TYPE Original Research
PUBLISHED May 27, 2025
DOI 10.53905/ChildDev.v1i02.10

INSPIRETECH GLOBAL INSIGHT | Journal of Foundational Learning and Child Development

OPEN ACCESS

EDITED BY
Rendy Abrasy, M.Pd
Universitas Pahlawan Tuanku Tambusai, Indonesia.

*CORRESPONDENCE
✉Dewi Maya Sary
dewi261270@gmail.com

RECEIVED: April 12, 2025
ACCEPTED: May 27, 2025
PUBLISHED: May 27, 2025

CITATION
Sary, D. M., Sirait, R. P., Bangun, A. K., Anugrah, T., Angga, S. A., Lumbantobing, R. S. E., & Afarin, F. (2024). Motivation Analysis of Students of IT Unggul Ad Durrah in Participating in Elementary School Swimming Lessons. *Journal of Foundational Learning and Child Development*, 1(02).
https://doi.org/10.53905/ChildDev.v1i02.10

Motivation Analysis of Students of IT Unggul Ad Durrah in Participating in Elementary School Swimming Lessons

Dewi Maya Sary[1]*, Rizky Purnama Sirait[2], Arti Kurniaty Bangun[3], Tama Anugrah[4], Syifa Ainun Angga[4], Radja Sihombing Esrauli Lumbantobing[4], Fadya Afarin[4]

[1]Sekolah Tinggi Olahraga dan Kesehatan Bina Guna, Indonesia.

ABSTRACT

Purpose of the study: Student motivation in physical education activities, particularly swimming, plays a crucial role in academic achievement and physical development. Understanding motivational factors helps educators design more effective instructional strategies. This study aimed to analyze the motivational factors influencing elementary school students' participation in swimming lessons at IT Unggul Ad Durrah Medan, Indonesia, and to identify key predictors of student engagement in aquatic activities.

Materials and methods: A cross-sectional quantitative study was conducted with 156 elementary students (ages 7-12) from IT Unggul Ad Durrah. Data collection utilized the Sport Motivation Scale-28 (SMS-28) adapted for swimming contexts, demographic questionnaires, and participation records. Statistical analyses were performed using SPSS v27, including descriptive statistics, correlation analysis, and multiple regression.

Results: Results revealed that intrinsic motivation (M = 4.23, SD = 0.87) was the strongest predictor of swimming participation, followed by identified regulation (M = 3.89, SD = 0.92). Significant gender differences were observed ($p < 0.05$), with female students showing higher levels of intrinsic motivation. Age was negatively correlated with external regulation ($r = -0.34$, $p < 0.01$).

Conclusions: Intrinsic motivation significantly influences elementary students' participation in swimming lessons. Educational interventions should focus on fostering autonomous motivation while considering gender and age-related differences in motivational profiles.

Keywords
motivation, elementary education, swimming instruction, physical education, self-determination theory, aquatic sports.

INTRODUCTION

Physical education plays a fundamental role in holistic child development, contributing significantly to physical fitness, motor skill acquisition, and psychosocial well-being (Bailey et al., 2008). Beyond fostering basic physical prowess, structured engagement in physical activities supports cognitive development by enhancing blood circulation to the brain, which in turn improves concentration, memory, and problem-solving skills (Castelli, 2022). Furthermore, it promotes emotional regulation and the development of crucial social skills such as teamwork, cooperation, and fair play through collaborative and competitive environments (Madueño et al., 2024). Among the diverse array of physical activities, swimming uniquely stands out as a comprehensive exercise that offers a multitude of health benefits across physical and mental domains (Wang et al., 2025). It effectively develops cardiovascular endurance, muscular strength, and coordination while also improving flexibility and balance. Its inherently low-impact nature makes it particularly suitable and accessible for individuals of all ages and fitness levels, including those with pre-existing physical limitations or injuries (Bai et al., 2023; Barbosa et al., 2009). Moreover, swimming is known for its therapeutic benefits, aiding in rehabilitation and stress reduction, thereby making it a highly recommended activity for lifelong health and well-being. In Indonesian educational contexts, where public health and physical literacy are increasingly prioritized, swimming instruction has gained significant recognition as an essential component of physical education curricula, particularly in urban schools equipped with adequate facilities to support such programs (Bryan & Sims, 2020; Porto et al., 2023). This growing emphasis reflects a broader societal understanding of the critical life skills and health advantages conferred by swimming proficiency.

IT Unggul Ad Durrah, situated in Medan, North Sumatra, serves as a prime example of a progressive educational institution that has thoughtfully integrated comprehensive swimming lessons into its elementary curriculum. This strategic integration is not merely an optional offering but represents a core pillar of its pedagogical approach, aimed at fostering well-rounded student development that encompasses academic, physical, and social aspects (Rachmawati, 2024; Wolfrom et al., 2023). The school's steadfast commitment to comprehensive physical education reflects a growing national awareness of the profound importance of aquatic skills in Indonesia. As an archipelagic nation characterized by its vast coastlines, numerous rivers, lakes, and surrounding seas, water safety and swimming competency are not just recreational endeavors but crucial life skills that directly impact personal safety, public health, and even economic livelihoods (Beerman et al., 2016; Duijn et al., 2022). This focus is particularly vital given

the frequent interaction individuals have with water bodies and the potential risks involved without proper training and awareness. Moreover, by offering structured swimming education at an early age, IT Unggul Ad Durrah endeavors to instill confidence, promote discipline, foster resilience, and encourage a healthy, active lifestyle among its young learners, thereby preparing them for a future where aquatic environments are an inherent and significant part of their cultural and geographical landscape.

Motivation research in physical education has extensively utilized Self-Determination Theory, a macro-theory of human motivation and personality development, to understand d the psychological underpinnings of engagement in physical activities (Deci & Ryan, 2000). According to SDT, motivation is not a monolithic construct but rather exists on a continuum, ranging from amotivation (a state of lacking any intention or desire to act) to various forms of extrinsic motivation (where engagement is driven by external rewards, pressures, or obligations) and, finally, to intrinsic motivation (engaging in an activity purely for its inherent satisfaction, enjoyment, and personal interest) (Gagnon et al., 2018). Within this continuum, more autonomous forms of motivation, such as identified regulation (valuing the activity's outcomes for personal goals) and intrinsic motivation, are consistently associated with more positive outcomes. Studies in physical education and sport have consistently shown that when individuals perceive their participation as self-determined and aligned with their personal values, these more autonomous forms of motivation lead to greater engagement, sustained persistence, higher levels of effort, and enhanced psychological well-being in physical activities (Ntoumanis & Standage, 2009). This framework highlights the importance of supporting individuals' basic psychological needs for autonomy (feeling in control), competence (feeling effective), and relatedness (feeling connected to others) to foster optimal motivation.

Research specifically examining swimming motivation in educational settings has yielded valuable insights into factors influencing student participation and development. For instance, studies have indicated a strong link between intrinsic motivation and positive learning outcomes (Howard et al., 2021; Cox & Williams, 2008), in their examination of swimming participation, found that students' intrinsic motivation for swimming was positively associated with both the development of technical skills and a greater likelihood of continued participation in aquatic activities beyond formal lessons. This suggests that fostering genuine enjoyment and personal interest in swimming is crucial for long-term engagement and skill acquisition. Similarly, further research, such as that by (Martin & Kulinna, 2004), emphasized the role of instructional approaches, demonstrating that autonomy-supportive teaching behaviors significantly predicted students' motivation in aquatic environments. Teachers who provide choices, offer rationales for tasks, and acknowledge students' feelings can cultivate a sense of ownership and personal relevance, thereby enhancing the quality of motivation in swimming lessons.

Gender differences in swimming motivation have been documented across multiple studies, revealing complex and nuanced patterns. Research often indicates that while female students may report higher levels of intrinsic motivation for physical activity generally, they may also experience greater anxiety specifically related to body image and performance evaluation within swimming contexts (Howells & Grogan, 2012; Lawler et al., 2017). This anxiety can stem from various sources, including societal pressures regarding physical appearance, self-consciousness in swimwear, or perceived scrutiny from peers and instructors. Such psychological factors can potentially undermine their enjoyment, confidence, and willingness to fully engage in the activity, despite an underlying interest (Bevan et al., 2022; Bocksnick et al., 2002). These findings underscore the need for instructors to create inclusive and supportive environments that actively address these unique psychological challenges, promoting self-acceptance, body positivity, and a focus on personal improvement rather than comparative performance or aesthetic concerns.

Age-related changes in motivation profiles also suggest a dynamic evolution of students' engagement with physical activities like swimming. Younger children typically exhibit higher levels of intrinsic motivation, often driven by the novelty of the activity, the pure joy of movement, and simple curiosity (Chan et al., 2023; Wigfield & Eccles, 2000). Their participation is frequently playful, spontaneous, and less constrained by external pressures or self-consciousness. However, this high intrinsic motivation may experience a notable decline during middle childhood as children mature. This decline can be attributed to several factors, including an increased focus on social comparison with peers, heightened performance pressure from instructors or parents, and a growing self-consciousness regarding their physical abilities and appearance (Demo, 1992; Walton et al., 2024). As children become more aware of their performance relative to others, and as the activities become more structured and evaluative, their initial unadulterated enjoyment can diminish, potentially leading to a shift towards more extrinsic forms of motivation or even amotivation if their basic psychological needs are not adequately met (Deci et al., 2017; Wigfield & Eccles, 2000).

Beyond individual and developmental factors, cultural influences significantly shape motivation in physical education. In the Indonesian context, for example, cultural values emphasizing collective achievement, harmony, and respect for authority may create unique motivational dynamics compared to Western educational contexts, which often prioritize individual accomplishment and autonomy (Efendy et al., 2023; Shen et al., 2022). For instance, students might be more strongly motivated by the desire to contribute positively to a group activity, to uphold family honor, or to demonstrate respect for their teacher's instructions, rather than purely by individual gain or inherent personal enjoyment. This collectivist orientation could mean that peer support, group cohesion, and the perceived value of an activity for the community or family play a more prominent role in sustaining motivation (Salili, 1996). Understanding these cultural nuances is essential for designing swimming programs that resonate with students' cultural backgrounds and effectively foster their engagement and learning. The specific emphasis on water safety as a crucial life skill in an archipelagic nation like Indonesia further imbues swimming with a cultural and practical significance that can serve as a powerful motivational force, linking individual learning to broader societal well-being and safety (Cenderadewi et al., 2025; Hein et al., 2019).

Despite extensive research on motivation in physical education, several gaps remain in the literature. First, limited studies have examined swimming motivation specifically within Indonesian elementary educational contexts. Second, there is insufficient research on how cultural factors specific to Indonesian society influence student motivation in aquatic activities. Third, most existing studies have focused on secondary or higher education students, with elementary-aged children receiving less attention.

Additionally, the interaction between facility quality, instructional methods, and student motivation in swimming programs requires further investigation. The unique characteristics of private Islamic schools in Indonesia, such as IT Unggul Ad Durrah, may present distinct motivational patterns that have not been thoroughly explored.

Understanding student motivation in swimming lessons is crucial for several reasons. First, motivated students are more likely to develop essential water safety skills and maintain physically active lifestyles. Second, swimming instruction can serve as a vehicle for developing self-confidence, goal-setting abilities, and perseverance. Third, insights into motivational factors can inform evidence-based instructional practices that maximize student engagement and learning outcomes.

The Indonesian context presents unique challenges and opportunities for swimming education. As a developing nation with significant coastal populations, cultivating swimming competency and water safety awareness through educational programs is essential. However, cultural, economic, and infrastructural factors may influence how students respond to swimming instruction.

The primary objectives of this study were to assess the motivational profiles of elementary students participating in swimming lessons at IT Unggul Ad Durrah, examine the relationships between demographic factors and motivation levels, identify key predictors of student participation and engagement in swimming activities, and provide evidence-based recommendations for enhancing student motivation in swimming instruction.

MATERIALS AND METHODS

Study Participants

The participants in this study were 156 students enrolled at IT Unggul Ad Durrah Medan, a private Islamic elementary school located in Medan, North Sumatra, Indonesia. All students who took part in the school's swimming program during the 2024 academic year were included as the study population. Students were eligible to participate if they were between 7 and 12 years old, actively involved in the school's swimming lessons, had obtained parental consent and provided assent, and had attended a minimum of four weeks of swimming instruction. Students were excluded if they had medical conditions that prevented participation in swimming activities, demonstrated irregular attendance of less than 75% of sessions, or submitted incomplete survey responses. The final sample consisted of an equal number of male and female students (78 each), with an age range of 7–12 years (M = 9.4, SD = 1.6), and representation across grades 1 to 6. Additionally, 34% of participants had prior formal swimming experience, while the remaining 66% had no previous training.

Study Organization

This cross-sectional quantitative study was carried out over a 12-week period during the second semester of the 2024 academic year. The research protocol received approval from both the institutional review board and the school administration. All data collection activities were scheduled during regular swimming lesson sessions to ensure minimal disruption to the existing educational program. The study followed a structured timeline, beginning with participant recruitment and consent procedures during Weeks 1–2, followed by baseline data collection in Weeks 3–4. Monitoring of student participation was conducted continuously from Weeks 5–10, and the final phase of data collection and analysis took place during Weeks 11–12. All ethical procedures adhered to international standards for research involving minors, including obtaining written informed consent from parents or guardians and verbal assent from all participating students. Throughout the study, confidentiality and anonymity were strictly upheld.

Test and Measurement Procedures

The SMS-28 (Pelletier et al., 1995), adapted for swimming contexts, served as the primary measurement instrument. This validated questionnaire assesses seven motivational constructs based on Self-Determination Theory. Table A presents the complete item structure of the adapted SMS-28 for swimming contexts.

Table 1. SMS-28 Items Adapted for Swimming Context

Motivational Construct	Item	Statement
Intrinsic Motivation - Knowledge	1	I participate in swimming lessons for the pleasure of discovering new swimming techniques
	2	I participate in swimming lessons for the pleasure of learning new stroke movements
	3	I participate in swimming lessons because I enjoy learning about different swimming styles
	4	I participate in swimming lessons for the satisfaction of learning more about water safety
Intrinsic Motivation - Accomplishment	5	I participate in swimming lessons for the pleasure of mastering difficult swimming skills
	6	I participate in swimming lessons because I feel satisfied when I improve my swimming abilities
	7	I participate in swimming lessons for the pleasure of achieving personal swimming goals
	8	I participate in swimming lessons because I enjoy the feeling of accomplishing challenging tasks in water
Intrinsic Motivation - Stimulation	9	I participate in swimming lessons because I find it exciting to swim
	10	I participate in swimming lessons because I enjoy the feeling of being in water
	11	I participate in swimming lessons because swimming gives me fun and enjoyable sensations
	12	I participate in swimming lessons because I find swimming activities thrilling
Identified Regulation	13	I participate in swimming lessons because it is important for my physical fitness
	14	I participate in swimming lessons because it helps me stay healthy
	15	I participate in swimming lessons because swimming skills are valuable to have
	16	I participate in swimming lessons because it contributes to my personal development
Introjected Regulation	17	I participate in swimming lessons because I would feel guilty if I didn't
	18	I participate in swimming lessons because I would be disappointed in myself if I didn't
	19	I participate in swimming lessons because I feel pressure to be good at swimming
	20	I participate in swimming lessons because I feel ashamed when I'm not good at it
External Regulation	21	I participate in swimming lessons because others expect me to
	22	I participate in swimming lessons because my parents/teachers want me to
	23	I participate in swimming lessons to receive praise from others
	24	I participate in swimming lessons because I'm supposed to do it
Amotivation	25	I participate in swimming lessons but I don't know why
	26	I participate in swimming lessons but I question why I continue
	27	I participate in swimming lessons but I don't see the point
	28	I participate in swimming lessons but I'm not sure it's worth it

Adaptations to the instrument were made to ensure relevance to the swimming context, with original sport-related items modified to reflect swimming-specific activities. For instance, the item "I participate in sports for the pleasure of discovering new training techniques" was adapted to "I participate in swimming lessons for the pleasure of learning new swimming techniques." Students responded to all items using a 7-point Likert scale ranging from 1 ("Does not correspond at all") to 7 ("Corresponds exactly"). In addition to the primary instrument, several supplementary measures were utilized. A demographic questionnaire gathered information on age, gender, grade level, previous swimming experience, and family background. Participation records, including official attendance logs and instructor evaluations, were used to assess student engagement during swimming lessons. A swimming competency assessment was also administered to evaluate basic swimming skills, stroke technique, endurance, and water safety knowledge using standardized criteria. Data collection was conducted in small groups of 8–10 students within a quiet classroom environment. Trained research assistants administered the questionnaires, providing verbal explanations in Bahasa Indonesia to ensure comprehension. Students who required help were assisted individually while maintaining the independence of their responses.

Statistical Analysis

Comprehensive quantitative analyses were conducted using SPSS version 27.0 to examine relationships between demographic variables, motivational constructs, and swimming participation outcomes. The analytical approach began with descriptive statistics to characterize the sample and assess data quality, including measures of central tendency and dispersion for all continuous variables, frequency distributions for categorical variables, and assessment of data normality using Shapiro-Wilk tests. Internal consistency of the SMS-28 subscales was evaluated through Cronbach's alpha coefficients and item-total correlations to ensure measurement reliability. The primary inferential analyses included independent samples t-tests to examine gender differences in motivation scores, one-way analysis of variance (ANOVA) to investigate age group differences with post-hoc comparisons using Tukey's HSD test, and Pearson correlation analysis to explore relationships between motivational variables, demographic characteristics, and participation outcomes. Multiple regression analysis was employed to identify significant predictors of swimming participation, with assumptions of linearity, independence, homoscedasticity, and normality verified through residual analysis. Effect sizes were calculated using Cohen's conventions to determine practical significance of observed differences. Missing data management followed a systematic approach where cases with more than 20% missing responses were excluded from analysis, while remaining missing values were handled using listwise deletion for primary analyses and multiple imputation for sensitivity analyses. Statistical significance was set at $\alpha = 0.05$ for all tests, with Bonferroni corrections applied to control for Type I error inflation when conducting multiple comparisons across motivational subscales.

RESULTS

Participant Characteristics and Descriptive Statistics

The final sample consisted of 156 elementary students from IT Unggul Ad Durrah Medan. Table 2 presents the comprehensive demographic profile of participants.

Table 2. Participant Demographic Characteristics (N = 156)

Characteristic	n	%	M	SD
Age			9.4	1.6
7-8 years	38	24.4		
9-10 years	64	41.0		
11-12 years	54	34.6		
Gender				
Male	78	50.0		
Female	78	50.0		
Grade Level				
Grade 1-2	42	26.9		
Grade 3-4	68	43.6		
Grade 5-6	46	29.5		
Previous Swimming Experience				
Yes	53	34.0		
No	103	66.0		

Motivational Profile Analysis

The SMS-28 demonstrated good internal consistency across all subscales (Cronbach's α range: 0.74-0.89). Table 2 displays the descriptive statistics for each motivational construct.

Table 3. Descriptive Statistics for Motivation Subscales (N = 156)

Motivation Type	M	SD	Min	Max	Cronbach's α
Intrinsic Motivation - Knowledge	4.23	0.87	2.25	6.50	0.84
Intrinsic Motivation - Accomplishment	4.31	0.92	1.75	6.75	0.87
Intrinsic Motivation - Stimulation	4.08	0.96	1.50	6.25	0.82
Identified Regulation	3.89	0.92	1.25	6.00	0.79
Introjected Regulation	3.24	1.15	1.00	6.50	0.81
External Regulation	2.67	1.08	1.00	5.75	0.74
Amotivation	2.12	0.94	1.00	4.75	0.86

Results indicated that students displayed highest levels of intrinsic motivation, particularly for accomplishment (M = 4.31, SD = 0.92) and knowledge acquisition (M = 4.23, SD = 0.87). Amotivation scores were relatively low (M = 2.12, SD = 0.94), suggesting generally positive engagement with swimming activities.

Gender Differences in Motivation

Independent samples t-tests revealed significant gender differences across several motivational constructs (Table 4).

Table 4. Gender Differences in Motivation Scores

Motivation Type	Male (n=78)	Female (n=78)	t	p	Cohen's d
	M (SD)	M (SD)			
Intrinsic Motivation - Knowledge	3.98 (0.89)	4.48 (0.79)	-3.68	<0.001	0.59
Intrinsic Motivation - Accomplishment	4.15 (0.95)	4.47 (0.87)	-2.18	0.031	0.35
Intrinsic Motivation - Stimulation	4.02 (1.01)	4.14 (0.91)	-0.78	0.437	0.12
Identified Regulation	3.79 (0.94)	3.99 (0.90)	-1.35	0.179	0.22
Introjected Regulation	3.41 (1.18)	3.07 (1.11)	1.85	0.066	0.30
External Regulation	2.89 (1.12)	2.45 (1.01)	2.56	0.011	0.41
Amotivation	2.23 (0.97)	2.01 (0.90)	1.47	0.144	0.24

Female students demonstrated significantly higher levels of intrinsic motivation for knowledge ($p < 0.001$, $d = 0.59$) and accomplishment ($p = 0.031$, $d = 0.35$), while male students showed higher external regulation ($p = 0.011$, $d = 0.41$).

Age-Related Motivation Patterns

One-way ANOVA revealed significant age group differences in several motivational constructs. Post-hoc analyses using Tukey's HSD identified specific group differences (Table 5).

Table 5. Age Group Differences in Motivation Scores

Motivation Type	7-8 years	9-10 years	11-12 years	F	p	η^2
	M (SD)	M (SD)	M (SD)			
Intrinsic Motivation - Knowledge	4.52 (0.78)^{a}	4.23 (0.82)^{ab}	3.96 (0.94)^{b}	5.43	0.005	0.066
External Regulation	2.31 (0.89)^{a}	2.67 (1.08)^{ab}	2.98 (1.14)^{b}	4.67	0.011	0.057
Amotivation	1.86 (0.81)^{a}	2.15 (0.93)^{ab}	2.31 (1.02)^{b}	3.21	0.043	0.040

Note: Different superscript letters indicate significant differences between groups ($p < 0.05$).

Younger students (7-8 years) showed significantly higher intrinsic motivation for knowledge compared to older students (11-12 years), while older students demonstrated higher external regulation and amotivation.

Correlation Analysis

Pearson correlation analysis revealed significant relationships between motivational constructs and participant characteristics (Table 6).

Table 6. Correlation Matrix for Key Variables

Variable	1	2	3	4	5	6	7	8	9
1. IM-Knowledge	-								
2. IM-Accomplishment	0.68**	-							
3. IM-Stimulation	0.61**	0.72**	-						
4. Identified Regulation	0.54**	0.59**	0.48**	-					
5. External Regulation	-0.23**	-0.19*	-0.31**	0.12	-				
6. Amotivation	-0.47**	-0.52**	-0.44**	-0.38**	0.41**	-			
7. Age	-0.25**	-0.18*	-0.14	-0.09	0.34**	0.22**	-		
8. Previous Experience	0.28**	0.31**	0.24**	0.19*	-0.15	-0.21**	0.16*	-	
9. Participation Rate	0.42**	0.45**	0.38**	0.33**	-0.27**	-0.39**	-0.18*	0.26**	-

Note: IM = Intrinsic Motivation; *p < 0.05, **p < 0.01

Strong positive correlations emerged between intrinsic motivation constructs ($r = 0.61$-0.72, all $p < 0.01$). Age was negatively correlated with intrinsic motivation and positively correlated with external regulation and amotivation. Previous swimming experience was positively associated with all autonomous motivation forms.

Predictors of Swimming Participation

Multiple regression analysis was conducted to identify significant predictors of swimming lesson participation rates. The final model explained 34.2% of the variance in participation ($R^2 = 0.342$, $F(5,150) = 15.64$, $p < 0.001$).

Table 7. Multiple Regression Analysis Predicting Swimming Participation

Predictor Variable	B	SE B	β	t	p
Constant	62.45	4.23		14.76	<0.001
Intrinsic Motivation - Accomplishment	3.78	0.89	0.32	4.25	<0.001
Amotivation	-2.94	0.67	-0.28	-4.39	<0.001
Previous Swimming Experience	4.12	1.45	0.19	2.84	0.005
Age	-1.23	0.48	-0.17	-2.56	0.011
External Regulation	-1.67	0.71	-0.15	-2.35	0.020

Intrinsic motivation for accomplishment emerged as the strongest positive predictor ($\beta = 0.32$, $p < 0.001$), while amotivation was the strongest negative predictor ($\beta = -0.28$, $p < 0.001$). Previous swimming experience, younger age, and lower external regulation also significantly predicted higher participation rates.

DISCUSSION

The findings of this study provide valuable insights into the motivational dynamics of elementary students participating in swimming lessons at IT Unggul Ad Durrah. The predominance of intrinsic motivation over extrinsic forms aligns with Self-Determination Theory predictions, suggesting that students are primarily driven by inherent satisfaction, curiosity, and a sense of accomplishment when engaging in aquatic activities (Deci & Ryan, 2000; Minkels et al., 2023). This indicates that their motivation stems from internal sources, such as the joy of learning, the challenge of mastering new skills, and the personal satisfaction derived from participation itself, rather than external pressures or rewards.

The strong predictive power of intrinsic motivation for accomplishment further indicates that students who participate in swimming for the satisfaction of mastering new skills and achieving personal goals demonstrate higher engagement and persistence. This aligns with the SDT tenet that the satisfaction of basic psychological needs—competence, autonomy, and relatedness—fosters autonomous motivation (Herrick et al., 2021). Specifically, the pursuit of personal mastery in swimming contributes significantly to feelings of competence and self-efficacy, driving sustained participation and effort. This finding has significant implications for instructional design, suggesting that swimming programs should emphasize skill progression, personal achievement, and mastery experiences. Such approaches focus on individual improvement and the internal rewards of learning, rather than competitive performance or reliance on external rewards, which can often undermine intrinsic motivation in the long run (Baykal, 2024; Nyuhuan, 2024). Programs designed around individualized learning objectives and opportunities for self-evaluation are likely to be more effective in fostering sustained engagement.

The negative relationship between amotivation and participation underscores the critical importance of addressing factors that lead to disengagement. Students who perceive swimming as pointless, boring, or beyond their capabilities are significantly more likely to avoid or minimally participate in lessons (Bartholomew et al., 2017; Larson et al., 2020). Amotivation, within the SDT framework, represents a lack of intentionality or desire to act, often stemming from a feeling of incompetence or a belief that effort will not lead to desired outcomes (Cheon & Reeve, 2014; Deci & Ryan, 2008). This highlights the need for careful attention to program design, ensuring that activities are appropriately challenging yet achievable, thereby nurturing a sense of competence. Furthermore, individual student needs must be recognized and accommodated, with early intervention strategies in place for students showing signs of disengagement, such as offering personalized support, adjusting teaching methods, or providing opportunities for choice and autonomy to re-ignite their interest and sense of control.

The gender differences observed in this study partially align with previous research while revealing some unique patterns. While some studies in general physical activity contexts have found varying motivational profiles between genders, the specific manifestation here presents interesting nuances (Kokkonen et al., 2018; Magnussen et al., 2017). This discrepancy may reflect cultural factors specific to Indonesian Islamic educational contexts. In this setting, traditional gender role expectations and broader societal pressures regarding appropriate activities and behaviors for boys and girls can significantly influence how male and female students approach physical activities, including swimming (Wilkinson et al., 2024). For instance, differing social expectations regarding physical prowess or modesty might shape initial interest and sustained engagement. The observed higher external regulation among males in this study might indicate a greater susceptibility to external motivators such as peer pressure to excel or conform, parental expectations regarding competitive achievement or adherence to certain physical standards, or even considerations of social status within their peer group related to swimming participation (Aliya et al., 2025). This suggests that for male students, motivation may be more heavily influenced by observable outcomes, recognition, or perceived social rewards rather than purely internal satisfaction.

The age-related decline in intrinsic motivation, particularly for knowledge, confirms patterns identified by Wigfield and Eccles in broader educational contexts, which often show a decrease in curiosity-driven learning as children advance through school years (Howard et al., 2020). The significant decrease in intrinsic motivation for knowledge from younger to older elementary students suggests that this period is critical for motivational development (Lepper et al., 2005). This decline can be attributed to several developmental changes: children's cognitive processing becomes more sophisticated, leading to increased self-awareness and sometimes a more critical evaluation of their own abilities. Simultaneously, social comparison tendencies heighten, where students begin to compare their performance more acutely with peers, which can undermine intrinsic enjoyment if perceived competence is low (Sheffler & Cheung, 2023). Furthermore, evolving self-evaluation processes mean that older elementary students may become more focused on outcomes and less on the pure process of learning, shifting their motivational drivers (Corpus et al., 2009).

However, the magnitude of this decline observed in our study may have been influenced and potentially mitigated by specific programmatic factors inherent in IT Unggul Ad Durrah's swimming curriculum. The structured progression of skills, for instance, provides clear benchmarks for achievement and fosters a sense of competence, which is a key component of intrinsic motivation. Moreover, the emphasis on Islamic values such as perseverance (sabar) and continuous self-improvement (ihsan) can provide a deeper, culturally resonant framework for motivation, encouraging students to view challenges as opportunities for spiritual and personal growth (Aprilianti, 2024; Imron et al., 2023) Additionally, a supportive peer environment, where collaboration and mutual encouragement are fostered, can counteract negative social comparison and enhance relatedness, another fundamental psychological need that underpins intrinsic motivation. These integrated approaches likely contribute to sustaining student engagement and intrinsic drive more effectively than programs lacking such holistic considerations.

The implications of these findings extend beyond the immediate context of IT Unggul Ad Durrah to inform broader understanding of elementary swimming education in Indonesian and similar cultural contexts.

The dominance of intrinsic motivation suggests that swimming programs should prioritize autonomy-supportive teaching practices. Instructors should focus on providing choices, encouraging self-evaluation, and celebrating personal progress rather than emphasizing standardized performance criteria or social comparison. The creation of individualized learning paths that allow students to progress at their own pace while experiencing success and competence is crucial. Such pedagogical approaches, grounded in Self-Determination Theory, are empirically linked to enhanced intrinsic motivation, fostering sustained engagement and psychological well-being in learners (Minkels et al., 2023).

The gender differences identified necessitate consideration of differentiated approaches within co-educational swimming programs. Female students' higher intrinsic motivation might be maintained through continued emphasis on skill development and personal achievement. Male students' susceptibility to external regulation suggests potential benefits from peer mentoring programs, collaborative learning structures, and careful management of competitive elements. This differentiated approach can help leverage intrinsic drives while strategically channeling extrinsic motivators to support overall engagement and skill acquisition (Shah & Alasa, 2023).

The age-related motivational changes indicate that swimming programs should be introduced early in elementary education while intrinsic motivation is naturally high. Additionally, special attention should be paid to maintaining motivation during the transition periods (grades 3-4) when motivational shifts typically begin occurring. For older students, instructional strategies should incorporate elements that foster perceived competence and autonomy, such as goal setting and self-assessment, to counteract the general decline in intrinsic motivation for knowledge (Ha et al., 2022).

The unique context of Islamic education provides opportunities for connecting swimming instruction with broader character development and spiritual growth. The Islamic emphasis on physical fitness as a religious responsibility, the importance of overcoming challenges with patience and perseverance, and the value of helping others learn can be integrated into swimming instruction to enhance intrinsic motivation. This integration may involve framing swimming as an act of worship or a means to develop resilience, thereby aligning physical activity with students' core values and fostering deeper engagement (Minkels et al., 2023) (Manzano-Sánchez, 2023).

The study focused exclusively on students from a single private Islamic elementary school in Medan, which may limit generalizability to public schools, secular institutions, or different geographical regions within Indonesia. The relatively affluent student population with access to swimming facilities may not represent typical Indonesian elementary students.

The cross-sectional nature of the study prevents causal inferences about the relationships between variables. Longitudinal research would be necessary to establish whether high intrinsic motivation leads to sustained participation or whether positive swimming experiences enhance intrinsic motivation over time.

While the Islamic educational context provides unique insights, it also creates specific cultural dynamics that may not apply to other educational settings. The emphasis on modest dress codes, gender interactions, and religious values may influence motivation in ways not captured by standard measurement instruments.

Despite adaptation for swimming contexts, the SMS-28 was originally developed for Western populations and may not fully capture motivational constructs relevant to Indonesian students. Cultural concepts such as "gotong royong" (mutual cooperation) and "hormat" (respect) might influence motivation in ways not assessed by traditional self-determination measures.

Reliance on self-report measures introduces potential bias, particularly with younger students who may have difficulty accurately reflecting on their motivational states or may provide socially desirable responses.

The study did not systematically control for instructor characteristics, teaching styles, or student-teacher relationships, which likely influence student motivation significantly.

CONCLUSION

This comprehensive investigation into student motivation for swimming participation at IT Unggul Ad Durrah has yielded several important insights that contribute to both theoretical understanding and practical application in elementary physical education.

The study clearly demonstrates that intrinsic motivation, particularly the drive for accomplishment and skill mastery, serves as the primary catalyst for sustained engagement in swimming lessons among elementary students. Students who participate in swimming for the inherent satisfaction of learning new techniques, overcoming challenges, and experiencing personal achievement show significantly higher participation rates and demonstrate greater resilience in the face of difficulties. This finding reinforces the fundamental tenets of Self-Determination Theory while providing specific evidence for its application in Indonesian elementary swimming education.

The identification of significant gender differences in motivational profiles offers important guidance for instructional practice. Female students' higher levels of intrinsic motivation for knowledge acquisition and accomplishment suggest that programs emphasizing exploration, discovery, and personal mastery may be particularly effective for girls. Conversely, male students' greater susceptibility to external regulation indicates the need for careful management of competitive elements, peer pressure, and external rewards to prevent the undermining of intrinsic motivation.

The age-related decline in autonomous motivation from early to late elementary years highlights the critical importance of early intervention and developmentally appropriate programming. The finding that 7-8 year old students demonstrate significantly higher intrinsic motivation compared to 11-12 year old students suggests that swimming programs should be introduced as early as possible while natural curiosity and enthusiasm remain high. Additionally, special attention must be paid to maintaining motivation during the middle elementary years when motivational shifts typically occur.

The protective effect of previous swimming experience on motivation underscores the long-term benefits of early positive exposure to aquatic activities. Students who enter formal swimming instruction with prior experience demonstrate higher levels of autonomous motivation and greater participation, suggesting that informal family or community swimming experiences create a foundation for sustained engagement in formal programs.

From a practical standpoint, these findings emphasize several key principles for effective swimming instruction. Programs should prioritize autonomy-supportive teaching practices that provide students with choices, encourage self-evaluation, and celebrate personal progress. Instructional activities should focus on skill development, problem-solving, and mastery experiences rather than standardized performance expectations or social comparison. The integration of cultural values and spiritual principles relevant to Islamic education can enhance the meaningful connection students feel with swimming activities.

The study also highlights the importance of considering individual differences in program design and implementation. Recognition that students arrive with different motivational profiles, previous experiences, and developmental needs necessitates flexible, individualized approaches that can accommodate diverse learning styles and preferences while maintaining high expectations for all participants.

ACKNOWLEDGEMENTS

The authors extend sincere gratitude to the administration, faculty, and students of IT Unggul Ad Durrah Medan for their enthusiastic participation and support throughout this research project. Special appreciation is given to the swimming instructors who facilitated data collection and provided valuable insights into student experiences. We acknowledge the parents and guardians who provided consent and encouraged their children's participation in this study. We thank the research assistants who contributed to data collection and analysis, and the statistical consulting team who provided guidance on analytical procedures. Recognition is also extended to the peer reviewers whose constructive feedback enhanced the quality of this manuscript.

CONFLICT OF INTEREST

The authors declare no competing financial, professional, or personal interests that could influence the objectivity of this research or the interpretation of results. No external funding sources posed restrictions on study design, data collection, analysis, or publication decisions. All authors have approved the final version of this manuscript and agree to be accountable for all aspects of the work.

REFERENCES

Aliya, R. N., Nurjaya, D. R., Kardjono, K., Komarudin, K., & Novian, G. (2025). Social interaction of coaches and parents increases the motivation of adolescent swimming athletes. *Jurnal Ilmu Keolahragaan*, *8*(1), 9. https://doi.org/10.26418/jilo.v8i1.92383

Aprilianti, E. (2024). Integrating Islamic Psychological Principles in Enhancing Students' Academic Resilience. *Nusantara Journal of Behavioral and Social Sciences*, *3*(2), 63. https://doi.org/10.47679/202246

Bai, X., Xiao, W., Soh, K. G., Agudamu, A., & Zhang, Y. (2023). 12-week concurrent brisk walking and Taijiquan (Tai Chi) improve balance, flexibility, and muscular strength of Chinese older women. *PLoS ONE*, *18*(10). https://doi.org/10.1371/journal.pone.0293483

Bailey, R., Armour, K., Kirk, D., Jess, M., Pickup, I., Sandford, R., & P, B. P. E. and S. (2008). The educational benefits claimed for physical education and school sport: an academic review. *Research Papers in Education*, *24*(1), 1. https://doi.org/10.1080/02671520701809817

Barbosa, T. M., Bragada, J. A., Reis, V. M., Marinho, D. A., Carvalho, C., & Silva, A. (2009). Energetics and biomechanics as determining factors of swimming performance: Updating the state of the art. *Journal of Science and Medicine in Sport*, *13*(2), 262. https://doi.org/10.1016/j.jsams.2009.01.003

Bartholomew, K. J., Ntoumanis, N., Mouratidis, A., Katartzi, E., Thøgersen-Ntoumani, C., & Vlachopoulos, S. P. (2017). Beware of your teaching style: A school-year long investigation of controlling teaching and student motivational experiences. *Learning and Instruction*, *53*, 50. https://doi.org/10.1016/j.learninstruc.2017.07.006

Baykal, G. E. (2024). Cultivating Intrinsic Motivation in Children: Setting Goals for Interaction Design. *Interactions*, *31*(5), 38. https://doi.org/10.1145/3688869

Beerman, S., Linnan, M., Rahman, A., Rahman, F., & Scarr, J. (2016). *822 Swimsafe – child survival swimming skills – risks management*. https://doi.org/10.1136/injuryprev-2016-042156.822

Bevan, N., O'Brien, K., Latner, J. D., Lin, C., Vandenberg, B., Jeanes, R., & Fung, X. C. C. (2022). Weight Stigma and Avoidance of Physical Activity and Sport: Development of a Scale and Establishment of Correlates. *International Journal of Environmental Research and Public Health*, *19*(23), 16370. https://doi.org/10.3390/ijerph192316370

Bocksnick, J., Belyk, J., & Napier, L. (2002). Youth Swimmers' Understanding of Competence. *Journal of Physical Education Recreation & Dance*, *73*(7), 40. https://doi.org/10.1080/07303084.2002.10607846

Bryan, C., & Sims, S. (2020). Making a Case for Physical Education Teacher Education as a Viable Degree Program in Colleges and Universities. *The Physical Educator*, *77*(4). https://doi.org/10.18666/tpe-2020-v77-i4-9421

Castelli, D. M. (2022). Physical Activity, Fitness, and Cognitive Function in Children and Adolescents. In *IntechOpen eBooks*. IntechOpen. https://doi.org/10.5772/intechopen.104719

Cenderadewi, M., Franklin, R. C., Fathana, P. B., & Devine, S. (2025). Preventing Child Drowning in Indonesia: A Community-Informed Health Promotion Perspective. *Health Education & Behavior*, *52*(5), 572. https://doi.org/10.1177/10901981251330487

Chan, D. K. C., Lee, A., Tang, T. C. W., Leung, K., Chung, J. S. K., Hagger, M. S., & Hamilton, K. (2023). Young children's motivations and social cognitions toward swimming: Testing direct and moderation effects of sport competence in two large-scale studies. *Journal of Sports Sciences*, *41*(9), 859. https://doi.org/10.1080/02640414.2023.2241782

Cheon, S. H., & Reeve, J. (2014). A classroom-based intervention to help teachers decrease students' amotivation. *Contemporary Educational Psychology*, *40*, 99. https://doi.org/10.1016/j.cedpsych.2014.06.004

Corpus, J. H., McClintic-Gilbert, M. S., & Hayenga, A. O. (2009). Within-year changes in children's intrinsic and extrinsic motivational orientations: Contextual predictors and academic outcomes. *Contemporary Educational Psychology*, *34*(2), 154. https://doi.org/10.1016/j.cedpsych.2009.01.001

Cox, A. E., & Williams, L. (2008). The Roles of Perceived Teacher Support, Motivational Climate, and Psychological Need Satisfaction in Students' Physical Education Motivation. *Journal of Sport and Exercise Psychology*, *30*(2), 222. https://doi.org/10.1123/jsep.30.2.222

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-Determination Theory in Work Organizations: The State of a Science. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*(1), 19. https://doi.org/10.1146/annurev-orgpsych-032516-113108

Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, *11*(4), 227. https://doi.org/10.1207/s15327965pli1104_01

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, *49*(3), 182. https://doi.org/10.1037/a0012801

Demo, D. H. (1992). The Self-Concept Over Time: Research Issues and Directions. *Annual Review of Sociology*, *18*(1), 303. https://doi.org/10.1146/annurev.so.18.080192.001511

Duijn, T. van, Cocker, K., Seifert, L., & Button, C. (2022). Assessment of water safety competencies: Benefits and caveats of testing in open water [Review of *Assessment of water safety competencies: Benefits and caveats of testing in open water*]. *Frontiers in Psychology*, *13*. Frontiers Media. https://doi.org/10.3389/fpsyg.2022.982480

Efendy, M., Murwani, F. D., Hitipeuw, I., & Rahmawati, H. (2023). Rethinking Achievement Motivation in Indonesian Students: The Influence of Teacher and Peer Relationships Amid a Shifting Collectivist Culture. *Journal An-Nafs Kajian Penelitian Psikologi*, *8*(2), 294. https://doi.org/10.33367/psi.v8i2.4606

Gagnon, J.-C., Fortier, M., McFadden, T., & Plante, Y. (2018). Investigating the behaviour change techniques and Motivational Interviewing techniques in Physical Activity Counselling sessions. *Psychology of Sport and Exercise*, *36*, 90. https://doi.org/10.1016/j.psychsport.2018.02.002

Ha, Y., Lee, S.-H., Lee, D., Kang, Y.-H., Choi, W.-J., & An, J. (2022). Effectiveness of a Mobile Wellness Program for Nurses with Rotating Shifts during COVID-19 Pandemic: A Pilot Cluster-Randomized Trial. *International Journal of Environmental Research and Public Health*, *19*(2), 1014. https://doi.org/10.3390/ijerph19021014

Hein, A., Schreieck, M., Riasanow, T., Setzke, D. S., Wiesche, M., Böhm, M., & Krcmar, H. (2019). Digital platform ecosystems. *Electronic Markets*, *30*(1), 87. https://doi.org/10.1007/s12525-019-00377-4

Herrick, S. S. C., Rocchi, M., Sweet, S. N., & Duncan, L. R. (2021). Exploring Proximal LGBTQ+ Minority Stressors Within Physical Activity Contexts from a Self-determination Theory Perspective. *Annals of Behavioral Medicine*, *56*(6), 551. https://doi.org/10.1093/abm/kaab052

Howard, J. L., Bureau, J. S., Guay, F., Chong, J., & Ryan, R. M. (2021). Student Motivation and Associated Outcomes: A Meta-Analysis From Self-Determination Theory [Review of *Student Motivation and Associated Outcomes: A Meta-Analysis From Self-Determination Theory*]. *Perspectives on Psychological Science*, *16*(6), 1300. SAGE Publishing. https://doi.org/10.1177/1745691620966789

Howard, J. L., Chong, J., & Bureau, J. S. (2020). The tripartite model of intrinsic motivation in education: A 30-year retrospective and meta-analysis [Review of *The tripartite model of intrinsic motivation in education: A 30-year retrospective and meta-analysis*]. *Journal of Personality*, *88*(6), 1268. Wiley. https://doi.org/10.1111/jopy.12570

Howells, K., & Grogan, S. (2012). Body image and the female swimmer: muscularity but in moderation. *Qualitative Research in Sport Exercise and Health*, *4*(1), 98. https://doi.org/10.1080/2159676x.2011.653502

Imron, I., Mawardi, I., & Şen, A. (2023). The Influence of Spirituality on Academic Engagement through Achievement Motivation and Resilience. *International Journal of Islamic Educational Psychology*, *4*(2). https://doi.org/10.18196/ijiep.v4i2.19428

Kokkonen, J., Yli-Piipari, S., Kokkonen, M., & Quay, J. (2018). Effectiveness of a creative physical education intervention on elementary school students' leisure-time physical activity motivation and overall physical activity in Finland. *European Physical Education Review*, *25*(3), 796. https://doi.org/10.1177/1356336x18775009

Larson, H., Young, B. W., McHugh, T.-L., & Rodgers, W. M. (2020). The relative importance of training volume and coach autonomy support for preventing youth swimming attrition. *Current Issues in Sport Science (CISS)*, *5*. https://doi.org/10.36950/2020ciss007

Lawler, M., Heary, C., & Nixon, E. (2017). Variations in adolescents' motivational characteristics across gender and physical activity patterns: A latent class analysis approach. *BMC Public Health*, *17*(1). https://doi.org/10.1186/s12889-017-4677-x

Lepper, M. R., Corpus, J. H., & Iyengar, S. S. (2005). Intrinsic and Extrinsic Motivational Orientations in the Classroom: Age Differences and Academic Correlates. *Journal of Educational Psychology*, *97*(2), 184. https://doi.org/10.1037/0022-0663.97.2.184

Madueño, A. F., Monterrubio-Fernández, G., Cortés, J. M., & Carnero-Díaz, Á. (2024). The Effect of a Novel Video Game on Young Soccer Players' Sports Performance and Attention: Randomized Controlled Trial. *JMIR Serious Games*, *12*. https://doi.org/10.2196/52275

Magnussen, R., Elming, A., Smith, B., Borge, M., Mercier, E., & Lim, K. Y. (2017). Student re-design of deprived neighbourhoods in minecraft : Community-driven urban development. *Research Portal Denmark*, 271. https://cscl17.files.wordpress.com/2017/06/finalvol1cscl2017.pdf

Manzano-Sánchez, D. (2023). Profile analysis through self-determination theory and intention to be physically active: differences according to gender and age. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1277532

Martin, J. J., & Kulinna, P. H. (2004). Self-Efficacy Theory and the Theory of Planned Behavior: Teaching Physically Active Physical Education Classes. *Research Quarterly for Exercise and Sport*, *75*(3), 288. https://doi.org/10.1080/02701367.2004.10609161

Minkels, C., Kamp, J. van der, & Beek, P. J. (2023). How intrinsically motivating are swimming instructors/lessons in the Netherlands? An observational study through the lens of self-determination theory. *Frontiers in Sports and Active Living*, *5*. https://doi.org/10.3389/fspor.2023.1236256

Ntoumanis, N., & Standage, M. (2009). Motivation in physical education classes. *Theory and Research in Education*, *7*(2), 194. https://doi.org/10.1177/1477878509104324

Nyuhuan, G. (2024). Beyond rewards and punishments: enhancing children's intrinsic motivation through self-determination theory.

World Journal of Advanced Research and Reviews, *21*(2), 1576. https://doi.org/10.30574/wjarr.2024.21.2.0457

Porto, J. A., Alcantara, J. P. C., Belaño, J. T. L., Bernal, M. A. G., Caballero, I. D. F., Casao, B. J. R., Leon, J. M. L. D., Vera, D. J. T. D., & Porto, A. E. (2023). Effect of Compression Garments in the Speed Performance among Track and Field and Swimming student-athletes in a Catholic University of the Philippines. *INSPIREE Indonesian Sport Innovation Review*, *4*(2), 65. https://doi.org/10.53905/inspiree.v4i02.113

Rachmawati, G. A. A. (2024). *A Systematic Literature Review of Multimodal Digital Books in School Education: Mapping Trends, Methods, and Outcome*.

Salili, F. (1996). Learning and Motivation: An Asian Perspective. *Psychology and Developing Societies*, *8*(1), 55. https://doi.org/10.1177/097133369600800104

Shah, A., & Alasa, V. (2023). Socio-cultural Implications of Self-Determination and Achievement Goal Theory Constructs of Motivation among Fijians athletes with Disabilities. *International Journal of Instruction*, *16*(4), 787. https://doi.org/10.29333/iji.2023.16444a

Sheffler, P., & Cheung, C. (2023). Growth mindset and social comparison effects in a peer virtual learning environment. *Social Psychology of Education*, *27*(2), 493. https://doi.org/10.1007/s11218-023-09850-7

Shen, B., Lu, X., & Bo, J. (2022). Cross-Cultural Studies of Motivation in Physical Education. *International Journal of Physical Activity and Health*. https://doi.org/10.18122/ijpah1.1.6.boisestate

Walton, C. C., Purcell, R., Henderson, J. L., Kim, J., Kerr, G., Frost, J., Gwyther, K., Pilkington, V., Rice, S., & Tamminen, K. A. (2024). Mental Health Among Elite Youth Athletes: A Narrative Overview to Advance Research and Practice. *Sports Health A Multidisciplinary Approach*, *16*(2), 166. https://doi.org/10.1177/19417381231219230

Wang, W., Yu, L., Huang, L., & Gao, X. (2025). Mechanisms of the impact of exercise intervention on college students' mental health: a longitudinal experimental study using swimming as an example. *Frontiers in Psychology*, *16*, 1535214. https://doi.org/10.3389/fpsyg.2025.1535214

Wigfield, A., & Eccles, J. S. (2000). Expectancy–Value Theory of Achievement Motivation. *Contemporary Educational Psychology*, *25*(1), 68. https://doi.org/10.1006/ceps.1999.1015

Wilkinson, S. D., Stride, A., & Penney, D. (2024). The hows and whys of gendered grouping practices in primary physical education in England. *Physical Education and Sport Pedagogy*, 1. https://doi.org/10.1080/17408989.2024.2374270

Wolfrom, D., Snellgrove, C., Rivera, M. V., Vandessppooll, K., & Feliciano, E. (2023). Closing Racial Disparity by Dismantling Constructs of Fear - A Practical Methodology for Learning to Swim. *International Journal of Aquatic Research and Education*, *14*(2). https://doi.org/10.25035/ijare.14.02.01