Introduction

Gender difference in motor performance across childhood and adolescence is an issue that borders the mind of a lot of people. Traditionally it is perceived that at the childhood stage the differences in motor skill performance cannot be seen easily but as they advance into adolescence this physiological differences begin to manifest in their motor skill performance.

Gender differences in motor skill performance across childhood and adolescence is commonly discussed topic within the literature (Payne & Isaacs, 1999; Thomas & French, 1985; Williams, 1983 as...
cited in [O’connor, 2000]). The majority of available research on school age children, suggests that motor skill performance improves with age for both boys and girls, with average performance of boys usually exceeding the average performance of girls at each age level (Espenshade & Eckert, 1980; Morris, Williams, Atwater, and Wilmore, 1982, as cited in [O’connor, 2000]). Until the age of four years, boys and girls move alike and achieve similar results (Sinclair, 1973 as cited in [Yin, 2004]). Gender differences may be seen between boys and girls in terms of height and weight but these are minimal with boys slightly taller and heavier (Gabbard, 1992; Gallahue & Ozmum, 1998 as cited in [O’connor, 2000]). From this age, boys improve markedly over their female counterparts, particularly in those tasks requiring strength and in throwing. Boys exhibit better body assembly and motor proficiency and tend to increase this difference as children grow older. However, girls of like ages are able to gallop, slide and skip with greater proficiency to boys indicating social influence may play a significant role (Sinclair, 1973[Yin, 2004]).

Gender differences within the motor development literature have been partitioned into identifying biological and environmental factors. Environmental explanations have included discussions of social and cultural expectations as well as opportunities for training or skill development (Thomas, Michael, & Galagher, 1994 as cited in [O’connor, 2000]). Biological discussions have covered area such as anthropometric variables and neuromuscular coordination.

The beginning of formal education in Ghana can be traced to the coming of the Europeans. The introduction of Castle Schools and Mission Schools through to the Local Authority Schools gave Ghana the foundation of the needed education. Many schools are now motivating students to maintain a balance between their school work and Physical Education. Physical Education is an essential part of healthy living for people of all age groups, especially those going to school. This is because school life is full of stress and anxiety at every stage. Several Researches have proved the importance of physical activities of students in a school environment. Thus, many schools are now encouraging students to take part in Physical Education. Scientifically these activities have been proved to be as important as doing school work.

Physical Education teaches the students to improve the quality of their life. Focusing only on school work can make their life boring and stagnant which in turn can cause depression and failure. Such activities and exercises boost their stamina which can make them fall in love with their intelligence and abilities.

Physical Education in our schools as a subject received no attention. During the time of Sir Gordon Guggisberg, the then Governor of the Gold Coast, introduced the sixteen principles of education. The principles included a requirement that every school should have a field of play for Physical Education, Recreation and Sports. It was also stated in the principles that every child of school going age should be admitted and be allowed to play sports (McWilliams & Kwamena-Poh, 1978). Then Accelerated Development Plan for Education was introduced in 1951 to make the teaching of Physical Education a policy in the county (McWilliama & Kwamena-Poh, 1978) in which Winneba was not in variance with the policy but rather supporting it in a way of postulated physical activities as most integral part to develop the body and well-being of the individual, whether physically strong or handicapped.

Winneba is in the Central Region of Ghana and is 42 miles west of the capital, Accra. Ghana itself is administratively divided into 10 regions and 110 districts. Winneba is the district headquarters to the surrounding townships. It is a coastal town bordered to the east by the Ayensu River and the west by the Manko Mountain range. The population was recorded as 40,017 in a census in 2000. Its inhabitants are known as Simpafo or Effutufo. It is the capital of the Awutu/Effutu/Senya District in Central Region. There are so many Educational institutions in the town ranging from Basic to University. Different programs are offered in the University and subjects in the senior and basic schools. Specifically in the basic schools pupil has nine subjects that they offer of which one of them is Physical Education. The subject Physical Education which contributes to enhancing the health of people and nation, provide opportunity for students to identify their talents and to pursue career options, serve as direct means of reducing unemployment in society, equip learners with fundamental knowledge and skills gave room for
thousands of interested peoples to be admitted into colleges of education to pursue a teacher education programme so that they will come out to teach Physical Education since they offer how to teach Physical Education to the basic but unfortunately most teachers are unable to teach Physical Education after completion because their curriculum is laden with different subjects which they are supposed to such as balance, agility, speed, reaction time and accuracy. More so, belief and research finding stated that greater physical strength, boys performance on physical ability tasks is faster, better and more accurate than girls performance (Lips, 2001) teach like mathematics, science, English, citizenship education etc. Furthermore, you will see one teaching a class all the subjects listed above that the students is to learn. These make it difficult for them to teach Physical Education. Another challenge is that the subject is more of theory aspect than the practical in the colleges of education and the primary school children needs more of the practical motor skills to perform correct various physical activities like running, walking, jumping etc and also maintain physical fitness. Though law or policy in Ghana gave room for all school going age children the right to do physical education, most primary schools pupils do not do it. This made the primary pupils to find it difficult to perform the pre- quits motor skills such as balance, agility, speed, reaction time and accuracy. More so, belief and research finding stated that greater physical strength, boys performance on physical ability tasks is faster, better and more accurate than girls performance (Lips, 2001).

Motor skills composed of locomotion, manipulation and stabilization; for example, the gross motor development of an infant involves gaining control over the skills of crawling, walking and standing (Berk, 2003). The perceptual motor skills improve with practice, generally improving rapidly during the early childhood period. Pre-term children demonstrated significantly lower legibility and slower speed scores compared with control children for most of the handwriting tasks (Feder, Majnemer, Bourbonnais, Platt, Blayney & Synnes, 2005). A greater progress in perceptual problem-solving skills in delayed infants and young children than in motor, self-help and visual motor areas (Singh, Dhanda & Shanwal, 2010). An intervention was effective tool for improvement in development of perceptual motor skills (Singh, Dhanda & Shanwal, 2010). Significant improvement in both loco motor and object control skills through the activity-based intervention (Apache, 2005). Motor skill learning is an active process, interrelated with cognition. Skill concepts are aspects of cognitive concept learning in physical education that focus on learning the way the body should move while performing motor skills (Gallahue & Cleland, 2003).

The development of such a knowledge base facilitates children’s motor engagement, decreasing errors in performance both in- and out of the school setting. Children have the potential to learn fundamental movement skills and the respective skill concepts by the age of seven if they receive instruction and encouragement, by the physical education teacher (i.e. Graham, Holt/Hale & Parker, 2003). The broad goals of physical education, the characteristics of children and the increasing awareness of why and how children learn through the movement activities have significantly influenced teaching in physical education (Kirchner & Fishburne, 1998).

Physical Education and youth sport provide opportunities for children to acquire skills and to test their abilities. Physical Education is designed to develop each child's capacity to function at an optimal level, and by this, children must develop sound body movement skills and good basic skills which produce efficient conscious movements (Portela, 2007).

Physical Education plays a significant role in the pre-school years. Seefeldt [1980] as cited in Portela (2007) discussed fundamental motor skills versus. Fitness in pre-school years, and it is evident that the rudimentary skills which make up the components for our games and sports, can be learned by children in an enriched environment before they are six years of age. These early childhood years are the most opportune time for perfecting the motor skills basic to all subsequent locomotion sports skills and aerobic activities. Findings from research done by Portela (2007), Thomas (1984) and Rudisill, Lawrence, Goodway and Wall (2002), suggest that a physical activity and a pre-school skill development program has a dramatic influence on participants' loco-motor skill and coordination performance and that a lack of such a program, could negatively influence motor development. Even, minimal instruction time of a development specific program has shown significant changes to motor performance. Thus, children who
do not have experience of or sufficient exposure to such programs may not develop their loco-motor skills before starting school. Research by Goodway and Branta (2003) shows an agreement with these findings.

Graham [1987] as cited in Portela (2007) purports that there appears to be a false assumption, in believing that students learn motor skills by playing games. This may be true when children play hours and hours of one particular game, but there aren't hours and hours scheduled for physical education which can be devoted to playing one particular game. With this restriction in mind motor skill acquisition should be considered an essential goal in a physical education program.

A study by Housner, Carson, Hawkins and Wiegand (2006) compared the effects of a year-long-daily versus a one-day-a-week physical education program on the proficiency and acquisition of fitness and gross motor skills in K-2 elementary school children. Analysis of gain scores showed a remarkable advantage to the daily physical education lesson in improvements of motor skills and fitness. Although, one could question the influence of such a time loss -to physical education classes- on the academic timetable and academic progress. Research by Shephard [1997] as cited in Portela (2007), states that when a substantial portion of curricular time (14-26%) is allocated to Physical Education, learning seems to proceed more rapidly per unit time. Children who received additional Physical Education classes showed acceleration in their psychomotor development, which ultimately resulted in improved academic skills.

These learners showed no reductions in their grades and standard test scores, many had improved on these parameters. Thus, Physical Education can be introduced without compromising academic performance. Again reports that good Physical Education programs can boost academic achievement and also feels that children may be learning more in Physical Education lessons than ever imagined. He concludes that schools which require children to sit all day long deny children an important connection between movement and learning.

Teaching components of physical fitness is an important part of Physical Education and just plain fun. Developing skill-related fitness increases student success in the activities they enjoy, or may come to enjoy later in life. When a student feels successful in an activity, he/she will most likely continue to participate in it. This can then increase his/her overall health-related fitness level and continue to enhance his/her ability to participate in activities (Shawley, 2012).

Physical Education teachers play a critical role in the motor learning of children, specifically, they provide the extrinsic information that is essential to student learning (Cohen, 2007) researcher Stefanek, (1998) as cited in Yin (2004).

### 1.1 Statement of the problem

People all over the world, especially in the developing countries, have the notion that girls cannot perform physical activities as well as boys and this was also backed by a researcher Stefanek, (1998) as cited in Yin (2004). Performance during inter-schools competitions, however, indicate that given the opportunity, girls could equally perform sports related activities or even out perform the boys in motor skill related physical fitness activities. The hypothetical nature of this assumption has prompted the investigation of this problem to find out whether there will be any significant difference between the boys and girls regarding motor skill related physical fitness levels of these basic 3, 4 and 5.

And more so, research has been done on motor ability of preschool aged children, others in school age children in general but there have not been any study on assessing gender differences of student motor skill performance specifically for basic 3, 4 and 5 in Winneba.

### 1.2 Purpose of the Study

The purpose of the study was to find out the motor skill – related physical fitness levels of basic 3, 4 and 5 boys and girls, and to find out if differences exist between them.
1.3 Research Questions
The following research questions shall guide the study:
1. Will there be a significant difference between boys and girls in basic 3, 4, and 5 accuracy motor skill performance?
2. Will there be a significant difference between boys and girls in basic 3, 4 and 5 balance motor skill performance?
3. Will there be a significant difference between boys and girls in basic 3, 4 and 5 speed motor skill performance?
4. Will there be a significant difference between boys and girls in basic 3, 4 and 5 agility motor skill performance?
5. Will there be a significant difference between boys and girls in basic 3, 4 and 5 reaction time motor skill performance?

1.4 Research Hypotheses
The following hypotheses were formulated following the Research Questions.
1. There would be no significant different in accuracy test scores between boys and girls motor skill performance.
2. There would be no significant different in boys and girls in basic schools 3, 4 and 5 balance motor skill performance.
3. There would be no significant different in boys and girls in basic schools 3, 4 and 5 speed motor skill performance.
4. There would be no significant different in boys and girls in basic schools 3, 4 and 5 agility motor skill performance.
5. There would be no significant different in boys and girls in basic schools 3, 4 and 5 reaction time motor skill performance.

1.5 Significance of the Study
From the information gathered, the importance motor skill delivery in Physical Education will be made known to all those involved. This research work will also indicate to see weather gender play a role in motor skill performance and this will enlightened Ghana Education Service (GES) officers, Head of schools, Parents, Stakeholder to know that teaching of motor skill to the little ones or beginners are very necessary so need specialist in that area.

It will also help Physical Education Teachers to understand and use the appropriate method of teaching which can facilitate the learning process. It is hoped that this study will provide Physical Education teachers with an effective means of improving their students’ performance, increasing their interaction, and promoting positive attitudes toward them. It would add new knowledge to studies carried out so far in Ghana on motor skill related physical fitness levels of the youth.

2. Research Method
A cross – sectional, descriptive design was utilized to conduct this study. The research was based on five main hypothesis which were about whether any significant difference existed between the current motor skill-related physical fitness levels of boys and girls.

2.1 Sample
The researcher used purposive technique to select the school. Because the school is located near the University of Education, they use university facilities which are an advantage to them. Sixty (60) pupils from university practices primary School were tested. They ranged from 8 to 13 years of age. There were 20 pupils from each class, consisting boys and girls. Within the participants, there were 10 boys and 15 girls who participated in agility, balance, accuracy, speed and reaction time tests. For the selection of the participant for this study, simple random sampling procedure was used to select the pupils for the study so
that each pupil of the population will have the equal and independent chance of being included in the sample. A table of random numbers was used to get the pupil for the study from class 3, 4 and 5 and the random numbers was generated from the computer. In this regard, data that was obtained from this sample was the one from which generalisations or an inference about the entire population was made.

2.2 Data collection

The measuring instruments for the agility was shuttle run test, balance –standing stroke test, accuracy –throw hit test , speed - 50m dash test and reaction time- ruler drop test. The instruments have been validated and found to be reliable and are widely used in the United States of America, Europe and other parts of the world for all categories of people. According to Fleishman as cited in Verducci (1980) stated that construct validity for speed was used in selecting this measuring instrument (50m dash). The test – retest reliability coefficient was 0.86 and 0.94 Jackson and Baumgartner as cited in Verducci (1980). For shuttle run test, Fleishman as cited in Verducci (1980) concluded in his study that a shuttle run measures explosive strength broad jump, but that each of these emphasises different parts of the body. The shuttle run and 50m dash are general measures with the shuttle run involving legs, speed and gross body movement. Fleishman as cited in Verducci (1980) obtained a reliability coefficient of 0.85 on the shuttle run.

Again, construct validity for balance, accuracy and reaction time were used in developing the measuring instrument and a test – retest reliability of the instruments were 0.83, 0.82 for throw hit test and 0.98 for ruler drop test (Ogum, 2000).

2.3 Data analysis and interpretation process

The data were analysed using Statistical Package for Social Science (SPSS) Windows 15.0. The data collected was entered onto the SPSS programme. The test instruments were entered first and then they were given codes and divided into the boys and girls.

The data were analysed using the mean, standard deviation, standard error deviation and independent sample t-test. The independent sample t-test used to test for the significant differences was chosen because there were only two different groups for comparison. The independent samples t-test was used to find out whether any differences existed among the boys and girls concerning the motor skill related physical fitness levels. It tested the statistical hypothesis that there would be no significant difference in motor skill related fitness between boys and girls at 0.05 alpha level of significant.

3. Results

Analysis of the Hypothesis 1:- There would be no significant different in accuracy test scores between boys and girls motor skill performance.

<table>
<thead>
<tr>
<th>GENDER</th>
<th>M</th>
<th>SD</th>
<th>SED</th>
<th>N</th>
<th>df</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>2.33</td>
<td>1.295</td>
<td>0.237</td>
<td>30</td>
<td>58.0</td>
<td>-0.382</td>
<td>0.704</td>
</tr>
<tr>
<td>Girls</td>
<td>2.47</td>
<td>1.408</td>
<td>0.257</td>
<td>30</td>
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<td></td>
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</table>

p>.05, NS= not significant

Table 1 illustrates the test values obtained by both boys and girls. The independent samples t-test analysis showed that there was no significant difference between the boys and the girls with boys (t (58) = -0.382, p> .05). Whiles the boys obtained a mean of 2.33, the girls obtained a mean of 2.47. Boys obtained a standard deviation (SD) of 1.295, whilst the girls obtained 1.408. The standard error deviation (SED) of girls was slightly higher than that of the boys which are 0.257 and 0.237 respectively. The hypothesis which stated that there would be no significant difference between boys and girls motor skill performance regarding accuracy scores (throw hit test) was accepted.
Hypothesis 2: There would be no significant difference in balance test scores between boys and girls motor skill performance.

<table>
<thead>
<tr>
<th>GENDER</th>
<th>M</th>
<th>SD</th>
<th>SED</th>
<th>N</th>
<th>df</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>17.80</td>
<td>11.547</td>
<td>2.108</td>
<td>30</td>
<td>58.0</td>
<td>-2.43</td>
<td>0.458</td>
</tr>
<tr>
<td>Girls</td>
<td>25.50</td>
<td>12.945</td>
<td>2.363</td>
<td>30</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

p>.05, NS= not significant

Table 2 outline the test values obtained by both boys and girls on the bass test for balance. Whereas the boys had a mean of 17.80, the girls had 25.50 as the mean value. This showed that the girls performed better in balance test. The independent sample t-test showed that there was no significance difference between boys and girls at (t (58.0) = - 2.43, p > .05). This also indicated that the hypothesis, which stated that there would be no significant difference regarding balance (standing stroke) test scores is true so the hypothesis was accepted.

Hypothesis 3: There would be no significant difference in speed test scores between boys and girls motor skills performance

<table>
<thead>
<tr>
<th>GENDER</th>
<th>M</th>
<th>SD</th>
<th>SED</th>
<th>N</th>
<th>df</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>9.53</td>
<td>5.104</td>
<td>0.932</td>
<td>30</td>
<td>58.0</td>
<td>0.699</td>
<td>0.939</td>
</tr>
<tr>
<td>Girls</td>
<td>8.53</td>
<td>5.952</td>
<td>1.087</td>
<td>30</td>
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</table>

Table 3 illustrates the test values obtained by boys and girls. In the speed performance which measured by the 50m dash test, mean score for the girls was 8.53 which was better than the boys with the mean score of 9.53. Moreover, there was no significant mean difference between the boys and the girls (t (58) = 0.699, p> .05). So the hypothesis stated for boys and girls motor skill performance that there would be no significant mean difference in speed test scores between them was accepted.

The finding also revealed with the girls mean 8.53 indicated that the girls have more speed than the boys. The t-test value indicates that though the mean shows that girls have more speed than boys it is not significant. This result is in support with Butterfield, Lehnhard, Lee and Coladarci (2004) which states that there was no sex different in running speed of 11 to 13 years of age for either initial status or growth rate.

Hypothesis 4: There would be no significant difference in agility test scores between boys and girls motor skills performance.

<table>
<thead>
<tr>
<th>GENDER</th>
<th>M</th>
<th>SD</th>
<th>SED</th>
<th>N</th>
<th>df</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>8.43</td>
<td>5.418</td>
<td>0.989</td>
<td>30</td>
<td>58.0</td>
<td>-0.148</td>
<td>0.199</td>
</tr>
<tr>
<td>Girls</td>
<td>8.60</td>
<td>2.966</td>
<td>0.542</td>
<td>30</td>
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With reference to table 4 on agility which measured the shuttle run test of boys and girls obtained mean value of 8.43 and 8.60, standard deviation of 5.418 and 2.966, and standard error deviation of 0.989 and 0.542 respectively. The independent sample t-test indicated that there was no significant difference between girls and boys at (t (58.0) = - 0.167, p > .05). Consequently, hypothesis which stated that there would be no significant difference in agility test scores between boys and girls was accepted.
This finding for the mean was not surprising because the girls were expected to more agile than boys in general. Polland, Sigward, & Powers (2007) as cited in Carol and Fabes (2008) also agreed and said girls are more flexible in their hip joints so they are agile than the boys.

**Hypothesis 5:** There would be no significant difference in reaction time test scores between boys and girls motor skills performance.

<table>
<thead>
<tr>
<th>GENDER</th>
<th>M</th>
<th>SD</th>
<th>SED</th>
<th>N</th>
<th>df</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>13.60</td>
<td>7.171</td>
<td>1.309</td>
<td>30</td>
<td>58.0</td>
<td>-0.129</td>
<td>0.770</td>
</tr>
<tr>
<td>Girls</td>
<td>13.83</td>
<td>6.838</td>
<td>1.249</td>
<td>30</td>
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<td></td>
<td></td>
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</table>

Source: field data

Table 5 outlines the values obtained by both boys and girls in the ruler drop test for reaction time. Whereas the boys had a mean value of 13.60, the girls had a value of 13.83. This showed that the girls reacted faster in the ruler drop test than the boys. The independent samples t-test of (t (58.0) = - 0.129, p > .05) showed that the hypothesis which stated that there would be no significant mean difference in reaction time of boys and girls motor skill performance was true so the hypothesis was accepted.

The finding on ruler drop test in table 5 revealed that, the reaction time of girls was better than that of the boys. The independent samples t-test value of – 0.129 indicates that the widely accepted view that girls are quick to react is really true.

4. **Summary of findings**

The summary of the study is presented in five main sections according to the hypotheses. The result revealed that:

1. In the accuracy performance, the girls performed little higher than the boys when the mean are compared but the independent t-test samples indicated that there was no significant difference between the boys and girls.
2. In the standing stroke test for balance for the boys and girls, the results indicated that girls have more balance than the boys when you looked at their means. But there was no significant difference between the boys and girls in balance.
3. There was no significant mean difference (p > .05) in running speed performance between boys and girls motor skill execution.
4. Between the boys and girls, there was no significant difference (p > .05) in the agility performance.
5. In the ruler drop test item for reaction time, the pupil had a full visualization of the examiner because the student went through eye test examination organized by happy eye clinic from Accra a day before the researcher went for the collection of data. The participants that were used for the study were declared visually fit.

5. **Conclusion**

Within the delimitations and limitations of this study, based on the data analysis, the conclusion made was that there are no differences between boys and girls in the performance of motor skills in primary 3, 4 and 5 of university practice. Also in comparing the mean values in general from the tables, it was observed that the girls performed better than the boys in all the activities.

6. **Educational Implications of the research**

Physical Education Teachers would understand and use the appropriate method of teaching which can facilitate the learning process and will provide Physical Education teachers with an effective means of improving their students’ performance, increasing their interaction, and promoting positive attitudes toward them.
7. Reference


