






# The Relationship between Social Intelligence and Emotional Intelligence on Children's Motor Development in the 4.0 Era

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**Abstract.** In the era of Industrial Revolution 4.0, rapid technological changes have had a significant impact on various aspects of life, one of which is early childhood education. Even though this technological transformation continues, social-emotional aspects and motor development in early childhood still have significant urgency. This article discusses the importance of social emotional aspects and motor development in the context of the 4.0 era. Socio-emotional aspects, such as the ability to interact, empathize, communicate and manage emotions, remain relevant in an increasingly virtual connected world. This article uses a quantitative method which is processed using the R-Statistic application, while the distribution of the questionnaire is carried out offline involving random sampling. Conclusion, era 4. 0 brought major changes in the way we live and learn. However, the urgency of social-emotional aspects and motor development in early childhood should not be ignored. Through a balanced approach, children can grow and develop holistically, ready to face future challenges with full confidence and broad abilities.

**Keywords:** Social Emotional, Motor Development, Era 4.0

## 1 Introduction

Children's social-emotional skills at an early age are beneficial in their adaptive functioning and mental well-being [1]. These early social-emotional skills cover a variety of different themes: basic emotions (such as happiness, fear, anger, and sadness), other emotional reactions (such as interest, surprise, preference, and disgust), self-regulation of emotions, attachment, social referencing behavior, self-conscious emotions (such as guilt, shame, shame, envy, and pride), feelings of sympathy and empathy, peer socialization, interaction and play behavior, and feelings of gender identity [2]. The development of Social-Emotional Skills begins early in life, is strongly influenced by parent-child interactions, and develop during interactions and relationships with other family members, peers, and significant adults [3]. Physical activity is defined as any form of body movement produced by skeletal muscles and resulting in significant energy expenditure and is divided into light,

moderate and heavy groups. Each activity carried out requires different energy depending on the intensity and muscle work. Activity. Each activity carried out requires different energy depending on the intensity and muscle work.

Activity Physical is any body movement that increases energy and energy expenditure or calorie burning [4]. Physical activity is the movement of body parts which causes energy expenditure which is very important for maintaining physical and spiritual health, as well as maintaining the quality of life so that you stay healthy and fit throughout the day. Motor ability is a person's performance capacity in carrying out various movement tasks that a person has to be able to perform various movements in movement activities or sports activities. Motor skills are also individual abilities that underlie performance. Various motor skills, Likewise, motor ability is said to be the quality of a person's abilities that can make it easier to perform motor skills. Motor ability is also a general quality that can be improved. through practice, [5]. Studies on the relationship between physical activity, basic movement skills and psychosocial skills in elementary school children in disaster-prone areas have not been widely studied. This research aims to determine the relationship between physical activity and basic movement skills, as well as psychosocial skills in elementary school children in disaster-prone areas.

## **2 Method**

Ways or means to achieve the set goals are written not to exceed 2000 say. This section is equipped with a research flow diagram that describes what was carried out and will be carried out during the proposed time. The graphic format stream can be a JPG/PNG file. The research chart must be created as a whole with clear stages, starting from the beginning, the process and results, as well as the targeted achievement indicators. Clearly describe the plan for achieving output, namely in the first year, in the form of a Feasibility Study report on the product being developed and proof of science and technology-social and cultural intellectual property products in the form of patents, simple patents, copyrights, diversity protection. design of factory layout or integrated circuits and second and/or third year form product prototypes along with documentation of product performance testing results. This section should also explain the duties of each member of the proposer according to the stages of the proposed research:

### **2.1 Study Design**

The research design used is correlational. The aim of this research is to determine the condition of children's development in the 4.0 era with the social and emotional conditions of children, motor development. The research location was carried out in the Sleman Regency, DIY Province, involving elementary school children at 17 Kapanewon. The research was carried out from March to September 2023. The population in this research was upper elementary school students in Sleman district. In-depth data collection techniques. This research uses tests and measurements as well as filling out questionnaires. Tests and measurements are carried out to obtain data on motor skills, while filling out questionnaires is used to obtain data on physical

activity and social skills. The research instrument used to collect data on motor skills uses a motor ability test from, which includes: 4 x 10 meter shuttle run, ball throwing test, catching a ball 1 meter away against a wall, balance in a stork standing position, and sprint 30 meters. Instrument

**2.2 Research Participants**

State that population is the entire research object consisting of humans, objects, animals, plants, symptoms, test scores, or events as a source of data that has certain characteristics in a study [6]. States that population is a generalized area consisting of objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn [7]. The population in this study were upper class students of the 17 Kapanewon State Elementary School, Sleman Regency.

**2.3 Data Collection and Instrumentation**

The instrument used to obtain data on social intelligence in children was carried out using the Elementary School Student-Teacher Form Social Skill Rating Scale test (SSRS-T).The instrument used is a questionnaire. Questionnaires are used as a data collection tool because they can reveal facts according to the respondent's experience and questionnaires are cooperative, respondents set aside time to answer statements in writing according to the instructions given by the researcher [8] . The scale used in this research uses a Likert scale, because it is needed to measure the attitudes, opinions and perceptions of a person or group of people towards social phenomena [9].

The alternative answers given are strongly agree (SS), agree (S), disagree (TS), strongly disagree (STS), with scores for each item being 4, 3, 2, 1 for positive statements and 1, 2 , 3, 4 for negative statements. The assessment weighting is used to capture data obtained from respondents. Then analyzed using statistical formulas used in data analysis techniques. The theoretical basis for making emotional intelligence instruments refers to research by [10], with the results of testing an emotional intelligence questionnaire of 60 statement items, 54 valid statement items and 6 invalid statement items and the results of reliability testing on the emotional intelligence questionnaire obtained  $\alpha = 0.945$  which shows that the reliability of the questionnaire is very high.

**Table 1.** Emotional Intelligence Instrument Grid

Factor	Indicator	Sub-Indicators	Statement Positive	Statement Negative
Proficiency Personal	Recognize Emotional Self	Awareness for emotional self	1	2
		Self-evaluation in a The method is thorough	3,4,5	6,7
	Manage	Believe in yourself	8,9	-
		control yourself	10,11,12,13	14,15

Social Skills	Emotions	Trustworthy characteristics	16	17
		Vigilance	18	19
		Adaptability	20	21
		Capability initiative	22	23
	Motivation	drive performance	24,25	-
		Commitment	26,27	-
		Optimism	28,29	30
	Empathy	Understand the interests of others	31,32	33,34
		Orientation service	35	36
		Ability to influence	37,38	-
		Communication skills	39,40,41	42
	Build Connections	Leadership	43,44	45,46
		Catalytic change	47	48
		Management conflict	49	50
Ability team		51	52	

### 2.4 Statistical Analysis

This research uses statistical analysis formulated by [11], namely the use of descriptive statistics which are used to analyze data by providing an overview or overview of data in terms of the average, maximum, minimum and standard deviation values. The formula for percentage descriptive data analysis techniques is as follows:

$$P = \frac{F}{N} \times 100\%$$

Information :

P = Percentage searched (Relative frequency)

F = Frequency

N = Number of Respondents

States that to determine the score criteria using the assessment norms in Table 2 as follows [12]:

**Table 2.** Evaluation Category Norms

No	Intervals	Category
1	$M_i + 1.8 S_{bi} < X$	Very high
2	$M_i + 0.6 S_{bi} < X \leq M_i + 1.8 S_{bi}$	Tall
3	$M_i - 0.6 S_{bi} < X \leq M_i + 0.6 S_{bi}$	Enough
4	$M_i - 1.8 S_{bi} < X \leq M_i - 0.6 S_{bi}$	Low
5	$X \leq M_i - 1.8 S_{bi}$	Very low

Information :

$X$  = average

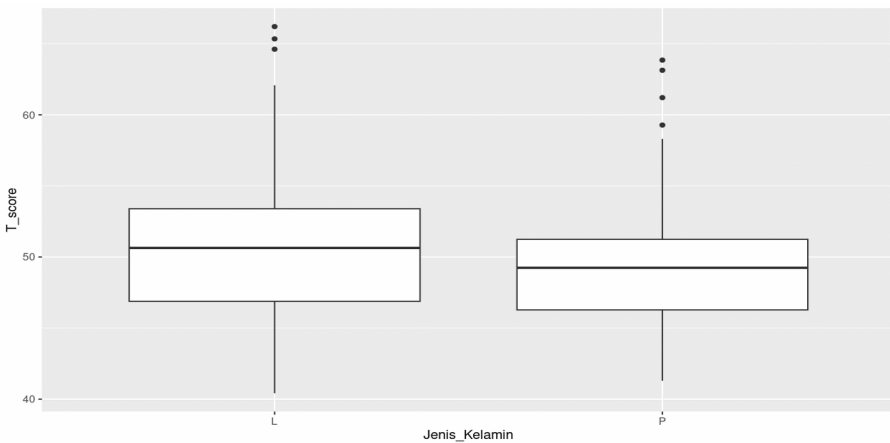
$I$  =  $\frac{1}{2}$  (max ideal score + min ideal score)

Yes =  $\frac{1}{6}$  (max ideal score – min ideal score)

Max ideal score = Highest score  
Ideal minimum score = Lowest Score

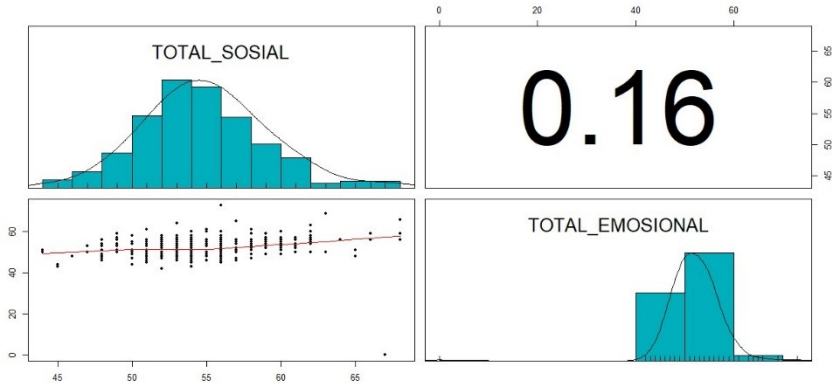
### 3 Result

Research The results of this study show that there are quite significant differences related to the motor skills possessed by men and women. Boys have higher motor skills than girls. Likewise, the average score of boys is higher than that of girls (in line with the general theory that men are more agile and physically tough). This can be seen in figure 1.

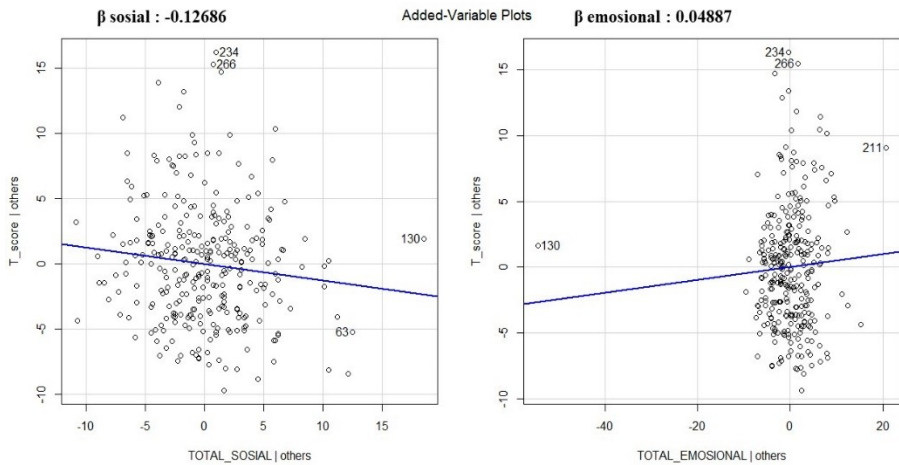


**Fig. 1.** Motor skills of boys and girls

Viewed from social and emotional aspects, the research results do not show this relationship between predictor (independent) variables. This means bypassing the regression assumptions (regression is appropriate to use). Therefore, this research can be continued. Furthermore, the relationship between variables on the x-axis displays one predictor variable (social and/or emotional aspects) and the y-axis displays the response variable (motor skills). The blue line shows the relationship between the predictor variable and the response variable, while the values of all other predictor variables are fixed. The points labeled on each plot represent the 2 observations with the largest residuals and the 2 observations with the largest partial leverage. This is shown in figure 2.



**Diagram 3.**



**Fig. 2.** Social and Emotional Aspect Variables

## 4 Discussions

This research shows several basic findings which include aspects of the relationship between emotional intelligence and motivation and motor skills, as well as the relationship between social intelligence and healthy interpersonal relationships. In this case, Emotional intelligence influences motivation and motor performance. Basically, good emotional intelligence can increase children's motivation to learn and master motor skills. Children who are able to manage negative emotions such as frustration or anxiety tend to have higher levels of persistence in facing motor challenges. In addition, social intelligence forms healthy interpersonal relationships. In this case, the ability to interact well and understand other people's feelings helps children build positive social relationships. This may impact their participation in group activities that require motor coordination and team interaction.

This research also shows that emotional intelligence reduces stress in motor learning. Childwho have emotional intelligence skills can overcome the stress associated with the initial inability to master new motor skills. By managing their emotions, children can learn more effectively and without burden. Therefore, the importance of balance between aspects. A balance between motor development, social intelligence and emotional intelligence is important for holistic child development. One real example is how the ability to control emotions can affect performance in sports or other physical activities.

This relationship is also driven by the important role of parents and educators. Parents and educators have a central role in helping children develop these two types of intelligence. They can provide an environment that supports a child's emotional and social development, as well as provide guidance for overcoming motor development challenges. Lastly is implementation in education. This concept can be integrated into children's education in the 4.0 era. Schools and educational institutions can develop a holistic approach that not only focuses on academic skills but also pays attention to children's emotional, social and motor development.

## 5. Conclusion

The In the 4.0 era in Sleman Regency, child development is not only limited to physical aspects, but also involves complex emotional and social aspects. The close relationship between social intelligence, emotional intelligence and children's motor development shows that all three influence each other and contribute to children's holistic growth. The following are several points of conclusion that can be drawn from this discussion:

Relationship Between Intelligence: Social intelligence, emotional intelligence, and motor development are integral components in children's growth and development in the 4.0 era. They influence each other and together form the balance necessary for healthy growth

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