participants for the event instructions. Although there was leniency in social policies during the conduct of the intervention, participants were advised to still practice safety health protocols. Such as to perform the activity alone as part of the social distancing preferably inside the house, own lawn, working place, or in the local vicinity. Proper warm-up and cool down exercises were instructed before and after of each walking sessions.

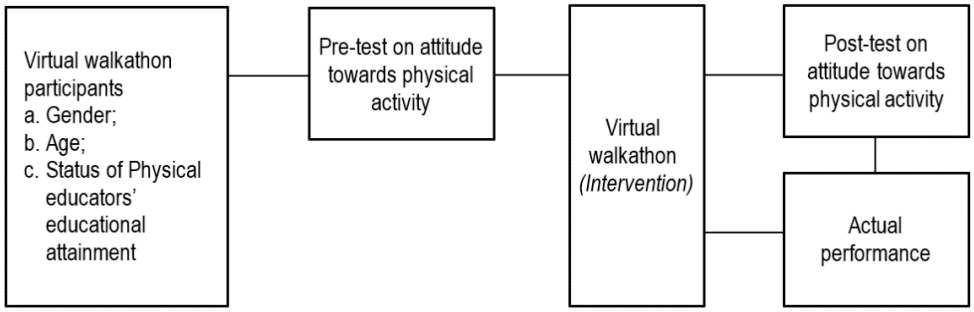


Fig. 1. Conceptual Framework of the Study

The activity had the duration of 3 days which included the virtual walk-off ceremony and the closing and awarding program. Registration period was done prior to the three-day activities. The schedule of activities is as follows:

Time Frame	Activity
Day Zero	· Registration · Giving of ATPA Questionnaire (pre-test) · Guidelines posting at the social media page
Day 1	· Start of activity · Sending/receiving of data for monitoring · Posting of reminders. · Continuation of activity
Day 2	· Sending/receiving of data for monitoring · Posting of reminders. · Continuation of activity
Day 3	· Sending/receiving of data for monitoring/analysis · Posting of reminders. · Administering of ATPA Questionnaire (pre-test) · Closing
Proceeding Weeks	· Data Analysis

Fig. 2. Schedule of Activities

Data analysis

There were intended team organized to each campus for receiving, encoding and monitoring of the progress of the participants. SPSS Statistics version 21 was used for the statistical analysis of the data collected. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used and Attitude Towards Physical Activity was described as follows:

Scale	Description
4.50 – 5.00	High Inclination
3.50 – 4.49	Moderate Inclination
2.50 – 3.49	Neutral
1.50 – 2.49	Moderate Inclination
0.00 – 1.49	Low Inclination

Inferential Tests such as the Wilcoxon Signed Ranks, Kruskal-Wallis, Mann-Whitney and the Spearman's Rho were used in comparing and finding the difference and as well as relationships in the variables. The used of non-parametric tests in the analysis of the data was used due to the non-normality of the data using the Shapiro-Wilk test (Gosselin, 2024).

Table 1. The results of Shapiro-Wilk test

	Shapiro-Wilk		
	Statistic	**df**	**p-value**
Total Steps	.713	211	.000
Q1pre	.728	211	.000
Q2pre	.654	211	.000
Q3pre	.705	211	.000
Q4pre	.827	211	.000
Q5pre	.785	211	.000
Q6pre	.724	211	.000
Q1post	.428	211	.000
Q2post	.320	211	.000
Q3post	.533	211	.000
Q4post	.686	211	.000
Q5post	.604	211	.000
Q6post	.461	211	.000

p-value < 0.05 indicate non-normal data

RESULTS

In Table 2, the participants were presented according to gender, age, and status of physical educators' educational attainment. There were lesser male participants 53 (58%) compared to females 158 (74.9%). In terms of age, majority of the participants were 17-19 years old at 113 (53.6%) while the least were in the age of 26-above with 10 or 4.7%.

Table 2. Profile of Virtual Walkathon Participants in Terms of Gender, Age and Status of Educational Attainment of Physical Educators

	Frequency (n = 211)	**Percentage**
Gender		
Male	53	25.1
Female	158	74.9
Age		
17-19	113	53.6
20-22	85	40.3
23-25	3	1.4
26-above	10	4.7
Status of Physical Educators		
Majority are masters	134	63.5
Majority are PhD/EdD	77	36.5

In table 3, the mean for the ATPA Sub-domains 1, 2, 3, 4, 5, and 6 during the pre-test were 4.27, 4.56, 4.38, 4.04, 4.13, and 4.37 respectively. For the post-test, ATPA Sub-domains 1, 2, 3, 4, 5, and 6 have means 4.80, 4.81, 4.38, 4.46, 4.56, and 4.72, respectively. For the sub-domains 1, 5, and 6 such as the physical activity as a social experience, pursuit of vertigo and as an ascetic experience, there were changes from moderate inclination to high inclination (4.27 to 4.80; 4.13 to 4.56; and 4.37 to 4.72). It indicates that there is change in attitude or increased their inclination in the sub-domains indicated.

Table 3. Participants' Attitude Towards Physical Activity (ATPA) Before and After the Virtual Walkathon

ATPA	Pre-test			Posttest		
Sub-domains	**Mean**	**SD**	**Decription**	**Mean**	**SD**	**Decription**
1. Physical activity as a Social Experience	4.27	0.63	Moderate Inclination	4.80	0.51	High Inclination
2. Physical activity for health and fitness	4.56	0.59	High Inclination	4.81	0.64	High Inclination
3. Physical activity as catharsis	4.38	0.60	Moderate Inclination	4.38	1.24	Moderate Inclination
4. Physical activity as an aesthetic experience	4.04	0.76	Moderate Inclination	4.46	0.76	Moderate Inclination
5. Physical activity as the pursuit of vertigo	4.13	0.70	Moderate Inclination	4.56	0.75	High Inclination
6. Physical activity as an ascetic experience	4.37	0.62	Moderate Inclination	4.72	0.64	High Inclination

In table 4, the ATPA sub-domains as based on the responses of the participants, it shows that in all of the parameters there were significant differences before and after the virtual walkathon. Physical activity as a social experience, for health and fitness, as catharsis, as an aesthetic experience, as the pursuit of vertigo, and as an ascetic experience has the p-value of 0.000, 0.000, 0.035, 0.000, 0.000, and 0.000 respectively. This suggests that there is significant change in attitude or significantly increased their inclination in the sub-domains indicated. The figure shows the attitude of the participants towards physical activity.

Table 4. Difference on the Attitude Towards Physical Activity (ATPA) Before and After the Virtual Walkathon

ATPA Sub-domains	z value	p value	Decision
1. Physical activity as a Social Experience	10.097	0.000	p<0.05, Reject Ho
2. Physical activity for health and fitness	6.356	0.000	p<0.05, Reject Ho
3. Physical activity as catharsis	2.114	0.035	p<0.05, Reject Ho
4. Physical activity as an aesthetic experience	8.058	0.000	p<0.05, Reject Ho
5. Physical activity as the pursuit of vertigo	8.108	0.000	p<0.05, Reject Ho
6. Physical activity as an ascetic experience	7.480	0.000	p<0.05, Reject Ho

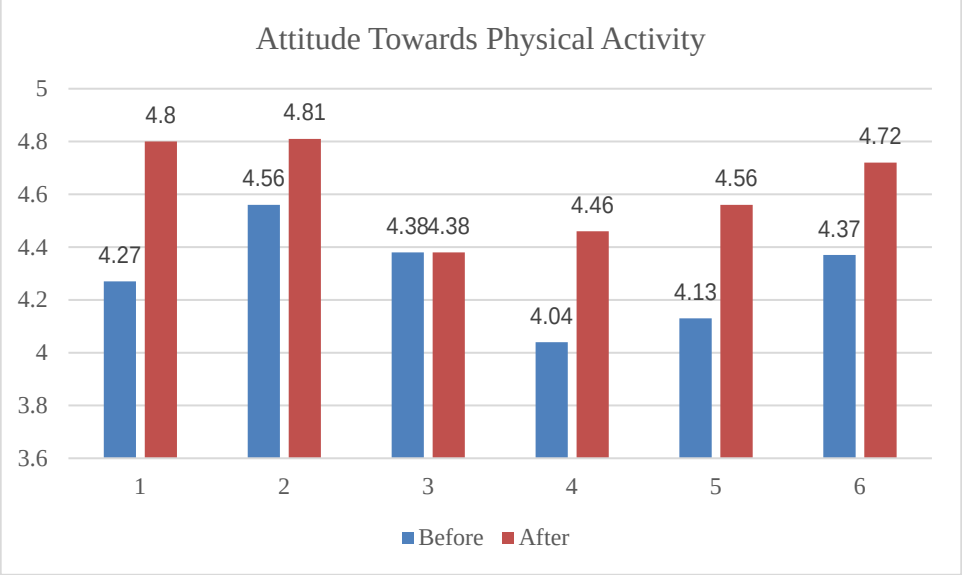


Fig. 3. Comparison of ATPA Before and After the Virtual Walkathon

In table 5, the actual performance of the virtual walkathon participants is presented in terms of gender, age, and status of physical educators' educational attainment. In terms of gender, male participants have higher actual performance ($\bar{x}$=32789.47) compared to female participants ($\bar{x}$=24654.59). As to age, those who belong to age bracket 26-above have the highest average actual walkathon performance ($\bar{x}$=52132.00) while those who aged 17-19 delivered the lowest average actual performance ($\bar{x}$=24784.56). With regard to the status of physical educators, there were more student-participants who were majority of their physical educators are master's degree ($\bar{x}$= 28375.62) while lesser case of having a majority doctorate degree physical educators ($\bar{x}$= 23778.38).

Table 5. Actual Performance of the Virtual Walkathon Participants when Grouped according to Gender, Age, and Status of Educational Attainment of Physical Educators

	Mean	**SD**
Gender		
Male	32789.47	35429.05
Female	24654.59	20986.90
Age		
17-19	24784.56	18673.40
20-22	26260.19	30402.94
23-25	26392.33	11743.99
26-above	52132.00	38260.66
Status of Physical Educators		
Majority are masters	28375.62	29477.93
Majority are PhD/EdD	23778.38	16401.49

Table 6 shows that there is no significant difference in the actual performance of the virtual walkathon participants when grouped according to gender with the z-value of 1.690 and p-value of 0.091. This indicates that gender does not affect significantly to the actual performance of the virtual walkathon participants.

Table 6. Difference of Actual Performance of the Virtual Walkathon Participants when grouped according to Gender

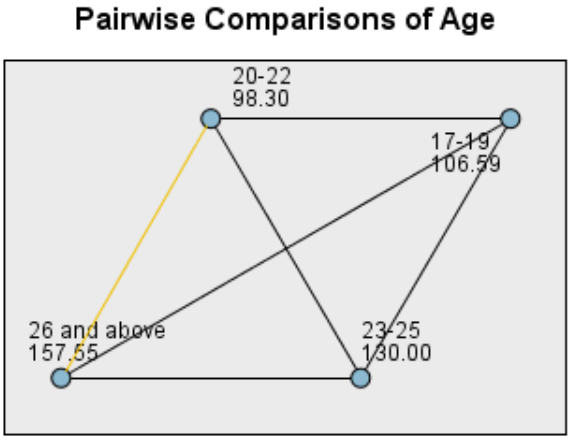
Gender	Mean	Z Value	p value	Decision
Male	32789.47	1.690	0.091	p>0.05, Accept H_o
Female	24654.59			

Table 7 reveals that there is a significant difference in the actual performance of the virtual walkathon participants when grouped according to age with a p-value of 0.030. This indicates that age have significantly affected the actual performance of the virtual walkathon participants.

Table 7. Difference of Actual Performance of the Virtual Walkathon Participants when grouped according to Age

Age	Mean	x^2	p value	Decision
17-19	24784.56	3.0	0.030	p<0.05, Reject Ho
20-22	26260.19			
23-25	26392.33			
26-above	52132.00			

Furthermore, the pairwise comparison diagram (Graph 1) and Table 7 together indicate that age has a differential effect on the virtual walkathon performance. Specifically, participants aged 26 and above scored or ranked significantly higher compared to those aged 20–22, while other age group comparisons did not show significant differences.



Graph 1. The Graphical Comparison of Effect in Terms of Age

Table 8. The Tabular Comparison of Effect in Terms of Age

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.
20-22 - 17-19	8.293	8.766	0.946	0.344	1.000
20-22 - 23-25	-31.7	35.866	-0.884	0.377	1.000
20-22 - 26 and above	-59.25	20.411	-2.903	0.004	0.022
17-19 - 23-25	-23.407	35.715	-0.655	0.512	1.000
17-19 - 26 and above	-50.957	20.143	-2.53	0.011	0.068
23-25 - 26 and above	-27.55	40.191	-0.685	0.493	1.000

Table 9 shows that there is no significant difference in the actual performance of the virtual walkathon participants when grouped according to the status of physical educators' educational attainment with the z-value of 0.164 and p-value of 0.870. This indicates that the status of physical educators' educational attainment does not affect significantly to the actual performance of the virtual walkathon participants.

Table 9. Difference of Actual Performance of the Virtual Walkathon Participants when grouped according to Status of Physical Educators' Educational Attainment.

Status of Physical Educators' Educational Attainment	Mean	z value	p value	Decision
Majority are masters	28375.62	0.164	0.870	$p>0.05$, Accept H_o
Majority are PhD/EdD	23778.38			

Table 10 shows that there is an inverse relationship between the virtual walkathon actual performance and the attitude towards physical activity particularly in the physical activity as a social experience (rho=0.135) with a p-value of 0.050. It would mean that those participants with less inclination to socialize displayed high actual performance while those with strong inclination for socialization through physical activity has low walkathon performance. Other attitude towards physical activity parameters shows no significant difference on performance such as in the physical activity as a social experience, for health and fitness, as catharsis, as an aesthetic experience, as the pursuit of vertigo, and as an ascetic experience that have the p-values of 0.050, 0.266, 0.977, 0.654, and 0.992 respectively.

Table 10. Relationship between the Virtual Walkathon Actual Performance and the Attitude Towards Physical Activity

ATPA Sub-domains	rho	p value	Decision
1. Physical activity as a Social Experience	0.135	0.050	p<0.05, Reject Ho
2. Physical activity for health and fitness	0.077	0.266	p>0.05, Accept H_o
3. Physical activity as catharsis	0.002	0.977	p>0.05, Accept H_o
4. Physical activity as an aesthetic experience	0.031	0.654	p>0.05, Accept H_o
5. Physical activity as the pursuit of vertigo	0.001	0.992	p>0.05, Accept H_o
6. Physical activity as an ascetic experience	0.018	0.797	p>0.05, Accept H_o

DISCUSSION

The results show a noticeable increase in the mean scores of several ATPA sub-domains. This indicates a positive change in participants' attitudes toward physical activity, suggesting that the virtual walkathon effectively enhanced their motivation and engagement in these areas. These findings align with earlier studies such as of Gould et al. (2020), emphasizing that interactive and socially engaging physical activity initiatives can foster more favorable attitudes and sustained participation, thereby supporting the role of innovative and technology-based interventions in promoting active lifestyles. There were statistically significant differences across all ATPA sub-domains before and after the virtual walkathon, indicating that participants' attitudes toward physical activity improved notably following the intervention. The significant p-values across domains such as social experience, health and fitness, catharsis, aesthetic experience, pursuit of vertigo, and ascetic experience suggest that the activity fostered a stronger and more positive inclination toward physical engagement. These results are consistent with earlier study of Aguirre-Loaiza et al. (2021) highlighting that experiential and socially oriented physical activity programs can effectively enhance motivation, enjoyment, and commitment to active lifestyles,

reinforcing the value of innovative, technology-supported approaches in wellness. Variations in actual walkathon performance were observed across gender, age, and the educational attainment of participants' physical educators. Older participants (ages 26 and above) achieved the highest performance levels, indicating that maturity and established fitness habits may contribute to greater consistency in physical activity as contrasted to the study of ÁCS et al. (2017) where university students show a more positive responses on physical activity than the adult population. Additionally, students mentored primarily by master's degree holders performed better than those guided by educators with doctoral degrees, possibly reflecting a more hands-on or motivational teaching approach signifying that the decisions made by physical education instructors during lessons affect student learning and the attainment of physical literacy objectives by Arseni & Hanţiu (2022). It was revealed that male and female participants demonstrated comparable levels of physical engagement. This finding implies that gender does not play a determining role in the level of participation or performance in technology-mediated physical activities. This emphasized that opportunities for engagement, motivation, and access to activity platforms can minimize gender disparities in physical performance outcomes as contrasted to the study of Olănescu (2021) where male students are more motivated to participate compared to female students. It was indicated that age has a notable influence on participants' physical activity levels. This suggests that older individuals may possess greater endurance, discipline, or motivation to sustain performance in extended physical activities compared to younger participants. The finding supports earlier research highlighting age as a relevant factor in physical activity engagement, where maturity and lifestyle stability often contribute to higher consistency and commitment to exercise routines where the concept of "more active ageing" is of great consideration nowadays (Sabău & Acqui, 2023). It was suggested that the academic qualification level of physical educators did not substantially influence participants' engagement or performance in the activity. This aligns with earlier studies indicating that factors such as personal motivation, accessibility of technology, and individual fitness habits may have a greater impact on physical activity outcomes than the formal educational background of instructors as stated similarly by Robinson et al. (2020). The findings pointed-out an inverse relationship between actual performance in the virtual walkathon and attitude toward physical activity, specifically in the sub-domain of physical activity as a social experience. This suggests that participants who were less socially inclined tended to perform better, possibly due to greater individual focus and intrinsic motivation. In contrast, those who viewed physical activity primarily as a social pursuit showed lower performance levels, potentially reflecting dependence on group interaction for engagement. The absence of significant relationships in other attitude domains such as health and fitness,

catharsis, aesthetic experience, pursuit of vertigo, and ascetic experience supports prior research suggesting that social motivation may influence participation style more than overall physical performance outcomes that was pointed also by Hagger et al. (2020).

CONCLUSIONS

The study provides valuable insights into how technology-enhanced physical activity initiatives, such as virtual walkathons, influence participants' attitudes and actual performance across various demographic and psychological factors. Findings revealed that while gender and educators' qualifications did not significantly affect performance, age played a meaningful role, with older participants demonstrating higher levels of engagement. Interestingly, an inverse relationship emerged between social inclination and performance, suggesting that intrinsic motivation may drive greater individual success in virtual fitness contexts. These results advance the understanding of behavioral dynamics in technology-mediated physical activities, emphasizing the potential of virtual platforms for promoting wellness and resilience in post-pandemic settings. Future research may explore personalized digital interventions and long-term behavioral impacts to further strengthen policy frameworks for health and physical education.

AUTHOR CONTRIBUTIONS

The author performed the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

CONFLICT OF INTEREST

There is no conflict of interest declared.

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