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GENDER AND AGE AS FACTORS IMPLICATED IN PHYSICAL SELF-EFFICACY AMONG ADOLESCENTS

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Abstract

The study investigated gender and age as factors impacting physical self-efficacy among adolescents. A total of 110 participants comprising 52 male (26 early26 late school age) and 58 female (20 early/32 late school age) adolescents were drawn from a population of Modern Ideal College, Abakpa Nike Enugu in Enugu East Local Government Area of Enugu State. They were selected making use of available sampling technique. The participants were within the ages of 12-23 years with a mean age of 16.1 and standard deviation of 1.8 years. Based on survey research design the participants were administered a 22-item questionnaire measuring physical self efficacy (Ryckman et al., 1982; Nworah, 1999) and a 2x2 Anova using method of unweighted means was applied to analyze the data. The findings indicated significant differences between young and adult university undergraduate $F(1,100) = 25.65$ at $p<.01$; and between male and female university undergraduates $F(1,100) = 17.05$ at $p<.01$; and significant interaction between age and gender on physical self efficacy $F(1,100) = 8.18$ at $p<.01$ The findings were discussed in relation to literatures reviewed and suggestions made.

Keywords: ***Self-regulation, adolescence, self-esteem, youth, personality***

INTRODUCTION

The capacity to excel in psychomotor activities and exercise control over the nature and quality of one's life is the essence of humanness. Human agency is characterized by a number of core features that operate through phenomenal and functional consciousness. These include the temporal extension of agency through intentionality and forethought, self regulation by self reactive influence and self reflectiveness about one's capacities, quality of functioning, and the meaning and purpose of ones life pursuit. Personal agency operates within a broad network of social cultural influences. In these agency transactions, people are producers as well as products of social system. Social cognitive theory distinguishes among three modes of agency. Direct personal agency, proxy agency that relies on others to act on one's best to secure desired outcomes, and collective agency exercised through socially coordinative and interdependent effort. Growing transactional embeddedness and interdependence are placing a premium on collective efficacy to exercise control over personal destinies and national life. To be an agent is to be physically self efficacious. Self efficacy is to intentionally make things happen by one's action. These believe and intentionally determine the extent one would excel in physical performance. Though, self efficacy has been associated with task choice, effort expenditure, and perseverance in the face of failure or aversive stimuli (Bandura, 1986).

Also the concept of self efficacy is predicted on the assumption that an individuals deep rooted expectation of his/her capacities directly affects the cognitive affective and the psychomotor components of the individuals abilities, and the outcome of performance. The concept of physical self efficacy refers to the psychomotor component of performance with specific emphasis on physical skills which are required in playing glances sports activities or physical activities. Self efficacy embodies the endowments, belief system, self regulatory capabilities and distributed structures and functions though which personal influence are exercised, rather than residing as a discrete entity in a particular place.

Among the mechanisms of personal agency, none is more central or pervasive than people's belief in their capacity to exercise some measure of control over their on functioning and over environmental events. According to Bandura (1997) efficacy beliefs are the foundation of human agency. Unless people believe they can produce desired results and forestall detrimental ones by their actions, they have little incentive to perform or to persevere in the face of difficulties. Whatever other factors that may operate as guide and motivator; they are noted in the core belief by one's actions. Data analyses attests to the influential role played by efficacy beliefs in human functioning (Stajkovic & Luthuns, 1998) perceived self efficacy occupies a pivotal role in the casual structure of cognitive theory because efficacy beliefs affect adaptation and change not only in their own

right, but through their impact on other determinant (Bandura, 1977). Such beliefs influence whether people think pessimistically or optimistically and in ways that are self enhancing or self hindering.

Efficacy beliefs play a central role in the self regulation of motivation through goal challenges to undertake how much effort to expect in the endeavour how long to persevere in the face of obstacles and failures, and whether failures are motivating or demoralizing. The likelihood that people will act on the outcomes they expect, prospective performance to produces, depends on their beliefs about whether or not they can produce those performances.

A strong sense of coping efficacy reduce reduces vulnerability to stress and depression in taking situations and strengthens' resilience to adversity. Efficacy beliefs also play a key role in shaping the courses lives take by influencing the types of activities and environments people choose to get into. Any factor that influences choice behaviour can profoundly affect the durations of personal development. This is because the social influence operating in selected environments continues to promote competence, values, and interests long after decisions determinant has rendered its inaugurating effect. Thus, by choosing and shaping their environment, people can have a hand in what they become.

Physical self efficacy refers to a person's beliefs that he or she has the ability, motivation, physical skills, and situational contingencies to perform psychomotor activities successfully (Meshane & Gilnow, 2000). People with high physical beliefs (positive feelings about one's physical capabilities) lead to increased effort and better performance on physical tasks and more generally excel with other challenges in life. Together these studies suggest that individual's view of their physical ability how well they think they perform as physical task may encourage or discourage physical activity.

Behavioural modeling increase physical self efficacy because people gain more self-confidence after watching performed or complete a given task. This is particularly true when observes identity with the models, such as someone who is similar in age, experience and gender related features. Observers gain confidence when the environmental cause follows a predictable pattern and there are no unexpected surprises when practicing the one behaviour. For example, computer trainees develop stronger physical self efficacy when they click the mouse and get the same computer response as it gives trainee's greater sense of control over the computer because they can predict what will happen following a particular behaviour. In other hand, people with high self efficacy believe that they are capable of performing well on a specific task, and people with low self efficacy are more prone to doubt their ability to perform a specific task. A sense of self efficacy is the belief that individuals can sill accomplishes their goals even if they have failed to do so in the past. Although, self

assessments of ability contribute to physical and self efficacy, so too does the personality of the individual. Some people simply have more self confidence than do others. This belief in their ability to perform a task effectively results in the being more self assured and more able to focus their attention on performance. This study considering the fact that a lot of factors influence people's behaviour, will focus on age and gender as factors in physical self efficacy.

Statement of the problem

Self efficacy is a belief that one is capable of achieving and realizing his or her self potentials. This belief serves as a motivator towards enhancing an individuals' ability or capability towards attaining setting moral, physical, social, mental, or even psychological successes in setting areas of life. Thus, physical self efficacy focus on the same belief but in relation to how ones physic is actualize in addition to the belief. Individuals also vary in the ability to maintain physical fitness based on their gender identity. This variation at times calls for an attention towards examining if factors like age in relation to whether an individual is male or female having attained adult age; or in relation to level of intellectual acquisition which further tends to shape our cognition about physical fitness. Thus, the study intends to find answers to the problem stated below:

Will there be a significant difference between male and female adolescents in physical self efficacy?

Will there be a significant difference between early and late school age adolescents in physical self efficacy?

Purpose of the study

The following aims motivated the study:

To determine whether there will be a significant difference between male and female adolescents in physical self efficacy.

To examine whether there will be a significant difference between early and late school age adolescents in physical self efficacy.

Theoretical Review

Much of the early psychological theories were founded on behaviouristic principles that embraced an input output model linked by an internal conduit that makes behaviour possible but exert no influence on its own behaviour. In this view, human behaviour was shaped and controlled automatically and mechanically by environmental stimuli. According to this theory, consciousness is the very substance of mental life that not only make life personally manageable but with living. A functional consciousness involves purposive accessing and deliberative processing of information for selecting, constructing, executing, regulating an evaluating courses of actions. This is achieved through intentional mobilization and productive use of somatic and pragmatic representations of activities, goals, and other future events.

Carlson (1997) underscores the central role that consciousness plays in the cognitive regulation of action and flow of mental events. There have been some attempts to reduce consciousness to an epiphenomenal by product of activities at the sub personal level, to an executive sub system in the information processing machinery or to an attention aspect of information processing. Like the legendary ponderous elephant that goes noticed, in these sub personal accounts of consciousness there is no experiencing person conceiving of ends and getting purpose fully to attain them. However, these reductive accounts remain conceptually problematic because they omit prime features of humanness such as subjectivity, deliberative self guidance, and reflective self reactiveness.

For reasons to be given shortly, consciousness cannot be reduced to a non-functional by product of the output of mental process realized mechanically at non conscious lower levels. Without a phenomenal and functional consciousness people are essential higher level automations undergoing actions devoid of any subjectivity or conscious control. Green and Vervacke (1996) observed that originally many connectionists and conceptualists regarded their conceptual models as approximations of cognitive activities.

In this view, people do not act on beliefs goals, aspirations, and expectations. Rather activation of their network structure at a sub personal level makes them do things. To make their way successfully through a complex mold full of challenges, people make good judgement about their capacities, anticipate the probable effects of different events and courses of action, size up socio cultural opportunities and constraints, and regulate their behaviour according. These believe systems are a working model of the world that enables people to achieve desired outcomes and avoid untoward ones. Forethought, generative and reflective capabilities are therefore, vital for survival and human progress. And it is on these belief systems that people physical self efficacy.

Bandura's social cognitive theory (Bandura, 1994)

Bandura's social cognitive theory by the 1970's, however, Bandura was becoming aware that a key element was missing not only from the prevalent learning theories of the day but from his own social learning theory. In 1977, with the publication of "self-efficacy: Toward a unifying theory of behavioral change" he identified the important piece of that missing element self-beliefs. With the publication of social foundations of thought and action: A social cognitive theory, Bandura (2000) advanced a view of have functioning that accord a central role of cognitive, vicarious, self-regulatory, and self-reflective processes in human adoption self-reflecting and self-regulating organisms. Bandura altered the label of his theory form social learning to social "cognitive" both to distance it from prevalent social learning theories of the day and to emphasize that cognition plays a critical role in people's capability to construct reality, self-regulate, encode information and perform behaviors.

Strategies for interpersonal dependency can be aimed at improving emotional cognitive or motivational processes, increasing behavioural completeness. Or, altering the social condition under which people live or work. To predict how human behaviour is influenced by environmental outcomes, it is critical to understand how the individual cognitively processes and interprets those outcomes. Hence, for Bandura, (2000) "a theory that services that thoughts can regulate actions does not lend itself readily to the explanation of complex human behaviour.

Social cognitive theory is rooted in a view of human agency in which individuals are agents proactively engaged in their own development and can make things happen by their actions, individuals possess self-beliefs that enable them to exercise a measure of control over their thoughts. Feeling, and actions, that "what people think, believe and feel affects how they behave" (Bandura, 2000) considering all the thoughts that affects human functioning and standing at the very core of social cognitive theory, are self-efficacy beliefs "people's judgments of their capabilities to organize and execute courses of action required attaining designated types of performance (Bandura, 2000), self-efficacy beliefs provide the foundation for human motivation and personal accomplishment. This is because unless people believe that their actions can produce the outcomes they desire, they have little incentive to act or to persevere in the face of difficulties of course; human functioning is influenced by many factors. The success or failure that people experience as they engage the myriad tasks that comprise their life naturally influence the many decisions they make. Also, the knowledge and skills they possess will certainly play critical roles in what they choose to do and not do. Individuals interpret the results of their attainments, however, just as they make judgment about the quality of the knowledge and skills they possess.

Bandura's, (1997) key orientations as regard the role of self-efficacy beliefs in human functioning is that "people's level of motivation, affective states and actions are based more on what they believe than on what is objectively true" . For this reason, how people behave can often be better predicted by the beliefs they hold about their capabilities than by what they are actually capable of accomplishing from these self-efficacy perception help determine what individuals so with the knowledge and skills they have self-efficacy has been especially prominent in studies of educational constructs such as academic achievement attributions of success and negative evaluation, dependency, goal setting, social comparisons, problem solving, memory, career development and teaching. Clearly it is not simply a matter of how capable one is, but of how capable one believes oneself to be.

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Hypotheses

The hypotheses stated below were tested:

1. There will be no significant difference between male and female adolescents in physical self efficacy.
2. There will be no significant difference between early and late school age adolescents in physical self efficacy.

METHOD

Participants

A total of 110 participants comprising 52 male (26 early26 late school age) and 58 female (20 early/32 late school age) adolescents were drawn from a population of Modern Ideal College, Abakpa Nike Enugu in Enugu East Local Government Area of Enugu State. They were selected making use of available sampling technique. The participants were within the ages of 12-23 years with a mean age of 16.1 and standard deviation of 1.8 years.

Instrument

Section "A" comprised demographic variables like gender, level of education, age and so on; while Section "B" comprised 22-item questionnaire designed to measure physical self efficacy. Each item has six options comprising strongly agree, agree, somewhat agree, somewhat disagree, and strongly disagree

The 22-item inventory is designed by (Ryckman et al., 1982; Nworah, 1999) to measure the physical component of self efficacy. The concept of self efficacy is predicated on the assumption that an individual's deep rooted expectation of his or her capabilities directly affects the cognitive, affective and the psychomotor components of the individuals' abilities, and the outcome of performance with specific emphasis on physical skills which are required in playing games and other sporting activities. PSE is thus a valuable assessment

instrument in sports psychology, health psychology, physical and health education as well as sports, games and recreation. PSE consist of three sub scales which are:

a. PPA - Perceived Physical Ability

b. PSC - Perceived self presentation confidence

c. PSE - Overall score on PSE

Administration: PSE should be administered individually or in groups after establishing adequate rapport with the clients. Please encourage them to read and follow the instruction at the top of the test form. You (the professional) may need to help young or semi-literate clients to carry out the instruction. There is no time limit for completing PSE.

Scoring: There is direct scoring and reverse scoring of the items:

Direct scoring: Add together the values of the numbers shaded in the relevant items. For example, if in items 6,7,8,9,10,11,12 the numbers shaded are: 3,2,5,4,2,5,4,2,6,1 respectively, the score for the 7 items is 3+2+5+4+2+6+1 = 23.

Reverse scoring: Change the values o the numbers from 1,2,3,4,5,6 to 6,5,4,3,2,1 respectively and add together the reversed values of the numbers shaded in the relevant items. For example, if in items 14,15,16,17,18,19,20 the numbers shaded are: 3,2,5,4,2,6,1 respectively, the score for the 7 items is 4+5+2+3+5+1+6 = 26

Direct score items: 1,2,4,5,6,7,8,9,10,12,13,15,16,18

Reverse score items: 3,9,11,14,17,19,20,21,22

The items for the scores are:

i PPA: 1,2,4,6,8,12,13,19,21,22

ii PSC: 3,5,7,9,10,14,15,16,17,18,20

iii PSE: All the 22 items.

Final scores: Add together the result of the direct and the reverse score item for each of the scales to obtain the score for the particular scale.

Psychometric properties: Ryckman et al, (1982) provided the original psychometric properties for American samples while Nworah (1999) provided the properties for Nigerian samples.

Norms: The norms reported here are the mean scores obtained by athletes and the general population in Nigeria in PSE only

Athletes (n = 50)	=	83.16
Non athletes (n=60)	=	88.65
Males (n=60)	=	88.66
Females (n=60)	=	83.15

Reliability: The reliability coefficient reported by Ryckman et al. (1982) are:

Scale retest	**Cronbach Alpha**	**6 – week test**
PPA	.84	.89
PSC	.74	.69
PSE	.81	.80

Validity: Ryckman et al (1982) reported that PSE has a significant concurrent validity coefficient with the physical self concept scale of Tennesses self concept scale (Fitts, 1965). Nworah (1999) found that PSE significantly discriminated between athletes and non athletes and using regression analysis she also found that the somatization scale of SCL -90 (Derogatis et al. 1977) contributed significantly to the variance of the PSE score for athletes.

Procedure

A total of 126 copies of the questionnaire measuring physical self efficacy were distributed within a period of two weeks across the target population Modern Ideal College, Abakpa Nike Enugu in Enugu East Local Government Area of Enugu State. 117 copies out of the number distributed were collected, and 110 that are correctly filled were scored and tabulated for analysis.

Design / statistics

Based on the questionnaire used to select the participants survey design was adopted; while a 2x2 analysis of variance F-test using the method of unweighted means was applied as a statistic to analyze the data in order to test the hypotheses.

RESULTS

Table I: summary table of means on gender and age as factors in physical self-efficacy among adolescents

		Age	
		Early	Late
Gender	Male	X = 93.31 82.50 n = 26	X = n = 26
	Female	X = 81.05	X =

From table 1 above men adolescents in early school age obtained highest group mean of x=93.31, followed by female adolescents in early school age (x 82.50), male adolescents in late school age (x = 81.05) and female adolescents in late school age (x = 79.09). The mean scores shows that male and female adolescents in early school age scored higher in physical self efficacy than male and female adolescents in late school age; while early and late school age adolescent males scored higher than early and late school age adolescent females.

Table II: summary table of 2x2 Anova on gender and age as factors in physical self-efficacy among adolescents

Source of variation	Sum of squares	df	Mean square	F	P
Rows (gender)	1552.55	1	1552.55	25.65	<.01
Columns (age)	1031.07	1	1031.07	17.05	<.01
Interaction (gender versus age)	495.18	1	495.18	8.18	<.01
Within cell	6053.71	100	60.54		

From tale II above, F-calculated value of 17.05 is greater than F-critical value of 3.94 at p<.05 and even 6.90 at p<.01 level of significance, hypothesis I which stated that "there will be no significant difference between male

and female adolescents in physical self efficacy" is hereby rejected. This means that a significant difference is observed between male and female adolescents in physical self efficacy

Also, F-calculated value of 25.65 is greater than F-critical value of 3.94 at $p<.05$ and even 9.90 at $p<.01$ indicating a significant outcome. Hence, hypothesis II which stated that "there will be no significant difference between early and late school age adolescents in physical self efficacy" is hereby rejected. This means that a significant difference is observed between early and late school age adolescents in physical self efficacy.

In addition, a significant interaction influence of age and gender as factors in physical self efficacy is hereby observed based on F-calculated value of 8.18 which is found to be greater than F-critical value of 6.90 at $p<.01$ indicating a significant outcome.

DISCUSSION

The findings of the study revealed that the first hypothesis tested which stated that "there will be no significant difference between male and female adolescents in physical self efficacy" was rejected. This means that a significant influence of gender as a factor was observed to occur in relation to physical self efficacy. This was based on the fact that the null hypothesis stated was rejected, indicating a remarkable difference between male and female adolescents in physical self efficacy. In essence, male adolescents were found to believe they have the abilities, motivations, physical skills and situational contingencies to perform psychomotor activities successfully more than female adolescents in physical self efficacy.

Matsumd (1996) in a study of college students (N = 332) observed no significant difference between male and female students in perceived physical self efficacy. However, socio-economic factors showed significant effect. Moreover, Yagamishi (1988) in a study stressed that people express their cultural orientations conditionally rather than invariantly, behaving communally under some incentive structures and individualistically under others. Consequently, the study revealed no significant influence of gender, age and education on perceived physical self efficacy. In addition, a significant interaction effect of age and level of education were also observed in physical self efficacy among teachers.

Also, the second hypothesis which stated that "there will be no significant difference between early and late school age adolescents in physical self efficacy" was rejected. This means that age as a factor has a significant effect on physical self efficacy among adolescents. This was based on the fact that the null hypothesis stated was rejected, indicating a remarkable difference between early and late school age adolescents in physical self

efficacy. In addition, early school adolescents were observed to differ significantly from late school age adolescents in physical self efficacy.

The outcome of this study tends to support the findings of Bandura (2000) who investigated sports athletics, observed a significant influence of gender on physical self efficacy. The study comprises 219 sports athletics and revealed that males were higher than females on physical self efficacy.

Kim (1994) observed a significant effect of gender on physical self efficacy in both individualistic and collectivistic socio-cultural systems. He also observed substantial generational and socio economic heterogeneity in communality among individuals in different cultural system, and even greater intra individual variation across social relationships with family members, friends, and colleagues. However, the outcome of the study is in contrast to some findings, may be the difference was a result of the fact that the early school age adolescents have more time for recreational activities and other physical exercises than late school age adolescents. Based on the findings, the researcher argues that the outcome of this research support previous findings. Apparently, gender and age were observed to be significant factors in physical self efficacy.

Implications of the findings

The findings of the study have not only theoretical implications but also practical implications as well. Since early school age adolescents were found to be high in physical self efficacy when compared with late school age adolescents efforts should be made to enhance physical self efficacy among late school age adolescents. This will enable them to develop confidence and believe that they have what it is takes to excel in psychomotor activities and enhance the entire workforce of the society. Another implication is that tutors in charge of sports in secondary schools are more likely to recruit early school adolescents in situations that require physical self efficacy, that is, individuals who have physic and likewise the belief that they are capable of engaging in any activity that involves the cognitive and the psychomotor domain.

Limitations of the study

The major limitation to this work was the attitude of the students towards responding to the questionnaire. Some of them were reluctant to respond to the questionnaire because of the tedious task of responding to a questionnaire by ticking one after the other. But the researcher established rapport and generated confidentiality with the help of their tutors which enhanced the objective completion of the copies of the research instrument. Another shortcoming was that some of the participants administered with the questionnaire failed to return them which affected the projected sample size of the study.

Suggestions for further study

Based on the findings of the study, the researcher suggests that future researchers should study other variables like course of study, birth order, marital status and socio economic status of the participants, which will help to expand the scope of the study.

In addition, other researchers should study gender and level of education as factors in physical self efficacy across other secondary schools in order to enhance the external validate of the outcome of this study. Based on the findings of this study, the researcher also suggests that an individual's age and gender should be considered in sporting activities. For example, in making decisions during athletic events; football, basketball, handball, should be sensitive to factors like age and gender as qualities of the candidates. It will help to fit the man into the sport competition especially in areas that require high physical self efficacy.

Summary and Conclusion

Early school age adolescents were found to be significantly different late school age adolescents in physical self efficacy. Also, male adolescents were found to be significantly different from female adolescents in physical self efficacy. Based on the significant interaction between gender and age in physical self efficacy among adolescents, it shows that an individuals' age and likewise his or her gender jointly influence his /her physic and the belief that he or she is capable of using both the cognitive and psychomotor domain. Based on the findings of the study, the researcher hereby concludes that an individual's gender and age are strong factors in physical self efficacy among adolescents.

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