



The Influence of Social Identity, Self-Concept and Learning Motivation on the Motor Ability of Elementary School Students

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Abstract

This study aims to examine the factors that influence the motor abilities of elementary school students. The following aspects were explored: 1) The influence of social identity on students' motor abilities. 2) The influence of self-concept on students' motor abilities. 3) The influence of learning motivation on students' motor abilities. 4) The simultaneous influence of social identity, self-concept and learning motivation on students' motor abilities. In this study, a quantitative method was employed to investigate the relationship between the three aforementioned factors and motor ability among 128 elementary school students in Banda Aceh City. The data collection process involved the use of structured questionnaires which were employed to gather relevant information. Multiple regressions were used to analyse the data with the use of SPSS version 23 software. The obtained results from this study showed that both social identity and learning motivation positively and significantly influenced the motor ability of the observed students while self-concept had no discernable impact. However, when simultaneously considering these variables altogether, it was found that they did significantly influence the skills of the students. In a nutshell, the results of this study indicated that there was a positive relationship between social identity and the motor ability of the students. The implications of this research show that to improve students' motor abilities, efforts must also be made to increase social identity and learning motivation.

Keywords: Learning motivation, Motor ability, Self-concept, Social identity.

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Contribution of this paper to the literature

The results of this research can make a real contribution in that students' motor skills are not only influenced by aspects that are directly related to the formation of human motor skills such as nutrition and exercise but also by non-motor aspects such as social identity, learning motivation and even self-concept which can also contribute to the growth of motor skills in students.

1. Introduction

Success in sports activities is primarily based on motor skills (Barnett et al., 2016) which are usually taught and developed in physical education and health (Lieberman, Haegele, Columna, & Conroy, 2014). Motor skills are crucial for daily activities in addition to being required in the physical field (Hulteen, Morgan, Barnett, Stodden, & Lubans, 2018). Learning is an important factor for students to have various competencies including motor skills (García-Marín & Fernández-López, 2020). Therefore, teachers in elementary schools need to prioritize the cultivation of motor skills to foster the development of various intelligences in students' lives specifically those in physical education and health.

In the context of physical education, sports, and health (PE), motor ability is an integral part of the psychomotor domain, encompassing 1) the physical quality of movement, 2) fitness level and 3) play which is related to the accumulation of psychomotor development (Muntianu, Abalaşei, Nichifor, & Dumitru, 2022). These three components are interconnected and interrelated. However, it should be noted that the teaching and retention of complex skills can be a subject of debate (Nicholls, Sweet, Muller, & Hyett, 2016).

The overall quality of the activities undertaken by children can be enhanced through the improvement of basic motor skills (Sutapa & Suharjana, 2019) including locomotor, non-locomotor, manipulative and combination skills which are emphasized in the elementary school PE curriculum. In this regard, learning models also play a crucial role in honing the skills in movement activities such as gymnastics and rhythmic activities by guiding the students through locomotor, non-locomotor and manipulative movements (Yuwono, Rahayu, Sulaiman, & Rustiadi, 2021). Additionally, motor ability can also be influenced by various other variables such as social identity.

Social identity refers to the degree to which an individual feels a sense of belonging to a particular group (Froehlich, Brokjob, Nikitin, & Martiny, 2023). This connection can sometimes lead to feelings of deprivation as individuals may desire a stronger attachment to one group over another despite the ability to fit into multiple groups. According to Ahadin et al. (2023) adjusting to a new group is an integral part of this process. Such adjustments are influenced by the group's evaluation of its members. This evaluation can significantly impact the self-perception and the physical and motor abilities of an individual potentially leading to depression and decreased performance (Isaksson et al., 2017).

The motor skills of an individual are also influenced by learning motivation and social identity. This factor represents the internal and external drive within students to modify their behavior in the process of learning (Dörnyei, 2000). Motivation plays a crucial role in learning activities since its strong presence enhances learning outcomes and creativity in students (Ghasemi, Rastegar, Jahromi, & Marvdashti, 2011). Therefore, fostering this factor in learners is essential to supporting the development of their motor skills.

Motor ability in physical exercises can vary significantly from one individual to another (Mardius & Zalaff, 2021) and is affected by various factors such as coordination skills, age, gender, cognitive differences as well as training frequency among others. As a result, previous studies showed a relationship between children's motor skills and their self-perceptions (Rogers, Barnett, & Lander, 2018). These skills and activities have been found to positively influence the self-perception of children, hence, they should be improved (Barnett, Lubans, Timperio, Salmon, & Ridgers, 2018).

The problem formulation in this study is based on this background:

1. Is there an influence between elementary school students' social identity and their motor ability?
2. Is there an influence of students' learning motivation on their motor abilities?
3. Is there an influence of self-concept on students' motor abilities?
4. Do social identity, learning motivation and self-concept simultaneously influence the motor abilities of elementary school students?

2. Literature Review

2.1. Motor Ability

Motor skills can simply be defined as the evolution and maturation of motor control, proficiency and coordination (Newell, 2020). Accordingly, optimal motor skills can be acquired through the attainment of physical health which requires the consumption of healthy foods and engagement in relevant physical exercise. Motor development comprises a progressive shift in control and the capacity to execute movements which is typically achieved through the relationship between maturity and physical exercise (Kobesova & Kolar, 2014). It can be defined as the progression of bodily movement control facilitated by the nervous system, nerves and muscles (Zheng, Shi, Li, & Wang, 2017).

According to previous studies, motor skills can be developed through targeted movement exercises. These exercises require precision in all movement techniques. It is important to comprehend that the motor skills of researchers can be influenced by many different variables including the training environment such as coastal and mountainous areas (Samodra et al., 2023).

2.2. Social Identity

Social identity guides an individual's awareness of belonging to a specific social group. Usually, this sense of belonging has been observed to significantly influence the prevalent emotions within a group (McKeown, Haji, & Ferguson, 2016). According to previous studies, the theory of social essence is an interactionist perspective in the field of social psychology. It explores the impact of self-concept, cognitive processes and social beliefs on group

dynamics and intergroup relations (Scheepers & Ellemers, 2019). Accordingly, in social groups, whether large or small, the shared identity within the group establishes the belief system and behavior of each member.

Social identity analysis assesses the self-concept of an individual and how that individual is treated and regarded by others. As a result, when individuals engage in comparisons between associated groups and others, distinctiveness is usually perceived. Therefore, it is essential to show that an ongoing struggle for group status exists in these intergroup comparisons (Kulich, Lorenzi-Cioldi, & Iacoviello, 2015). Higher-status groups typically play an active role in defending their superiority while lower-status groups strive to reduce social stigma and foster positivism.

2.3. Learning Motivation

According to Filgona, Sakiyo, Gwany, and Okoronka (2020) learning motivation is a state where individuals are encouraged to perform specific tasks to achieve planned goals (Filgona et al., 2020). According to Cook and Artino Jr (2016) motivation signifies a transformation in the conditions of an individual manifesting as a responsive drive to achieve specific goals. This transformative aspect of motivation is discernible through an alteration in energy levels whether conscious or subconscious, thereby prompting behavior directed towards the achievement of goals. Furthermore, the influencing factors of learning motivation comprise both intrinsic and extrinsic elements (Ryan & Deci, 2020). Intrinsic factors include elements such as the desire to succeed and encouragement regarding the significance of learning while extrinsic factors comprise external rewards and the provision of a conducive learning environment. The symbiotic presence of these two factors is very important in encouraging effective learning activities.

2.4. Self-Concept

The self-concept is an organized knowledge system or schema that contains elements including features, values, episodic memory and semantics about the self. Furthermore, this schema governs another important aspect such as the processing of self-relevant reports. The knowledge structure about the self-concept is closely related to its evaluative aspect. Self-concept is defined as awareness of self-perception (Johnson & Nozick, 2011). Consequently, the cognitive recognition of one's own identity has been defined as self-perception in previous research. The process of self-perception consists of attributing meaning, interpretation and sensations obtained from individual experiences (Mohebi & Bailey, 2020). Typically, individuals are distinguished by unique characteristics and acquire knowledge by observing inherent behaviors and assimilating self-centered information from the environment (Slotter, Winger, & Soto, 2015).

3. Method

3.1. Research Design

This study was conducted using a quantitative approach with a correlation design. A multiple regression design was employed to analyze the relationship between three independent and one dependent variable (Osborne & Waters, 2019; Shalev, 2007). The following is an illustration of the study design that was referenced.

Figure 1 is about a design study that illustrates the influence of self-concept variables, social identity and learning motivation on students' motor skills.

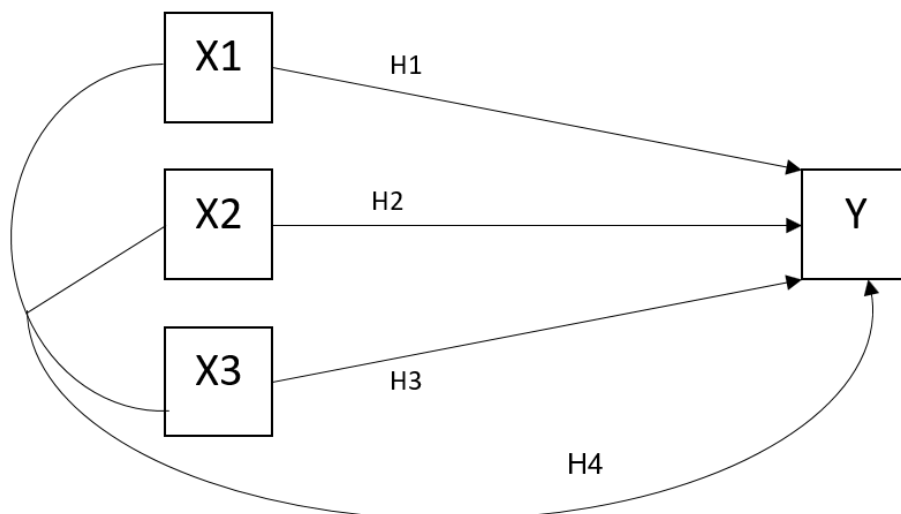


Figure 1. Study design.

Description:

- X1 = Social identity.
- X2 = Learning motivation.
- X3 = Self-perception.
- Y = Motor skills.

3.2. Participants

The residents in this study comprised elementary school students in Banda Aceh City. Accordingly, a multistage random sampling technique specifically a cluster-stratified sampling method was employed. This method is a combination of both cluster and stratified random sampling techniques. 128 students participated in the study i.e., 30 students from Pilot Elementary School, 33 students from State Elementary School 16, 32 students from State Elementary School 67 and 33 students from Elementary School 71 in Banda Aceh City.

3.3. Research Instruments and Procedure

The research instrument used to estimate motor skills in elementary school students was an instrument adapted from research results (Naldi & Irawan, 2020). The test in question measures motor skills consisting of a 4x10 meter shuttle run, a positional balance stand, a 30-meter sprint and a 1-meter ball throw and catch test. The questionnaire to obtain personal identity data was used as a result of development (Wibisono & Sasia, 2020). Another question that was previously used in previous studies assess students' motivation for learning (Martin, 2003). Next, the questionnaire is a modified version of the measurement scale developed to evaluate students' self-concept (Fitts & Warren, 1996) also known as the Tennessee Self Concept Scale (TSCS). Conducting field research involves a process that consists of the following steps:

Figure 2 shows the processes and procedures for carrying out research and analyzing data to draw conclusions.

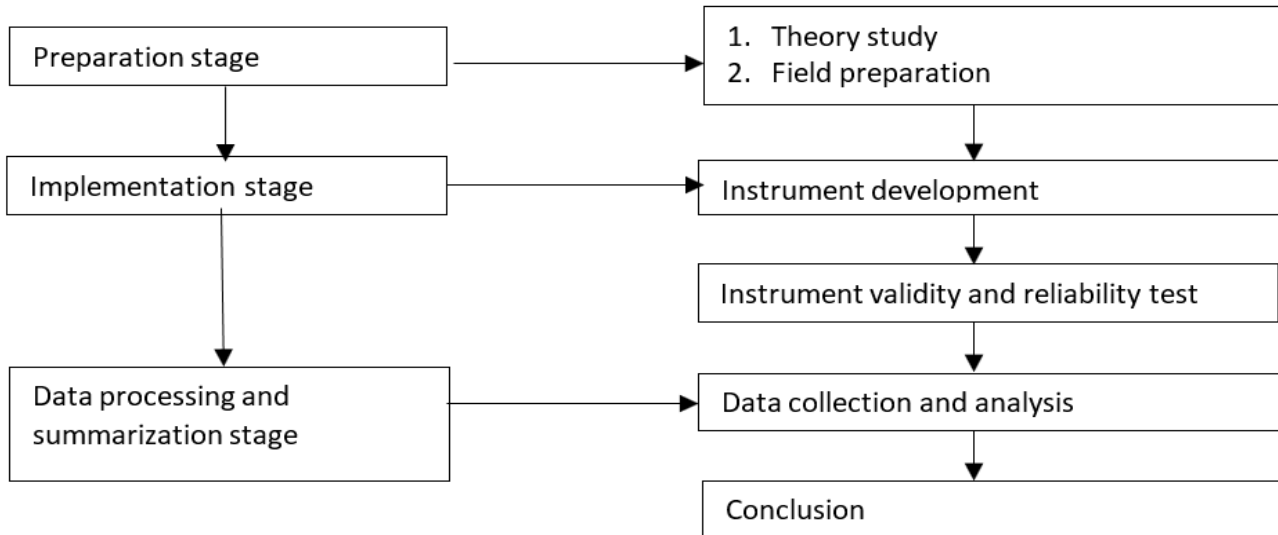


Figure 2. Flowchart of the study procedure.

3.4. Data Collection and Analysis: Statistical

This research was conducted in four elementary schools in Banda Aceh City, Indonesia. The data collection technique uses tests to measure students' motor skills which focus on motor ability tests consisting of a 4 x 10-meter shuttle run test, a ball throwing test at a distance of 1 meter against a wall, a stand positional balance stroke test and a 30-meter sprint test. Meanwhile, to measure social identity, self-concept and learning motivation, questionnaires were distributed to students by guiding them to answer the questionnaire honestly according to their conscience. After the data was collected, data analysis was carried out using multiple regression analysis assisted by SPSS software version 25.

4. Findings and Discussion

4.1. Findings

After conducting data analysis using the SPSS program, it was ensured that the prerequisites for multiple linear regression studies were met. These prerequisites included tests for residual normality, absence of outliers, homoscedasticity, multicollinearity and non-autocorrelation. When all of the tests were fulfilled, the findings were presented starting with a description of the four variables that were being studied. The influential variables were self-identity, learning motivation and self-concept while the influencing variable was motor skills. The descriptive data for these variables were compiled and presented in Table 1 as follows:

Table 1. Data description of social identity, self-concept, learning motivation, and motor skills.

Descriptive			
Variables		Statistic	Std. error
SI	Mean	63.406	0.809
	Std. deviation	9.153	
	Minimum	45.00	
	Maximum	83.00	
SC	Mean	68.234	0.427
	Std. deviation	4.837	
	Minimum	57.00	
	Maximum	84.00	
LM	Mean	85.875	0.974
	Std. deviation	11.015	
	Minimum	54.00	
	Maximum	108.00	
MS	Mean	49.328	0.468
	Std. deviation	5.293	
	Minimum	39.12	
	Maximum	67.24	

The descriptive statistical results displayed in Table 1 indicate that the average values of self-identity, self-concept, learning motivation and motor abilities for primary school students were all in the good category.

This categorization indicates that on average, the scores of the students in these areas are considered favorable or satisfactory.

4.1.1. The Influence of Predictor Variables on Students' Motor Ability

The influence of social identity variables, self-concept and learning motivation on students' motor skills can be seen in the coefficients table as follows:

Table 2. The influence of social identity, self-concept and learning motivation on students' motor abilities.

Coefficients						
Model		Unstandardized Coefficients		Standardized coefficients	T	Sig.
		B	Std. error	Beta		
1	(Constant)	26.340	6.931	0.000	3.800	0.000
	SI	0.106	0.050	0.183	2.129	0.035
	SC	0.119	0.097	0.109	1.234	0.219
	LM	0.095	0.042	0.197	2.244	0.027

Note: Dependent variable: KM.

According to the information presented in Table 2, the variables of social identity, self-concept and learning motivation in elementary school students have varying degrees of influence on their motor skills. Social identity was found to exhibit a significant influence on the motor skills of students as indicated in the coefficient table. The obtained significance value (sig value) for this variable was 0.035 which is inferior to the conventional significance class of 0.05.

In contrast, the self-concept variable did not show a statistically significant and positive influence on the dependent variable. This variable did not significantly and positively affect students' motor skills according to the sig value of 0.219 which is higher than the accepted significance level of 0.05.

On the other hand, learning motivation was also found to have a significant positive influence. This was evidenced by the obtained sig value of 0.027 which was less than the conventional 0.05.

4.1.2. The Simultaneous Influence of Social Identity, Self-Concept and Learning Motivation on Students' Motor Ability

The simultaneous influence refers to the combined impact of social essence, self-concept and learning motivation on student motor skills. This established simultaneous influence can be observed in the ANOVA table presented in Table 3.

Table 3. Simultaneous influence of social identity, self-concept and learning motivation on motor ability.

ANOVA ^a						
Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	392.446	3	130.815	5.123	0.002 ^b
	Residual	3166.142	124	25.533		
	Total	3558.588	127			

Note: a. Dependent variable: KM.

b. Predictors: constant, MB, IS, KD.

The sig value provided in the ANOVA table determines whether or not there is a simultaneous influence. If this value falls below 0.05, it can be inferred that there is a statistically significant influence and vice versa. According to Table 4, the sig value of 0.002 is smaller than 0.05 indicating that the variables of social essence, self-concept and student learning inspiration collectively influence the motor skills of elementary school students. A summary is provided in Table 4 to further explain the influence that the three predictor variables exhibit.

Table 4. The influence of the magnitude of the predetermined variables on motor ability.

Model summary					
Model	R	R- square	Adjusted R-square	Std. error of the estimate	Durbin-Watson
1	0.332 ^a	0.110	0.089	5.05306	1.169

Note: a. Dependent variable: KM.

The magnitude of influence exerted by each predictor variable was determined by the R-square value in the model overview table.

According to Table 4, the obtained R-square value was 0.110 indicating that the predictor variables collectively accounted for 11% of the variability observed in the dependent variable. Although the influence magnitude was not substantial, it is statistically significant.

Furthermore, the relationship between variables that elucidated how the predictor variables were associated with student motor skills was examined as presented in Table 5 to gain a deeper understanding of why there is an effect.

Table 5. Relationship between variables.

Correlations					
Variables		SI	SC	LM	MS
SI	Pearson correlation	1	0.155	0.125	0.225*
	Sig. (2-tailed)	-	0.081	0.160	0.011
	N	128	128	128	128
SC	Pearson correlation	0.155	1	0.251**	0.187*
	Sig. (2-tailed)	0.081	-	0.004	0.035
	N	128	128	128	128
LM	Pearson correlation	0.125	0.251**	1	0.247**
	Sig. (2-tailed)	0.160	0.004	-	0.005
	N	128	128	128	128
MS	Pearson correlation	0.225*	0.187*	0.247**	1
	Sig. (2-tailed)	0.011	0.035	0.005	-
	N	128	128	128	128

Note: *. The correlation is significant at the 0.05 level (2-tailed).
 **. The correlation is significant at the 0.01 level (2-tailed).

Table 5 clearly shows that social identity, self-concept and learning motivation have a positive relationship with the motor skills of elementary school students. Both social identity and self-concept exhibited a significance level of 0.05 indicating that they have a statistically important impact on the dependent variable. On the other hand, the learning motivation variable was found to be even more significant with a significance level of 0.01. This means that although the sample summary table indicated that the collective influence of the three variables was 11%. It is essential for PE teachers to consider these factors when aiming to enhance the motor skills of elementary school students.

4.2. Discussion

4.2.1. The Influence of Elementary School Students' Social Identity on Motor Ability

The following findings were presented and discussed in accordance with the objective of this study which was to investigate the impact of social identity, self-concept and learning motivation on the motor skills of elementary school students: Firstly, it was observed that social identity has a positive effect on the motor skills of students. These results are in line with a previous study that emphasized the significance of this variable in regulating prosocial and antisocial behavior in sports (Bruner, Boardley, & Côté, 2014). Additionally, other studies have also concluded that the variable social identity has a crucial role in sports (Underwood, Bond, & Baer, 2001).

It is crucial to understand that the social essence approach can also contribute to various topics in the field of sports in the future (Rees, Alexander Haslam, Coffee, & Lavallee, 2015). According to structural equation modelling, a study on the social identity strategy of leadership showed that its influence is mediated by increased team member identification (Fransen et al., 2015). According to the findings obtained from a study by Bruner et al. (2017) athletes who experience a stronger social identity characterized by a sense of belonging and positive feelings towards team membership exhibit better personal and social development in areas such as goal-setting and initiative (Bruner et al., 2017). It was further pinpointed in the study that the social identity of young athletes formed in relation to prosocial teammate behaviors during their involvement in sports has been associated with self-esteem, commitment and perceived effort for personal development.

The logical relationship between social identity and motor ability in various sports can be attributed to the presence of social self-recognition within a group. Children will be emotionally motivated to perform best if there is an element of recognition of their identity as individuals in their social group. Such recognition may also cause these individuals to feel compelled to fully demonstrate their skills to uphold the good name of their group identity.

4.2.2. The Influence of Self-Concept on Students' Motor Ability

Secondly, it was found that self-concept does not significantly influence the motor skills of elementary school students. The results showed that these students may be unable to fully comprehend the relationship between self-concept and motor skills. This proposition concurs with a previous study where it was revealed that overweight children with motor difficulties tend to have a less favorable self-concept perception compared to their normal-weight peers (Poulsen et al., 2011). It is crucial to understand that this variable has been linked to mental health and psychosocial well-being through its mediation of motor skills (Viholainen, Aro, Purtsi, Tolvanen, & Cantell, 2014).

Another study also indicated a statistically significant distinction between the self-concept levels of elementary school students based on their grades in mathematics. The students with higher grades exhibited a more positive self-concept (Erdogan & Sengul, 2014). It has also been found that student learning achievement in a domain can either be positively or negatively correlated with self-concept (Lohbeck, Nitkowski, & Petermann, 2016; Pinxten et al., 2015).

Students who perceive themselves to be lacking in a particular aspect may ultimately have a low self-concept in that specific area. Therefore, the consequences of the previous study suggesting that the self-concept of elementary school students does not significantly influence their motor skills may be due to these students exhibiting a low self-concept regarding their motor ability. On the other hand, self-concept has its own power in influencing other aspects including creating learning models and student character.

4.2.3. The Influence of Student Learning Motivation on Motor Ability

Thirdly, it is evident that learning motivation significantly influences the motor skills of elementary school students. These results align with those of previous studies where it has been shown that a favorable relationship exists between learning products and learning motivation (Liu & Chu, 2010). Creating conducive motivational conditions can result in a more positive learning experience for young athletes as they acquire new talents

(Theeboom, De Knop, & Weiss, 1995). Accordingly, motivation and attentive focus during learning play crucial roles in enhancing performance and skill acquisition by reinforcing the incorporation of motor ability (Wulf & Lewthwaite, 2016). It is crucial to properly comprehend the fact that when motor actions are specially organized, maximum motivation can be achieved (Yermakova, Iermakov, Tomanek, Jagiello, & Zavatska, 2023). Intrinsic and extrinsic motivation and competition have a positive relationship (Van De Pol, 2023).

Numerous studies have provided further support for these results. For instance, a study indicated that intrinsic motivation driven by the desire to make choices is associated with higher energy expenditure during play (Staiano, Abraham, & Calvert, 2012). Additionally, high levels of learning motivation particularly when using mobile technology and gamification in the learning process can lead to improved performance (Su & Cheng, 2015). Intrinsic motivation characterized by the desire to learn derives its source and reward from the efforts put forth (Snow & Farr, 2021). This understanding underscores the importance of learning motivation for teachers specifically concerning the improvement of the motor abilities of students.

4.2.4. Simultaneous Influence of Social Identity, Learning Motivation, and Self-Concept on Elementary School Students' Motor Ability

Fourthly, it has been found that social identity, self-concept and learning motivation collectively exert a significant influence on the motor skills of elementary school students. These results are supported by other studies which revealed that social identity can be influenced by the number of followers and is mediated by social identification (Jin & Phua, 2014). This form of social identity is also influenced by subjective responses and pleasure and it correlates with the potential for controlling general aggression (Cikara, Botvinick, & Fiske, 2011). As a result, the social essence approach served as a basis for conceptualizing the part of social relationships (Cruwys, Haslam, Dingle, Haslam, & Jetten, 2014).

Previous studies have established that there is a positive and significant relationship between self-concept, emotional intellect, motivation and work performance (Kreindler, Dowd, Dana Star, & Gottschalk, 2012). Understanding the role of personal qualities in improving self-concept will contribute to achieving high sports results (Conde-Pipó et al., 2021). It has also been observed that students who are often underestimated in class tend to exhibit a weak self-concept and consequently perform poorly (Urhahne, Chao, Florineth, Luttenberger, & Paechter, 2011). Although this independent variable may not directly influence motor skills, it can interact with other independent variables to create an effect.

In other contexts, individuals who are motivated to improve performance and social status can exert a positive influence on the subject matter. Identification with a group is positively related to task and contextual performance particularly when social identity is prominent (Van Knippenberg, 2000). The development of students' motor skills is closely related to their motor experiences which are influenced by the cultural environment, geographical factors, socioeconomic status as well as the content and objectives of physical education programs (Vypasniak et al., 2022). Students' professional improvement is influenced by motivation. This is also made possible by improving students' motor abilities. Therefore, from these results, it is evident that the combined influence of identity, self-concept as well as learning inspiration on students' motor skills was significant. This interplay may extend to other variables as well.

5. Conclusion

In a nutshell, it was inferred that social identity influenced the motor skills of elementary school students based on the results and discussion presented in the preceding section. This is evidenced by the observation that students with a stronger sense of social identity were found to exhibit enhanced motor skills in sports activities. Accordingly, self-concept as a single independent variable had no discernable influence on the motor skills of the students. This may be attributed to the reality that at the age level of the students, their self-concept was not yet fully developed as age plays a crucial role in shaping the self-perception of a person. From this study, it was also found that learning motivation played a climactic role in shaping the motor skills of elementary school students. Subsequently, the dependent variable was strongly influenced by the three independent variables when observed collectively.

6. Suggestions and Implications

These findings led to the recommendation that future research take into account the self-concept variable and its possible influence on students' motor skills. Lastly, it is advisable to focus on designing studies that aim to enhance social identity and learning motivation among elementary school students with the ultimate goal of improving their motor skills.

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