Safety Education's Impact on Exercise Adherence: Experiences from a Swimming Club for People with Disabilities

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Abstract

Regular exercise is essential for maintaining physical and psychological well-being, particularly among individuals with disabilities. One cannot overstate the importance of safety during sports participation, as it directly impacts exercise adherence and overall health outcomes for this population. This study sought to assess the effects of safety management education on exercise adherence among disabled swimming club participants. It also examined how their sports participation experiences may influence these effects. Through the use of hierarchical regression analysis, structured questionnaires were administered to carers, resulting in data collected from 491 respondents. The results showed that education in safety management has a significant positive impact on athletic performance, exercise habits, and the overall environment. In addition, participating in sports had a positive impact on exercise adherence by enhancing cognitive and behavioural experiences. The presence oo disabled participants clearly demonstrated the need for customised safety education and engagement strategies. The study emphasises the importance of providing thorough safety management education and creating positive sports participation experiences to encourage long-term exercise commitment among disabled individuals. Further investigation should prioritise examining the lasting impacts of these interventions and determining the key factors that have the greatest impact on participants' commitment, thus safeguarding the overall health and well-being of individuals with disabilities by promoting ongoing involvement in sports.

Keywords: Safety Management Education, Exercise Adherence, Disabled Swimming Club, Sports Participation Experience, Hierarchical Regression Analysis.

Introduction

Safety is a prominent concern in organizations due to an increase in the number of accidents compared to previous years (Grana, 2018). Safety has always been a matter of concern, not just in the environment and classes, but since its inception. The current conventional and implied significance can symbolise security and a focus on safety as customary and desirable. However, despite the widespread interest in safety, society often needs to approach the issue with a practical mindset and engage in thorough problem-solving to effectively implement safety measures (Fragala-Pinkham, O'Neil, & Haley, 2010). This is a widespread issue that affects society, organisations, and school systems, as there have been numerous safety incidents in Korea. Numerous incidents have had a significant impact on the overall safety of the school system. These include the Hwaseong Sea Land fire, the Cheonan Elementary School athletic dormitory fire, the Taean Marine Corps Camp accident, the Sewol ferry incident, school lunch accidents, and unfortunate deaths caused by hazardous urethane in school zones (Cunningham et al., 2023). These incidents took place during a period when the appropriate safety measures were considered essential. Consequently, the government and related organisations' responses to safety issues have had a minimal impact on the field of school sports safety. Since the Sewol ferry disaster in April 2014, the South Korean government has made significant progress in improving safety education and training (Diaz & Diaz, 2021).

It is worth mentioning that in February 2015, the Ministry of Education released the Seven Standards for School Safety Education, taking into account the unique characteristics of adolescents at different stages of development. In March 2016, the Ministry of Education issued a release called Notice on Standards for Implementation of School Safety Education. Schools are obligated to offer safety training for their staff and provide education sessions on safety measures. These requirements vary depending on the level of the school (Nepomuceno et al., 2016). Furthermore, educational institutions have implemented enhanced safety measures, expanded

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academic offerings, and incorporated hands-on learning activities. As a result, safety education has been separated from the rest of the physical education curriculum. It is now presented as "The safety areas," with a focus on principles rather than being mixed in with health and recreational programs (Skrastins et al., 2020).

The occurrence of safety accidents, such as the Sewol ferry disaster, has become a common aspect of life for the Korean population. Consequently, there is a widespread call for the implementation of improved and structured safety education. This is necessary to prevent and effectively manage similar tragic events (Torriani-Pasin et al., 2021). The curriculum of physical education has shifted its focus to health, leisure, and safety, resulting in the inclusion of new sections such as health, challenge, and competition. The concept of safety education in sports was further developed to distinguish it from general safety education. This differentiation is particularly important in terms of the specific content that should be relevant to sports and the physical risks associated with sports activities (Holt et al., 2020). Therefore, safety education in sports is seen as the act of minimising potential dangers during sports activities, as well as promptly addressing accidents and effectively managing their aftermath. In order to promote the unhindered practice of sports activities, safety education focusses on incorporating measures during activity weeks. This helps address the various reasons that could lead to injuries during sports (Torriani-Pasin et al., 2022). The understanding and recognition of this concept is a crucial aspect known as "sports safety". Its goal is to prevent accidents caused by both natural and artificial disasters and minimise their effects (Agran et al., 2012).

Theoretical perspectives such as Self-Determination Theory (SDT) and the Health Belief Model (HBM) provide valuable insights into the mechanisms through which safety education can enhance exercise adherence (Bandura, 1986; Champion & Skinner, 2008; Deci & Ryan, 2012). SDT posits that individuals are motivated to grow and change by three innate and universal psychological needs: competence, autonomy, and relatedness (Deci & Ryan, 2012). Therefore, when conducted in the context of safety education, the overall safety training strengthens the participants' competence and compels them to exercise effectively. On the other hand, the Health Belief Model HBM asserts that the effectiveness of health-related behaviour depends on perceived ailment danger, the expected benefit of the action to be taken, and finally, the barriers towards that action (Ajzen, 1991; Rosenstock, 1974). Incorporating HBM into this study can effectively alter the participants' perception of the risks associated with sports injuries and the advantages of following safe workout routines, thereby promoting consistent participation.

The statement of the problem focusses on the idea that there is a lack of safety education that could enhance the exercise compliance of disabled individuals in sports clubs. Despite the gradual increase in the involvement of individuals with disabilities in sports, there are still lingering concerns regarding security (Lieberman, Houston-Wilson, & Grenier, 2024). Typically, there is a lack of specialised safety management training that aligns with the needs of disabled sports participants. This can lead to higher risks and potential dangers, resulting in fewer individuals taking part (Case et al., 2021). This study aims to address the existing gap by examining the impact of safety education on adherence to exercise regimens. The goal is to provide valuable insights and recommendations to improve the safety of sports clubs for individuals with disabilities. Safety education is an effective way to promote a healthy lifestyle by addressing various safety concerns. This involves teaching about safety requirements, cultivating a mindset that evaluates risks and how to prevent them, developing the ability to perform safe actions, and fostering habits that promote appropriate responses to accidents (Areerak, Waongenngarm, & Janwantanakul, 2021; Ferreira et al., 2022). This paper seeks to explore the impact of motivational factors on individuals' involvement in sports clubs, with a particular emphasis on safety and the emotional aspects of sustaining exercise habits.

The main focus of this research is to assess the influence of safety management education on exercise adherence among participants in a swimming club for individuals with disabilities. This study focusses on investigating the impact of safety management education on exercise adherence, as well as the influence of sports participation experience on exercise adherence. Additionally, it explores the role of disabled swimming club participants in moderating these relationships. The research questions guiding this investigation are as follows:

1. Does safety management education significantly affect exercise adherence among disabled swimming club participants?
2. How does the experience of sports participation impact exercise adherence in this population?
3. To what extent do disable swimming club participants moderate the relationship between safety management education and exercise adherence?
4. How do disabled swimming club participants moderate the relationship between the experience of sports participation and exercise persistence?

This study seeks to explore the factors that impact exercise adherence and contribute to the creation of safety education programs for sports clubs serving individuals with disabilities. By addressing these questions, a more thorough understanding can be gained.

The structure of this paper is organized as follows: The Introduction section provides an overview of the study, highlighting the background, significance, and objectives. It emphasises the value of safety management education and sports participation for individuals with disabilities. The Literature Review explores current research and theoretical frameworks, offering a thorough overview of the connection between safety management education, sports participation, and exercise adherence. This section of the present study focusses on the research methodology, which encompasses the study's design, participant selection, data collection procedures, and analytical techniques used to test the hypotheses. The Research Results showcase the findings derived from the data analysis, emphasising noteworthy relationships and patterns observed in the study. The Discussion section provides an interpretation of these findings, establishes connections to existing literature and theoretical perspectives, and delves into the potential implications for practice and policy. In the final section, the Conclusion provides a concise overview of the main findings, acknowledges the study's constraints, and proposes potential avenues for further investigation.

Literature Review

Safety Management Education and Exercise Adherence

Research has highlighted the significance of safety management education in promoting compliance with exercise protocols (Bennell et al., 2020). It is crucial to prioritise safety education in sports to minimise risks, promptly respond to incidents, and effectively manage the consequences (Ghisi et al., 2020). For this reason, safety has been prioritised to ensure that individuals feel comfortable and encouraged to engage in physical activities on a regular basis. This paper explores the relationship between exercise adherence and safety management education, utilising the Health Belief Model (HBM) and Self-Determination Theory (SDT) as the most effective theoretical frameworks. Therefore, the HBM suggests that individuals' behaviours are influenced by their perceptions of potential risks and rewards (Stefanakis et al., 2022). Based on this model, it is thought that if someone perceives that participating in sports could result in a higher chance of getting injured, they are less likely to engage in those activities. However, when individuals receive thorough safety education that reduces their perception of risks, they are more likely to see the benefits of exercising and be motivated to continue engaging in physical activities (Yang & Miang Goh, 2022).

From a theoretical standpoint, the practical elements of safety management education have the potential to significantly impact the risk assessment abilities of individuals. By equipping them with the necessary skills and knowledge, these participants can effectively prevent accidents and effectively manage their aftermath. For example, a study conducted by Martin and Kulinna (2005) showed that participants who received general safety training felt more confident in their ability to handle injuries during sporting activities, which ultimately increased their commitment to exercise. In addition, implementing regular safety drills and emergency response training can help foster a sense of confidence, making the exercise more appealing and less intimidating. Based on SDT, competence, autonomy, and relatedness are the intrinsic resources that drive individuals to make decisions (Deci & Ryan, 2012). When implementing the concept in sports safety education, providing participants with thorough training can greatly enhance their motivation to adhere to exercise regimens. Reducing the perception of risk enables individuals to engage in physical activity with confidence, fostering a genuine desire to participate and facilitating long-term behavioural changes (Cheng et al., 2004; Feltz et al., 2009). Based on the above literature, the following central Hypothesis is formulated.

Hypothesis 1: *Safety Management Education will significantly affect Exercise Adherence.*

Experience of Sports Participation and Exercise Adherence

Engaging in sports participation has been found to have an impact on exercise adherence, as highlighted by Rodrigues et al. (2020). Research has shown that the way athletes perceive their motivational climates can have a positive effect on their motivation and engagement in specific sports. Pridgeon and Grogan (2012) found that individuals were more likely to stick to their exercise routine when they had enjoyable and positive experiences with sports. These favourable experiences contribute to a feeling of contentment, which, in turn, fosters a sense of achievement that is essential for sustaining the activities (Huberty et al., 2008).

Research evidence from cross-sectional surveys supports the notion that self-perceived sports experiences have a strong influence on exercise behaviour. Crane and Temple (2015) found that individuals who report a high level of

enjoyment from their chosen sports are more likely to engage in regular exercise. Therefore, this finding suggests that it is important to make sports activities and programs enjoyable and worthwhile in order to maintain participation. The perceptions of accomplishment and satisfaction achieved in POS contribute to the development of intrinsic motivation, which is crucial in the long term (Crane et al., 2015). Deci and Ryan (2012) proposed that intrinsic motivation arises from the self-rewarding nature of an activity. The presence of fun in sports activities is likely to contribute to continued exercise engagement, as individuals are internally motivated to participate. Internal motivation is a highly effective long-term strategy for adherence, as it operates independently of external factors or incentives (Bum, 2018). Based on the above literature, the second central Hypothesis is formulated below.

Hypothesis 2: *Experience in sports participation will significantly affect exercise adherence.*

Moderating Role of Disabled Swimming Club Participants and Safety Management Education and Exercise Adherence

The safety management education exercise and adherence of disabled swimming club participants are primarily influenced by societal factors (Scifo et al., 2019). Individuals with cognitive impairments engage in a variety of activities, and sports activities for those with disabilities carry inherent challenges and risks. Therefore, it is essential to provide education on safety measures to ensure their ongoing participation (Shirazipour et al., 2020). It is necessary for individuals with disabilities to receive safety management education in order to address their specific needs and hazards. Previous research has shown that developing and implementing organisation development safety programs that consider the potentials and risks of disabled individuals can greatly enhance their perception and participation levels in sporting activities. Kang et al. (2007) found that implementing targeted safety programs for disabled athletes resulted in higher levels of self-efficacy and confidence in participating in sports. The results suggest that safety education for disabled individuals should consider individual requirements to effectively lower perceived risks and enhance motivation for exercise.

In addition, research indicates that individuals with disabilities often experience a heightened sense of insecurity, leading to a decreased interest in participating in sports activities. Indeed, the safety and accident concerns highlighted by Rimmer and Marques (2012) demonstrate that these barriers were widely experienced by individuals with disabilities. In order to address and resolve the aforementioned concerns, it is crucial to provide comprehensive education on safety management and enhance the environment for ongoing sports programs. In addition, the swimming clubs for disabled children provide extensive support and prioritise safety education, which is highly important (Bondár et al., 2020). Participating in such clubs fosters a sense of camaraderie, as members support one another, ultimately enhancing the effectiveness of safety programs. Individuals who receive adequate support are more inclined to adopt safe behaviours and maintain their exercise routines (Malone, Barfield, & Brasher, 2012). Based on the above literature, the third central Hypothesis is formulated below.

Hypothesis 3: *Disabled Swimming Club Participants will moderate the relationship between Safety Management Education and Exercise Adherence.*

Moderating Role of Disabled Swimming Club Participants, Experience of Sports Participation and Exercise Persistence

Engaging in sports is a crucial aspect that plays a significant role in ensuring the continuity of physical activity, especially for individuals with disabilities (Sur, 2022). Members of the disabled swimming club, thus encounter certain obstacles that can influence their sports experiences and physical activity. Research has shown that engaging in sports can have a lasting impact on an individual's lifelong participation in physical activities (O'Rourke, 2020). The inclusive environment and well-established programs for individuals with disabilities in specialised clubs can truly define these experiences. The results of this study suggest that the environment in disabled groups, specifically swimming in this case, may have a positive impact on the individual's experience and their commitment to exercise. As an example, Jaarsma et al. (2014) demonstrated that individuals with disabilities who participated in adaptive sports experienced high levels of satisfaction and motivation for future activities. These factors play a crucial role in determining one's level of physical activity. The specialised programs often include public relations and provide customised opportunities for athletes with disabilities, aiming to overcome the obstacles they face (Šašek, 2024).

Furthermore, the importance of fostering a sense of community and friendship within disabled swimming clubs cannot be overstated. According to Shields and Synnot (2016), individuals with disabilities can have a more positive exercise experience when they are supported by their peers and coaches in the sporting context. This support can contribute to the development of confidence and a feeling of inclusion among individuals in the gym,

which are crucial elements in maintaining long-term exercise routines (Trongjitpituk, 2020). The small swimming clubs highlighted in the article seem to promote a strong sense of inclusion, which helps to reinforce the positive experiences in the sport and encourage disabled individuals to continue participating in these activities (Sakalidis, 2022). Similarly, the programs offered in disabled swimming clubs contribute to the participants' sport experience and their level of exercise persistence (Rimmer et al., 2004).

However, there are still areas in the academic field that require further exploration, particularly in the realm of safety management education. One such area is the inclusion of disabled individuals in sports participation, which has received limited attention despite the extensive research conducted on these topics individually (Dysterheft, 2016). There is a lack of literature in the area, as recent studies have primarily focused on the general population, with little to no attention given to disabled athletes. In addition, while there is evidence that ongoing safety education can have a positive impact on exercise adherence among the target group, there is a lack of research specifically examining how safety programs for disabled participants can influence their participation in sports activities (Pedersen, Hansen, & Elmose-Østerlund, 2021). Based on the above literature, the third central Hypothesis is formulated below.

Hypothesis 4: *Disabled Swimming Club Participants will moderate the relationship between Experience of Sports Participation and Exercise Persistence.*

The research model for the study titled "Impact of Safety Education on Exercise Adherence: Experiences from a Swimming Club for People with Disabilities" is depicted in Figure 1. The framework presented in this study outlines the hypothesised relationships among key variables. The first hypothesis posits that Safety Management Education will have a significant impact on Exercise Adherence (Hypothesis 1). Hypothesis 2 suggests that the Experience of Sports Participation will have a significant impact on Exercise Adherence. The framework also examines the moderating influence of Disabled Swimming Club Participants on the relationship between Safety Management Education and Exercise Adherence (Hypothesis 3) and the relationship between Experience of Sports Participation and Exercise Persistence (Hypothesis 4). The visual depiction of relationships provides a comprehensive understanding of how safety education and sports participation impact exercise adherence in a swimming club for individuals with disabilities.

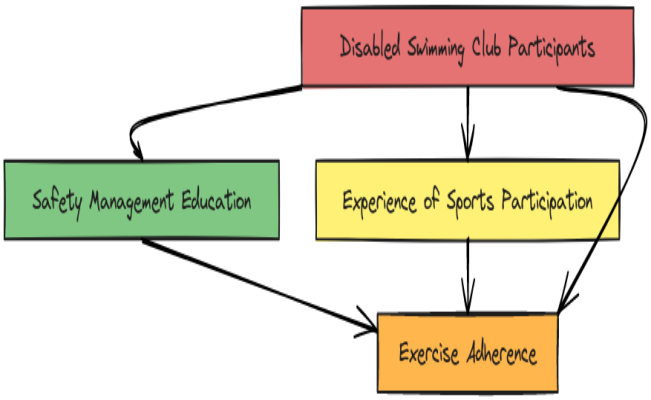

Figure 1: Research Model.

Research Method

Research Design

This study utilised a descriptive research approach and a specific design to investigate the effects of safety management education on exercise compliance among participants of a swimming club for individuals with disabilities. The primary objective was to explore the correlation between the knowledge acquired from safety management education, the relevant experience of participating in sports, and the implementation of exercise routines. In addition, the analysis takes into account the influence of the context of disabled participants on these relationships. In order to achieve this objective, the study was carried out in a real-life setting, specifically targeting individuals who are part of the Swimming Sports Club, a division that caters to individuals with disabilities. The authors aimed to choose a location that would accurately represent the challenges faced by disabled athletes in real-life situations. The descriptive design allowed for additional investigation into the state of safety education and the level of compliance with important exercises among the identified population. It provided valuable insights into the current patterns of interaction. Furthermore, the study's design incorporated demographic factors to minimise the influence of variables such as age, type of disability, or the duration of club participation. In addition, the thorough approach taken in this study enabled the identification of specific patterns and connections within the disabled swimming club.

Ethical Considerations

Given the emphasis on disabled individuals, ensuring ethical considerations were paramount during the development of this research study. The study design was approved by an institutional ethical review board that carefully evaluated the ethical aspects of the research. Participants or their careers were required to provide

written consent prior to their participation in the study. These involve in-person interviews using pseudonyms to protect the participants' identities. The data collected during the research were anonymised before analysis. The participants were informed of their option to discontinue their involvement in the study at any point without facing any consequences.

Sampling Technique and Sample Size

Given that the research was carried out at a university and the participants possessed a Disability Faculty identification card, purposive sampling was employed to choose individuals from the Swimming Sports Club, which was specifically designed for individuals with disabilities. The inclusion of individuals who participate in swimming activities at the club ensured that the study's findings were specific to those who had received safety management education in that particular setting.

Initially, a study was carried out involving 500 individuals who were asked to complete the provided questionnaires. The participants were carefully chosen to represent a diverse range of disabilities, including physical, cognitive, and sensory impairments. This selection ensured that the study accurately reflected the swimming population of individuals with disabilities. The study's inclusion criteria aimed to ensure that the participants were regular users of the club, allowing them to gain sufficient exposure to the club environment and familiarise themselves with its safety policies and practices. In order to ensure the reliability of the responses, rigorous steps were implemented to narrow down the credibility of the participants. This involved excluding completed questionnaires that showed immature responses, questionnaires with numerous missing items, or questionnaires that seemed to have been filled out by an unserious respondent. 491 valid responses were used for analysis, which provided a reliable population to investigate the research questions. The sample consisted of individuals spanning a wide range of ages, from teenagers to individuals in their fifties. This wide range of age was selected in order to achieve comparable results to other disabled individuals who participate in sports at the club. The study included participants from different age groups to reduce any potential bias related to exercise adherence and participants' familiarity with safety management education.

Data Collection Procedure

Given the participants' circumstances, the questionnaire was distributed indirectly through their careers. This approach was implemented to cater to the unique requirements of the disabled participants, a significant number of whom may face challenges in independently completing the questionnaire. The data collection period extended from July 5 to July 25, 2023. Interviews were conducted with carers at the Swimming Sports Club, and participants were assured of the confidentiality and anonymity of their responses. Questionnaires that had repetitive answers or significant missing data were excluded to preserve the integrity of the dataset.

Scales or Measurements

The questionnaire included a range of scales to measure the main variables of interest. These scales were derived from well-established instruments in the field and were thoroughly tested to ensure their reliability and validity within the context of this study. Exercise adherence was evaluated using a scale derived from the Exercise Adherence Rating Scale (EARS) created by Newman-Beinart et al. (2017). This scale measures the frequency, duration, and consistency of participants' engagement in swimming activities, with items such as "How often do you participate in swimming sessions per week?" and "How consistent are you in attending your scheduled swimming sessions?" An assessment was conducted to evaluate safety management education. The evaluation utilised a scale derived from the Safety Attitudes Questionnaire (SAQ) developed by Sexton et al. (2006). This scale assesses participants' knowledge and comprehension of safety protocols, emergency response abilities, and their perception of safety during sports activities Sample items include "I am confident in my knowledge of the safety protocols at the swimming club" and "I feel safe during my swimming sessions.

The experience of sports participation was measured through items adapted from the Physical Activity Enjoyment Scale (PACES) developed by Motl et al. (2000). This scale assesses satisfaction, enjoyment, and perceived benefits of participating in the swimming club. Items include "I enjoy participating in swimming activities" and "Swimming at the club has been beneficial for my physical and mental health." Every scale was meticulously chosen and modified to ensure that it precisely captured the experiences and perspectives of disabled participants within the swimming club. Tests were conducted to confirm the appropriateness of these scales for the study population, specifically focussing on reliability and validity. This included the use of Cronbach's alpha and factor analysis.

Data Analysis Techniques

The statistical analysis was conducted using the Statistical Package for Social Science (SPSS) version 22. The data analysis process involved multiple steps: examining sample features through demographic

analysis, determining the relationship between variables using correlation analysis, and validating the proposed hypotheses through program validation. Chi-square tests were used to analyse the demographic data, while Pearson correlation coefficients were calculated to examine the relationship between safety management education, sports participation experiences, and exercise adherence. First, hypothesis testing involved conducting multiple regression analysis to determine the main effects of the independent variables and explore the potential moderating impact of these variables. All potential calculation errors were thoroughly addressed, and a significance level of $p < 0.05$ was consistently applied to all statistical tests conducted in the study.

Previous Studies That Used the Same Methodology

Previous research has utilised quantitative methodologies, and we also utilised the same scales in our study. The Exercise Adherence Rating Scale (EARS), developed by Newman-Beinart et al. (2017), has been extensively used in clinical settings to evaluate adherence to exercise regimens. Similarly, the Safety Attitudes Questionnaire (SAQ) developed by Sexton et al. (2006) has been widely utilised to assess safety culture in healthcare settings. Its effectiveness and adaptability have been validated in different contexts, such as primary care and hospital environments (Tsegaw, Kassie, & Alemnew, 2023). These studies showcase the reliability and wide applicability of these scales, which further strengthens the robustness of our methodological approach.

Research Results

Demographic Characteristics

In order to ensure a comprehensive understanding of the participants, efforts were made to accurately capture their demographic information. Out of the participants, 491 were considered valid, and every single one of them belonged to the Swimming Sports Club, which focusses on individuals with disabilities. The participants spanned a wide range of ages, from teenagers to individuals in their 50s, reflecting diverse life stages. Additional information about the participants, including their gender distribution, types of disability, and the duration of their membership in the club, was also recorded. This was done to assess whether these factors could potentially impact exercise participation and to provide more details about the research sample. Collecting demographic information is crucial for distinguishing the impact of safety management education and practical experience in sports on promoting compliance with disabled individuals.

Table 1 displays the demographic characteristics. A total of 491 individuals provided responses to the inquiry. Demographic Sample The study included 387 male respondents, representing 78.9% of the total, and 104 female respondents, accounting for 21.2%. From the perspective of age, 275 students were studied in the age group 10-20 years (56. 1%), 93 students were studied in the age group 30-40 years (19%), 76 students were in the age group 50 + years (15. 5) and 47students were in the other age group (9. 6%). Regarding the type of disability, 192 participants (39. 2%) had Intellectual Disabilities, 115 participants (23. 5%) had Developmental Disabilities, 94 participants (19. 2%) had Hearing Impairment, 58 participants (11. 9%) had visual impaired and other types of disabilities 32 (6. 6%). Concisely on their swimming experience, 148 out of 490 respondents (30. 2%) had swimming experience of 1-2 years, 127 (25. 9%) 2-3 years, 89(18. 2%) 3-4 years 74 (15. 1%) for other durations and 53 (10. 8%) for 6months.

Table 1

Demographic Analysis

Questionnaires		Frequency	Percentile
Gender	Male	387	78.8
	Female	104	21.2
Age	10-20's	275	56.0
	30-40's	93	18.9
	50's and over	76	15.5
	Others	47	9.6
Types of Disability	Mentally Disabled	192	39.1
	Visual Impairment	58	11.8
	Hearing Impairment	94	19.1
	Developmental Disability	115	23.4
	Others	32	6.5
Swimming Experience	Six months	53	10.8
	1-2 years	148	30.1
	2-3 years	127	25.9
	3-4 years	89	18.1
	Others	74	15.1

Correlations Analysis

This study examines the correlation between Safety Management Education (Education Experience, Education Form, Education Content, Appropriateness of Education, and Understanding of Education), Experience of Sports Participation (Cognitive Experience, Behavioural Experience, and Affective Experience), Exercise Adherence (Athletic Performance, Exercise Habits, and Exercise Environment), and Disabled Swimming Club Participants. The analysis

revealed significant relationships between Safety Management Education (Education Experience, Education Form, Education Content, Appropriateness of Education, Understanding of Education), Experience of Sports Participation (Cognitive Experience, Behavioural Experience, Affective Experience), Exercise Adherence (Athletic Performance, Exercise Habits, and Exercise Environment), and Disabled Swimming Club Participants. All relationships in this study were found to be positively correlated, thus confirming the hypothesis.

Table 2 presents the results of the cable correlation analysis, which examines the relationship between various factors such as experience, form, content, relevance, and perceived meaning of education, cognitive behavioural and affective domains, level of participation, physical performance, and exercise regime and facilities. The observed correlations suggest that these factors are endogenous, meaning that they are interconnected and influence the adherence to exercise regimes.

Table 2

Results of Correlation Analysis Between Variables

	A	B	C	D	E	F	G	H	I	J	K	L
Education Experience(A)	1											
Education Form(B)	.305**	1										
Education Content(C)	.463**	.320**	1									
Appropriateness of Education(D)	.346*	.477*	.589*	1								
Understanding of Education(E)	.575**	.337**	.474**	.438**	1							
Cognitive(F)	.414**	.344**	.380**	.379	.585**	1						
Behavioral(G)	.382**	.441**	.459**	.441**	.621**	.608**	1					
Affective(H)	.488**	.333**	.362**	.451**	.487**	.404**	.547**	1				
Participants(I)	.394**	.373**	.447**	.324*	.530**	.503**	.556**	.516**	1			
Athletic Performance(J)	.490**	.491**	.412**	.345**	.543**	.334**	.478**	.560**	.481**	1		
Exercise Habits(K)	.458**	.429**	.438**	.323**	.558**	.478**	.524**	.503**	.532**	.578**	1	
Exercise Environment(L)	.453**	.312**	.417**	.368**	.465**	.465**	.477**	.489**	.525**	.542**	.662**	1

Note: *p < 0.05 (*), p < 0.01 (**). The stars indicate the significance levels of the correlation coefficients, with single stars denoting significance at the 0.05 level and double stars denoting significance at the 0.01 level.*

Hypotheses Verification Using Regression Analysis

Hypothesis 1: Safety Management Education will significantly affect Exercise Adherence.

1-1: Education Experience will significantly affect Athletic Performance.
1-2: Education Form will significantly affect Athletic Performance.
1-3: Education Content will significantly affect Athletic Performance.
1-4: Appropriateness of Education will significantly affect Athletic Performance.
1-5: Understanding Education will significantly affect Athletic Performance.

Now, keeping it up with Exercise Adherence – Safety Management Education with Athletic Performance, the regression analysis findings reveal that the model does account for 19% of the variation in exercise adherence (R^2 = 0. 194). Thus, the model is statically meaningful (F =24. 856, < 0. 05) and minimally affected by auto-correlation problems (Durbin-Watson d = 1. 865), indicating that the result is pretty accurate. The regression results are presented in Table 3, which reveals that most aspects of Safety Management Education are significantly related to Athletic Performance. In particular, the variable Education Experience = 0. 207, t= 1. 084, <0. 05 indicates that Hypothesis 1-2 holds since Education Experience positively affects Athletic Performance. Furthermore, by finding the relationship between Education Content and Athletic Performance (t=6. 298, p< 0. 05), Hypothesis 1-3 is also proved. The appropriateness of Education is also again significant and positively associated with Athletic Performance (t = 1. 280, p < 0. 05), hence supporting Hypothesis 1-4. Last, it is found that knowledge about Education has a positive relationship with Athletic Performance (t = 2. 924, p < 0. 05), thus accepting Hypothesis 1-5.

Table 3

The Regression Analysis Results between Safety Management Education and Athletic Performance

	Non-standard Coefficients		Standard Coefficients	t	Significance
	B	Standard Error	β		
(Constants)	2.036	.204		9.988	.000**
Education Experience	.032	.041	.041	4.787	.032*
Education Form	.043	.040	.047	1.084	.009**
Education Content	.339	.054	.310	6.298	.000**
Appropriateness of Education	.044	.034	.053	1.280	.001**
Understanding of Education	.126	.043	.154	2.924	.004**

R^2=.204, Adjusted R^2=.194, Durbin-Watson=1.865, F=24.856, Significance=.000**

a. Dependent Variable: Athletic Performance

Hypothesis 1: Safety Management Education will significantly affect Exercise Adherence.

1-6: Education Experience will significantly affect Exercise Habits.
1-7: Education Form will significantly affect Exercise Habits.
1-8: Education Content will significantly affect Exercise Habits.
1-9: Appropriateness of Education will significantly affect Exercise Habits.
1-10: Understanding Education will have a significant effect on Exercise Habits

The analyses show that Safety Management Education predicts 36% of the Exercise Adherence Exercise Adherence, [F (9, 146) = 9. 676, MSE =10. 421, p < 0. 000, R^2 = 0. 366]. The regression model is significant (F = 57. 651, p < 0. 05), with moderate to little autocorrelation (Durbin-Watson = 1. 899). As presented in Table 4, Safety Management Education has a significant positive relationship with Athletic Performance and Exercise Habits. Analysing the t-values and the p-values (all p < 0. 05) for Hypothesis 1-6, 1-7, 1-8, 1-9, and 1-10 proves the positive influence of the selected Safety Management Education aspects on Exercise Habits and Exercise Adherence.

Table 4

The Regression Analysis Results between Safety Management Education and Exercise Habits

	Non-standard Coefficients		Standard Coefficients	t	Significance
	B	Standard Error	β		
(Constants)	1.493	.191		7.811	.000**
Education Experience	.118	.038	.143	3.107	.002**
Education Form	.042	.037	.044	1.136	.046*
Education Content	.224	.050	.194	4.440	.000**
Appropriateness of Education	.076	.032	.087	2.357	.019*
Understanding of Education	.313	.040	.361	7.729	.000**

R^2=.373, Adjusted R^2=.366, Durbin-Watson=.1899, F=57.651, Significance=.000**

a. Dependent Variable: Exercise Habits

Hypothesis 1: Safety Management Education will significantly affect Exercise Adherence.

1-11: Education Experience will significantly affect the Exercise Environment.
1-12: Education Form will significantly affect the Exercise Environment.
1-13: Education Content will significantly affect the Exercise Environment.
1-14: The education Setting will significantly affect the Exercise Environment.
1-15: Understanding Education will significantly affect the Exercise Environment.

The regression analysis results are presented in Table 5, which includes the non-standardized and standardised coefficients, t-values, and significance levels for each predictor variable. The analysis revealed that the

relationship between Education Experience and Exercise Environment is significant (t = 4.013, p < .05), supporting Hypothesis 1-11. Similarly, the relationship between Education Form and Exercise Environment is significant (t = 3.907, p < .05), supporting Hypothesis 1-12. The significance between Education Content and Exercise Environment (t = 4.395, p < .05) confirms Hypothesis 1-13. The relationship between the Appropriateness of Education and Exercise Environment is significant (t = 4.230, p < .05), supporting Hypothesis 1-14. Lastly, Understanding of Education significantly affects Exercise Environment (t = 4.226, p < .05), confirming Hypothesis 1-15.

Table 5

The Regression Analysis Result between Safety Management Education and Exercise Environment

	Non-standard Coefficients		Standard Coefficients	t	Significance
	B	Standard Error	β		
(Constants)	1.801	.189		9.527	.000**
Education Experience	.151	.038	.190	4.013	.000**
Education Form	.144	.037	.156	3.907	.000**
Education Content	.219	.050	.197	4.395	.000**
Appropriateness of Education	.134	.032	.161	4.230	.000**
Understanding of Education	.169	.040	.203	4.226	.000**

R^2=.338, Adjusted R^2=.331, Durbin-Watson=1.853, F=49.580, Significance=.000**

a. Dependent Variable: Exercise Environment

Hypothesis 2: Experience in sports participation will significantly affect exercise adherence.

2-1: Cognitive Experience will significantly affect Athletic Performance.
2-2: Behavioral Experience will significantly affect Athletic Performance.
2-3: Affective Experience will significantly affect Athletic Performance.

The regression analysis results to verify how Experience of Sports Participation Affects Athletic Performance, a component of Exercise Adherence, demonstrate that the model explains 35.2% of the variance (R^2 = .352). The regression model is significant (F = 89.684, p < .05), indicating it is suitable for predicting the relationship. The Durbin-Watson statistic (1.892) suggests no significant autocorrelation issues, ensuring the reliability of the results. Table 6 indicates the significant impacts of different experiences on Athletic Performance. The model explains 35.2% of the variance in Athletic Performance (R^2 = .352), with a highly significant F-value of 89.684 (p < .05), demonstrating the model's robustness. The Durbin-Watson statistic (1.892) suggests no significant autocorrelation issues. Specifically, Cognitive Experience (B = .010, t = .241, p < .05), Behavioural Experience (B = .214, t = 4.608, p < .05), and Affective Experience (B = .420, t = 9.821, p < .05) all have significant positive effects on Athletic Performance, confirming the respective hypotheses.

Table 6

The Regression Analysis Results between Experience of Sports Participation and Athletic Performance

	Non-standard Coefficients		Standard Coefficients	t	Significance
	B	Standard Error	β		
(Constants)	1.384	.147		9.437	.000**
Cognitive Experience	.010	.043	.012	.241	.032*
Behavioural Experience	.214	.046	.252	4.608	.000**
Affective Experience	.420	.043	.427	9.821	.000**

R^2=.356, Adjusted R^2=.352, Durbin-Watson=1.892, F=89.684, Significance=.000**

a. Dependent Variable: Athletic Performance

Hypothesis 2: Experience in sports participation will significantly affect exercise adherence.

2-4: Cognitive Experience will significantly affect Exercise Habits.
2-5: Behavioural Experience will significantly affect Exercise Habits.
2-6: Affective Experience will significantly affect Exercise Habits.

The following are the regression analysis results to verify how Experience of Sports Participation Affects Exercise Habits of Exercise Adherence.

The regression analysis results are presented in Table 7, which includes the non-standardized and standardised coefficients, t-values, and significance levels for each predictor variable. The results indicate that the regression analysis between Safety Management Education and Exercise Habits of Exercise Adherence has a R^2 value of .360, indicating a 36.0% explanatory power. The regression model is also suitable, as indicated by a F value of 92.971 ($p<0.05$). The Durbin-Watson value (=1.807) does not significantly affect reliability. The relationship between the Cognitive Experience of Sports Participation and Exercise Habits of Exercise Adherence is statistically significant (t=4.180, $p<.05$) and positively correlated. Therefore, Hypothesis 2-4 is accepted. The significance between Behavioral Experience of Sports Participation and Exercise Habits of Exercise Adherence is lower than 0.05, so their relationship is significant (t=3.982, $p<.05$) and has a positive effect. Therefore, Hypothesis 2-5 is accepted. Since the significance between Affective Experience of Sports Participation and Exercise Habits of Exercise Adherence is lower than 0.05, their relationship is significant (t=6.947, $p<.05$) and has a positive effect. Therefore, Hypothesis 2-6 is accepted.

Table 7

The Regression Analysis Results between Experience of Sports Participation and Exercise Habits

	Non-standard Coefficients		Standard Coefficients	t	Significance
	B	Standard Error	β		
(Constants)	.922	.154		5.987	.000**
Cognitive Experience	.189	.045	.208	4.180	.000**
Behavioural Experience	.194	.049	.217	3.982	.000**
Affective Experience	.312	.045	.300	6.947	.000**

R^2=.364, Adjusted R^2=.360, Durbin-Watson=1.807, F=92.971, Significance=.000**

a. Dependent Variable: Exercise Habits

Hypothesis 2: Experience in sports participation will significantly affect exercise adherence.

2-7: Cognitive Experience will significantly impact the Exercise Environment.

2-8: Behavioural Experience will significantly affect the Exercise Environment.

2-9: Affective Experience will significantly affect Exercise Environment.

The following are the regression analysis results to verify how Sports Participation experience affects the Exercise Environment of Exercise Adhesion.

Table 8 illustrates the impact of sports participation on the exercise environment and exercise adherence. The regression analysis demonstrates that the relationship between Safety Management Education and Exercise Environment of Exercise Adherence is statistically significant (R^2=.329, $p<0.05$). The regression model has an explanatory power of 32.9% and is suitable for the regression line model (F=81.129). The Durbin-Watson value (=1.850) does not have a significant impact on reliability. The relationship between the cognitive experience of sports participation and the exercise environment of exercise adherence was found to be statistically significant (t=4.766, $p<.05$), indicating a positive influence. Thus, hypotheses 2-7 were accepted. The relationship between the behavioural experience of sports participation and exercise adherence, as well as the exercise environment, is statistically significant (t=2.468, $p<.05$) and positively correlated. Thus, Hypothesis 2-8 is accepted. The relationship between affective experience of sports participation and exercise environment in exercise adherence is statistically significant (t=7.137, $p<.05$) and positively correlated. Thus, Hypothesis 2-9 is accepted.

Table 8

The Regression Analysis Results between Experience of Sports Participation과 Exercise Environment

	Non-standard Coefficients		Standard Coefficients	t	Significance
	B	Standard Error	β		
(Constants)	1.269	.152		8.359	.000**
Cognitive Experience	.213	.045	.243	4.766	.000**
Behavioural Experience	.119	.048	.138	2.468	.014*
Affective Experience	.316	.044	.316	7.137	.000**

R^2=.333, Adjusted R^2=.329, Durbin-Watson=1.850, F=81.129, Significance=.000**

a. Dependent Variable: Exercise Environment

Hypothesis 3: Disabled Swimming Club Participants will moderate the relationship between Safety Management Education and Exercise Adherence.

3-1: Disabled Swimming Club Participants will moderate the relationship between Education Experience and Athletic Performance.
3-2: Disabled Swimming Club Participants will moderate the relationship between Education Form and Athletic Performance.
3-3: Disabled Swimming Club Participants will moderate the relationship between Education Content and Athletic Performance.
3-4: Disabled Swimming Club Participants will moderate the relationship between Appropriateness of Education and Athletic Performance.
3-5: Disabled Swimming Club Participants will moderate the relationship between Understanding Education and Athletic Performance.

This study conducted a hierarchical regression analysis to test whether Disabled Swimming Club Participants moderated the relationship between Safety Management Education and Athletic Performance.
Table 9 displays the mean-centred independent variable moderators in three models. Various models have been employed, including Model 1, which excludes moderating variables; Model 2, which includes moderating variables; and Model 3, which incorporates interaction terms of the moderating variables. The stated amount increased to 20. The percentage decreased from 4% in Model 1 to 28. This increased to 5% in Model 2, which is an 8. 1% raise and statistically significantly higher than the control, and finally to 29—9% in Model 3 (an increase of 1. 4% and statistically significant). Model 3 had a lower R^2 = 0. 299 and an F value 18. 17 Women's mean age and STD awareness score was 586 ($p < 0. 05$), and the Durbin-Watson value was 1. 893, indicating no autocorrelation. The results of Model 3 presented in Table 3 revealed that the Safety Management Education's interaction terms of Education Experience, Education Form, and Education Content with Disabled Swimming Club Participants were significant, supporting Hypotheses 3-1, 3-2, and 3-3, respectively. Nevertheless, the interaction terms relating to Appropriateness of Education (β= 0. 048, p<. 05) and Understanding of Education (β=. 001, p<. 05) and Disabled Swimming Club Participants were non-significant leading to the rejection of Hypotheses 3-4 & 3-5.

Table 9

The Moderating Effects of Disabled Swimming Club Participants on the Relationship between Education Experience and Athletic Performance

	Model1		Model2		Model3	
	B	β	B	β	B	β
(Constants)	.001		.001		.038	
Education Experience(A)	.032	.041**	.025	.032*	.025	.032
Education Form(B)	.043	.047**	.028	.031*	.004	.004*
Education Content(C)	.339	.310**	.265	.242	.249	.228
Appropriateness of Education(D)	.044	.053**	.042	.052*	.038	.046*
Understanding of Education(E)	.126	.154**	.016	.019	.003	.004
Club Participants(I)			.462	.360*	.486	.378*
(A) x (I)					.094	.072*
(B) x (I)					.104	.086*
(C) x (I)					.014	.009*
(D) x (I)					.059	.048
(E) x (I)					.001	.001
R^2 / Adjusted R^2	.204 / .196		.285 / .276		.299 / .283	
$\triangle R^2$(p)	-		.081(.000)		.014(.000)	
F(p)	24.856(.000)		32.193(.000)		18.586(.000)	
Durbin-Watson					1.893	

Note: *Dependent Variable: Athletic Performance*

Hypothesis 3: Disabled Swimming Club Participants will moderate the relationship between Safety Management Education and Exercise Adherence.

3-6: Disabled Swimming Club Participants will moderate the relationship between Education Experience and Exercise Habits.
3-7: Disabled Swimming Club Participants will moderate the relationship between Education Form and Exercise Habits.
3-8: Disabled Swimming Club Participants will moderate

the relationship between Education Content and Exercise Habits.

3-9: Disabled Swimming Club Participants will moderate the relationship between Appropriateness of Education and Exercise Habits.

3-10: Disabled Swimming Club Participants will moderate the relationship between Understanding of Education and Exercise Habits.

Hierarchical regression analysis was conducted to test whether Disabled Swimming Club Participants moderated the relationship between Safety Management Education and Exercise Habits.

Table 10

The Moderating Effects of Education Experience and Exercise Habits in Disabled Swimming Club Participants

	Model1		Model2		Model3	
	B	**β**	**B**	**β**	**B**	**β**
(Constants)	.003		.001		.009	
Education Experience(A)	.118	.143**	.112	.136*	.123	.149*
Education Form(B)	.042	.044*	.017	.018*	.009	.009
Education Content(C)	.224	.194**	.162	.140**	.132	.114
Appropriateness of Education(D)	.076	.087*	.074	.086*	.067	.077*
Understanding of Education(E)	.313	.361**	.220	.254	.211	.243
Club Participants(I)			.388	.286*	.436	.321
(A) x (I)					.032	.024*
(B) x (I)					.171	.133
(C) x (I)					.035	.021**
(D) x (I)					.007	.005*
(E) x (I)					.033	.026
R^2 / Adjusted R^2	.373 / .366		.424 / .417		.438 / . 425	
$\triangle R^2$(p)	-		.051(.000)		.014(.000)	
F(p)	57.651(.000)		59.391(.000)		33.927(.000)	
Durbin-Watson					1.760	

Dependent Variable: Exercise Habits

Table 11

The Moderating Effects of Education Experience and Exercise Environment on Disabled Swimming Club Participants

	Model1		Model2		Model3	
	B	**β**	**B**	**β**	**B**	**β**
(Constants)	.003		.001		.010	
Education Experience(A)	.151	.190**	.145	.183*	.151	.190*
Education Form(B)	.144	.156**	.082	.089**	.084	.091*
Education Content(C)	.219	.197**	.155	.139*	.151	.135*
Appropriateness of Education(D)	.134	.161**	.133	.159	.121	.146
Understanding of Education(E)	.169	.203**	.073	.088*	.079	.095*
Club Participants(I)			.402	.308*	.411	.314*
(A) x (I)					.009	.007**
(B) x (I)					.043	.035
(C) x (I)					.032	.019
(D) x (I)					.074	.058
(E) x (I)					.056	.046*
R^2 / Adjusted R^2	.338 / .331		.398 / .390		.404 / .390	
$\triangle R^2$(p)	-		.059(.000)		.006(.000)	
F(p)	49.580(.000)		53.244(.000)		29.507(.000)	
Durbin-Watson					1.959	

Dependent Variable: Exercise Environment

Table 10 presents the results of the regression analysis, which included three models using mean-centred independent variable moderators. The adjusted R-squared value of the endogenous independent variables in Model 1 is 37. The inclusion of moderating variables in the model accounts for 42% of the explained variance. The percentage is 4% higher in informal settlements, with a statistically significant difference of 5. The inclusion of interaction terms in Model 3 results in a 43% improvement in model fit. Out of the total amount, 8% represents a statistically significant value of 1. Organic traffic, or 'Word of Mouth', has historically been the primary source of website traffic. In Model 3, perceptual incongruity is used as the only predictor, and it is considered suitable with an R squared of 0. of 438 and an F value of 33. 14: 83 ($p < 0.05$), and a Durbin- Watson value of 1. Altogether, this evidence show that Education Experience has a significant moderating impact on Exercise Habits with Disabled Swimming Club Participants exercising more by testing the interaction effect of Education Experience and Disabled Swimming Club Participants on Exercise Habits ($\beta = 0.024$, $p > 0.05$), Hypothesis 3-6 is supported. Proposition 3-7 Hypothesis is thus rejected based on the insignificance of the Education Form * Age interaction term ($\beta = 0.133$, $p <$ 0. The results of Education Content by Appropriateness of Education also indicate a significant value of $\beta = 0.021$, $p >$ 0. 05, which partially supports Hypothesis 3-8. The results of Education Content with Appropriateness of Education also reveal partial support to Hypothesis 3-9 with a value of $\beta =$ 0. 005, $p > 0.05$. Education Understanding is statistically insignificant as the interaction term ($\beta = 0.026$, $p < 0.05$) nullifying Hypothesis 3-10.

Hypothesis 3: Disabled Swimming Club Participants will moderate the relationship between Safety Management Education and Exercise Adherence.

3-11: Disabled Swimming Club Participants will moderate the relationship between Education Experience and Exercise Environment.
3-12: Disabled Swimming Club Participants will moderate the relationship between Education Form and Exercise Environment.
3-13: Disabled Swimming Club Participants will regulate the relationship between Education Content and Exercise Environment.
3-14: Disabled Swimming Club Participants will moderate the relationship between Education Appropriateness and Exercise Environment.
3-15: Disabled Swimming Club Participants will moderate the relationship between Understanding of Education and Exercise Environment.

A hierarchical regression analysis was conducted to examine whether Disabled Swimming Club Participants moderated the relationship between Safety Management Education and Exercise Environment.
Table 11 presents the Mean-centered independence and moderator values for three regression analysis models. Model 1 includes only independent variables and has an explained variance of 33%. Model 2 incorporates mediating variables that have a larger effect size of 39%—8% (significantly higher by 5.9% compared to the previous year). The Model 3 incorporates interaction terms, resulting in a 40% increase in explanatory power for the variance in the data. This represents a 4% increase, which is 0.6% higher than the statistical average. Model 3 may be considered appropriate for the analysis since its R^2 is 0. 404, an F value of 29. 95 ($t = 2.81$; $p < 0.05$) and DW = 1.

Hypothesis 4: Disabled Swimming Club Participants will moderate the relationship between Experience of Sports Participation and Exercise Persistence.

4-1: Disabled Swimming Club Participants will control the relationship between Cognitive Experience and Athletic Performance.
4-2: Disabled Swimming Club Participants will moderate the relationship between Behavioral Experience and Athletic Performance.
4-3: Disabled Swimming Club Participants will moderate the relationship between Affective Experience and Athletic Performance.

This study employed a hierarchical regression analysis to examine the potential moderating effect of disabled swim club participants on the relationship between safety management education and athletic performance.
The regression analysis results with mean-centred independent variable moderators are presented in Table 12. Model 1 incorporates independent variables and exhibits an explanatory power of 33.3%. The inclusion of moderating variables in Model 2 enhances its explanatory power to 37.8% (a statistically significant 4.4% increase). Model 3 incorporates interaction terms, raising the explanatory power to 38.0% (a statistically significant 0.2% increase). Model 3, with an R^2 of 0.380, an F value of 42.246 ($p < 0.05$), and a Durbin-Watson value of 1.897, is appropriate and shows no autocorrelation. Significant interaction terms include Behavioural Experience and Disabled Swimming Club Participants ($\beta = 0.041$, $p >$ 0.05), supporting Hypothesis 4-1, and Cognitive Experience and Disabled Swimming Club Participants ($\beta = 0.067$, $p >$ 0.05), supporting Hypothesis 4-2. However, the interaction term for Affective Experience and Disabled Swimming Club Participants is insignificant ($\beta = 0.051$, $p < 0.05$), rejecting Hypothesis 4-3.

Table 12

The Moderating Effects of Experience of Sports Participation and Athletic Performance in Disabled Swimming Club Participants

Variable	Model 1	Model 2	Model 3
(Constant)	0.001	0.001	0.005
Cognitive Experience (F)	0.213	.243*	0.162
Behavioural Experience (G)	0.119	.138**	0.061
Affective Experience (H)	0.316	.316**	0.236
Club Participants (I)		0.354	0.271
F x I			
G x I			
H x I			
Model Summary			
R^2 / Adjusted R^2	.333 / .329	.378 / .373	.380 / .371
$\triangle R^2$ (p)	-	.044 (.000)	.002 (.000)
F (p)	81.129 (.000)	73.726 (.000)	42.246 (.000)
Durbin-Watson		1.897	

Hypothesis 4: Disabled Swimming Club Participants will moderate the relationship between Experience of Sports Participation and Exercise Persistence.

4-4: Disabled Swimming Club Participants will moderate the relationship between Cognitive Experience and Exercise Habits.
4-5: Disabled Swimming Club Participants will moderate the relationship between Behavioural Experience and Exercise Habits.
4-6: Disabled Swimming Club Participants will moderate the relationship between Affective Experience and Exercise Habits.

A hierarchical regression analysis was performed to examine the potential moderating effect of disabled swim club participants on the relationship between safety management education and exercise habits.
The table below presents the results of a regression analysis with mean-centred independent variable moderators. The analysis includes independent variables and yields an explanatory value of 36%. Model 2 includes moderating variables, resulting in an increase in explained variance to 40%. This increase is statistically significant, with a 3.8% improvement. The inclusion of interaction terms in Model 3 significantly increases the proportion of explained variance to 40%, with differences of 4% and 0.1% that are statistically significant. The coefficient of determination (R^2) for Model 3 is 0.404, indicating a weak relationship. Additionally, the F value for Model 3 is 46. Improved glucose tolerance reached significance at $p < 0.601$, DW = 1. Considering that the model presented uses monthly data, the number of lagged observations, equal to 800, is reasonable, and there is no autocorrelation. Behavioural Experience and Disabled Swimming Club Membership is significant with a value of $\beta = 0.041$ and $p > 0.05$ supports Hypothesis 4-4. Similarly, Affective Experience and Disabled Swimming Club Membership is also significant with the value of $\beta = 0.051$ while $p > 0.05$ supports Hypothesis 4-6. However, the regression coefficient of the interaction term between Cognitive Experience and Disabled Swimming Club Membership is insignificant ($\beta = 0.067$, $p < 0.05$), thus disproving Hypothesis 4-5.

Hypothesis 4: Disabled Swimming Club Participants will moderate the relationship between Experience of Sports Participation and Exercise Persistence.

4-7: Disabled Swimming Club Participants will moderate the relationship between Behavioural Experience and Exercise Environment.
4-8: Disabled Swimming Club Participants will moderate the relationship between Cognitive Experience and Exercise Environment.
4-9: Disabled Swimming Club Participants will moderate the relationship between Affective Experience and Exercise Environment.

A hierarchical regression analysis was conducted to examine whether disabled swimming club participants moderated the relationship between safety management education and exercise environment.
Table 14 displays the results of the regression analysis conducted on the mean-centred independent and moderator variables. Model 1's independent variable explains a total of 35%, with an additional 6%. Model 2 incorporates moderating variables, resulting in an increase in explanatory

power to 38%, with a statistically significant 2.6% improvement. The inclusion of interaction terms in Model 3 results in a higher R-squared value of 39%, representing a statistically significant increase of 2% compared to the previous year's score. The Model 3 demonstrated the highest R^2 value of 0.392, indicating the best fit. Additionally, a F value of 44 was obtained. Among independent variables, the total number of employees had mean scores 540 ($p < 0$. Non-stationary can be diagnosed by testing for the presence of autocorrelation in the residuals of the model; by applying Durbin Watson's d-statistic with a value of 937, it can be concluded that there is no autocorrelation. The interaction coefficient with Disabled Swimming Club Participants is Behavioral Experience ($\beta = 0.092$, $p > 0.05$) and Cognitive Experience ($\beta = 0.017$, $p > 0.05$) for Hypotheses 4-7 and Hypothesis 4-8 respectively. Nevertheless, the interaction term for Affective Experience is non-significant ($\beta = 0.091$, $p < 0.05$), thus denying Hypothesis 4-9.

Table 13

The Moderating Effects of Experience of Sports Participation and Exercise Habits in Disabled Swimming Club Participants

	Model1		Model2		Model3	
	B	β	B	β	B	β
(Constants)	.002		.001		.008	
Cognitive Experience(F)	.189	.208**	.140	.154*	.141	.155
Behavioral Experience(G)	.194	.217**	.138	.154**	.134	.150*
Affective Experience(H)	.312	.300**	.235	.226	.243	.234
Club Participants(I)			.342	.252*	.341	.252*
(F) x (I)					.019	.015*
(G) x (I)					.017	.013
(H) x (I)					.033	.024*
R^2 / Adjusted R^2	.364 / .360		.403 / .398		.404 / .394	
$\triangle R^2$(p)	-		.038(.000)		.001(.000)	
F(p)	92.971(.000)		81.870(.000)		46.601(.000)	
Durbin-Watson					1.800	

Dependent Variable: Athletic Performance

Table 14

The Moderating Effects of Experience of Sports Participation and Exercise Environment in Disabled Swimming Club Participants

	Model1		Model2		Model3	
	B	β	B	β	B	β
(Constants)	.005		.001		.008	
Cognitive Experience(F)	.010	.012**	.049	.057*	.047	.054*
Behavioral Experience(G)	.214	.252*	.170	.201*	.165	.195
Affective Experience(H)	.420	.427**	.359	.366*	.335	.341*
Club Participants(I)			.269	.209	.286	.223
(F) x (I)					.112	.092*
(G) x (I)					.021	.017*
(H) x (I)					.118	.091
R^2 / Adjusted R^2	.356 / .382		.382 / .377		.392 / .383	
$\triangle R^2$(p)	-		.026(.000)		.010(.000)	
F(p)	89.684(.000)		75.203(.000)		44.540(.000)	
Durbin-Watson					1.937	

Dependent variable: Athletic Performance

Discussion

The study's findings provide valuable insights into the impact of safety management education and sports participation on exercise adherence among disabled swimming club participants. The study's hierarchical regression analyses indicate that safety management education and sports participation experiences have a

positive influence on exercise adherence components, including athletic performance, exercise habits, and exercise environment. Safety management education has a significant impact on exercise adherence. The regression analyses indicated that different aspects of safety management education, such as education experience, education form, education content, appropriateness of education, and understanding of education, have a positive impact on athletic performance, exercise habits, and exercise environment. This statement aligns with the Health Belief Model, which posits that individuals' health choices are influenced by their perception of risks and potential benefits (Rosenstock, 1974). The conclusions drawn in this study are supported by previous research that links structured safety training to increased confidence and reduced anxiety levels. These factors are known to positively impact individuals' ongoing participation in physical activities (Ahn, Lee, & So, 2021; Yao, 2017).

The research supports the hypothesis that the experience of sports participation significantly affects exercise adherence. The study confirmed that participating in sports has an impact on athletic performance, exercise habits, and exercise environment through cognitive, behavioural, and affective stimuli. Hutzler, Oz and Barak (2013) found that positive sports experiences contribute to feelings of accomplishment and enjoyment, which are crucial for sustained participation in sports. This perspective is supported by the Theory of Planned Behaviour, which suggests that past experiences influence future intentions and behaviours. Participants of disabled swimming clubs contribute to safety management education and exercise adherence. The hierarchical regression analysis found that participants with disabilities had a significant impact on the interaction between safety management education and compliance with exercise. This impact was primarily related to factors such as experience, education form, and content. It is crucial to develop safe and educational approaches for enhancing exercise practices among disabled individuals due to the specific nature of their disability needs. The findings of this study are consistent with Bandura's Social Cognitive Theory, which posits that behaviour is influenced by both personal and environmental factors. Empirical research confirms that disability-specific interventions improve compliance and engagement (Crane et al., 2015). The study examines the relationship between sports participation experience and exercise endurance among participants of the Disabled Swimming Club.

The study results indicate that structured safety management education and positive sports participation experience are important factors for promoting regular exercise among individuals with disabilities. Structured safety management education equips participants with the knowledge and skills to effectively manage or prevent potential risks, resulting in a sense of safety and security. This aligns with Rosenstock's Health Belief Model, which suggests that individuals are more likely to engage in behaviours that promote their health when they feel confident in the potential preventive benefits. Moreover, factors such as enjoyment and perceived motivation are crucial for maintaining engagement in activities, such as sports. The results of these studies are consistent with the Theory of Planned Behaviour, which highlights the influence of positive past experiences on future behavioural intentions. Therefore, safety education and engaging sports environments are crucial for individuals with disabilities, as they face unique challenges.

Policy Implications

The results of this study highlight the crucial significance of incorporating customised safety management education and engagement strategies in sports programs for individuals with disabilities. Policy-making authorities, along with club and sports institution administrators, should prioritise the development of comprehensive safety management education programs specifically designed for participants with disabilities. This can greatly contribute to improving their exercise attendance, which is beneficial for their overall health and mental well-being. First and foremost, it is crucial to prioritise safety in and around sports clubs. This can be achieved by regularly conducting safety management training that focusses on both general safety techniques and techniques specific to accommodating individuals with disabilities. It is important to include a section on emergency preparedness, understanding the risks that athletes with disabilities may face, and implementing strategies to promote inclusive and welcoming environments for sporting events. This approach ensures that subjects and their carers feel more secure, leading to increased participation in the clubs. Additionally, it is crucial to implement legislation that ensures equal access to sports facilities for all individuals. This involves ensuring that the equipment used is appropriate for disabled users, modifying the physical environment of the activity to accommodate individuals with various disabilities, and ensuring that the staff can cater to the needs of disabled participants. Implementing regular check and follow-up mechanisms, such as accessibility audits, is crucial for maintaining high standards of accessibility and safety. Furthermore, it is important to focus on fostering positive and enjoyable sporting experiences. Implementing engaging activities with gradually increasing difficulty tailored to the unique needs

of disabled individuals can enhance their willingness to participate. This approach is built upon prior research that demonstrates the positive impact of exercise on cognition and behaviour, specifically in relation to adherence.

Conclusion and Recommendations

This research further demonstrates that the specialised education on social media and the inclusion of disabled individuals in sports activities have a positive impact on the adherence to exercise among participants in a swimming club. The findings indicated that the factors of safety management education experience, form, and content had a notable impact on athletic performance, exercise habits, and the exercise environment. In addition, the results of participating in sports, especially the cognitive and behavioural aspects, play a crucial role in improving and sustaining a positive sporting experience. In addition, the importance of safety education interventions that cater to the specific needs of disabled participants is highlighted by their moderating effect on participation. This finding aligns with the principles of the Health Belief Model and the Social Cognitive Theory, as both theories emphasise the importance of perceiving safety and positive benefits in promoting healthy behaviours. In summary, it is important to promote the implementation of policies that focus on the development and supervision of sports facilities to cater to the needs of individuals with disabilities. Therefore, it is crucial for sports clubs and institutions to prioritise the inclusion of individuals with disabilities in exercise programs and provide them with thorough safety education. These efforts can greatly contribute to fostering a consistent exercise routine and enhancing overall health. In conclusion, these findings can be a valuable resource for societies, governments, and organisations aiming to improve sports participation and promote healthy lifestyles for individuals with disabilities in the future.

Limitations and Future Research

Although this study has made some important findings, it is important to take into account the following limitations. Firstly, the data collected primarily relied on the carers' perspectives rather than directly incorporating the experiences and opinions of the disabled participants. This approach may introduce some bias and potential inaccuracies. In addition, the study focused solely on one swimming club, limiting the ability to apply the findings to other disabled athletes in different clubs and sports disciplines across various regions. The sample size, although adequate, may also present the same issue of generalisability as the findings obtained. Furthermore, it is necessary to revise the cross-sectional survey design in order to assess the lasting effects of safety management education on behaviour, as well as the impact of respondents' sports participation experiences on exercise maintenance. Additional research using longitudinal designs is necessary to explore the long-term impacts of these interventions. Additionally, the control features were missing, which would have accurately depicted the various socio-economic statuses, types and levels of disability, and the presence of a supportive environment and resources for the intended audience.

For future studies, it is important to address the limitations mentioned by using longitudinal study designs that involve multiple sports clubs and individuals with a wide range of disabilities. In addition, it is crucial to incorporate a questionnaire in the subsequent research to directly collect data from disabled individuals. This will provide a more authentic perspective from the participants. Delving into the intricacies of safety education and sports experiences that impact adherence will provide a deeper understanding of how best to support disabled athletes. Therefore, by addressing these limitations, future research has the potential to build upon this study and enhance sports programs for individuals with disabilities.

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