

# Assessing the Predictors of the Content and Pedagogical Knowledge of Fitness Instructors in the Greater Accra Region of Ghana

Sarpong, E. O.<sup>1\*</sup> Apaak, D.<sup>2</sup>

1. University of Education, Winneba. Dept. of HPERs, Winneba, Ghana

2. University of Cape Coast, Sports Section. Cape Coast, Ghana

## Abstract

Fitness centers require professional instructors to ensure members obtain the safest and most effective exercise classes. Certification and licensure enable fitness instructors to demonstrate a strong desire to be knowledgeable and committed to expand their capabilities and offer more diverse services to their clientele. This study therefore sought to determine whether fitness instructors in the Greater Accra Region of Ghana had the needed professional competence required to be effective as instructors. A descriptive correlational research design was used for the study. A total of 18 instructors were purposively selected from an accessible population of 45. A researcher designed appraisal questionnaire was used to gather data for the study. Three hypotheses were tested using Pearson Product Moment Correlation Coefficient at 0.05 level of significance. The findings showed no significant relationship existed between highest academic qualification (HAQ) ( $r = .427$ ,  $p = .077$ ), area of study (AoS) ( $r = -.385$ ,  $p = .115$ , as well as years of experience (YoE) and level of knowledge ( $r = .192$ ,  $p = .444$ ) all 2-tailed. It was concluded that academic qualification, area of study and years of experience did not significantly relate with the level of knowledge suggesting that the instructors' lack of training, certification and licensure culminated into their low levels of current knowledge in fitness instruction. It was recommended that the National Association for all Sports, Ghana and other stakeholders should develop a national plan for the training, certification and licensure of Fitness Instructors in Ghana.

**Keywords:** fitness instructor, pedagogical knowledge, training, certification,

## 1. Introduction

Gymnasia and fitness centers require certification of its instructors to ensure members obtain the safest and most effective exercise classes. Many organizations provide training and certification in primary group fitness instruction, as well as in specialty areas such as step-aerobics or kickboxing. Each programme varies in its methods for teaching and certifying instructors, but all require a basic understanding of the anatomy, body mechanics and effective teaching methods (Truex, 2011; American College of Sports Medicine [ACSM], (2012). Patricia and Susan (2004) described fitness professionals as individuals "responsible for assessing, interpreting, prescribing, and designing exercise programmes for people in colleges, universities, community health agencies, fitness centers, worksites, medical settings, hotels, country clubs, government institutions and recreational programmes."

A certified Group Exercise Instructor (GEI) is an individual who works in a group exercise setting with apparently healthy individuals and those with health challenges, who are able to exercise independently to enhance quality of life, improve health-related physical fitness, manage health risks, and promote lasting health behaviour change. The GEI leads safe and effective exercise programmes using a variety of leadership techniques to foster group camaraderie, support and motivation to enhance health-related physical fitness components and any of the motor skills related to the domains of health-related physical fitness ACSM, (2012). Patricia and Susan (2004) stated that there are generally three types of people that can be referred to as fitness professionals or instructors. There are those who have higher education degrees directly related to fitness, such as exercise science and pursue the fitness profession as a full-time career. The second category talks about people with a degree in fitness or health-related fields and is thus employed as physical education teachers, athletic trainers, or sports coaches and also pursues fitness as a vocation or as an inherent part of their vocation. The third group talks about individuals who have no college or university degree in exercise science or health-related fields, but nevertheless enjoy exercise and lead healthy lifestyles. These individuals may also pursue fitness as a full-time or part-time job; however, they may lack the basic knowledge and skills associated with academic training.

Standard or effective fitness instruction must be delivered by a fitness instructor who has experience in fitness classes and has gotten the basic knowledge of exercise terminology and teaching. Courses that provide materials on anatomy, kinesiology, exercise physiology, instructional techniques, cuing, class design and injury prevention are also very essential. Fitness knowledge and trends change frequently and as a result, the fitness instructor needs to have continuing education, as well as maintain cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) and requires re-certification every two years (International Fitness

Association, 2012). Physical fitness instructors must have at least a high school diploma and possibly a bachelor's degree related to health or fitness field, such as exercise physiology, kinesiology, or physical education with knowledge in nutrition, exercise techniques, and group fitness. The instructor must also have the following qualities: customer-service skills, listening skills, motivational skills, problem-solving skills, communication skills and must be physically fit (Occupational Outlook Handbook, 2013).

Abbott (2012) corroborated that, ideally, fitness instructors and personal trainers should possess formal education in exercise science from an accredited university or a vocational school and, in addition, should be certified by a professional association with credible standards in the fitness industry. The wise, concerned, and conscientious instructor or trainer also will carry liability insurance as well as be skilled in the delivery of first aid and cardiopulmonary resuscitation (CPR), to include automated external defibrillators (AEDs). He concluded that, a lack of the above insurance and credentials may reflect professional irresponsibility.

The use of untrained volunteers was encouraged by Young, Kuder and Nelson (2012) because of its low-cost and enablement to reach large population. The challenging issue is that non- professionals may not be able to give professional service that will promote a lifestyle of optimal health.

In line with the importance of training and certification, Patricia and Susan (2004) expressed that certification helps fitness instructors to demonstrate a strong desire to be knowledgeable and committed to stay current on relevant information in order to expand their capabilities and offer more diverse services to their clientele. Vivian, (2002) corroborated this by pointing out that professional certification and licensure are two ways to ensure professional competence in the exercise science field.

Therefore, physical fitness instruction will produce total wellness when the instruction is delivered by professionals with the required formal training, recertification and with all the human relation abilities (Garber & Nigg; 2012; Koring et al, 2012; Segal, Gutin, Presta, Wang & Van Italie, 1985). Fitness leaders need to individualize their recommendations to fit the goals and interests of their clients, realizing that many need the socialization and "fun" of sports to participate regularly in exercise. Knowledge of the health benefits of physical activity (Ramadan, Vuori, Lankenau, Schmid & Pratt, 2010; Beni, Assarzadeh & Sadeghian, 2011) has led to the proliferation of 'Keep-Fit' Clubs and SPAS (1683 registered) in Ghana with no guidelines and /or policies for the management of physical activity in these clubs. This poses a major challenge to injury-free fitness instruction (Interim Working Report of Guidelines for National Sports for All and Wellness Association, Ghana [NSAWAG], 2012; Narh, 2012). Narh (2012) identified two challenging issues with the way and manner fitness activities are carried out in Ghana. The first challenge is that people jump unto the exercise wagon without proper check of their medical conditions and are therefore exposed to fatal consequences like injury, loss of consciousness and sudden death especially for people with medical conditions they (the sufferers) are not aware of. Secondly, many of the numerous keep fit clubs and gymnasias are managed by fitness trainers, instructors and assistants who have no professional training whatsoever as fitness trainers and instructors. Maximum health and physical fitness can only be obtained, through exercises designed by physical trainers and fitness professionals and conducted under the supervision of qualified trainers who know the types of exercises suitable for people of different ages, and states of health (Garber & Nigg, 2012).

It is disheartening to know that even though there is a National Association that regulates the organization of mass sport in Ghana, there is no accredited institution that trains and certifies fitness professionals like it is done in other parts of the world with examples like the American College of Sports Medicine (ACSM), the British Association of Sports and Exercise Science (BASES), Sports Medicine of Australia (SMA), and the Canadian Society of Exercise Physiologists (CSEP) where standardized curriculum is used.

There is therefore the need to establish the relationship between the level of training and the content and pedagogical knowledge of fitness instructors in Ghanaian fitness Clubs. This will help us to evaluate the effectiveness of instruction and its overall effects on fitness and health development.

The purpose of this study was to determine whether the levels of training and experience acquired by a fitness instructor influenced their content and pedagogical knowledge in fitness instruction programme delivery.

## 2. Methodology

The descriptive correlational study was employed for the study (Bordens & Abbot, 2002; Frankael & Wallen, 2000). The target population for the study was made up of fitness instructors in all the (45) forty-five fitness Clubs in the Greater Accra Region of Ghana in good standing (registered and paid-up). 18 fitness clubs representing 40% of the clubs in good standing were randomly selected for the study. Eighteen (18) fitness instructors from the sampled clubs were purposively selected for the study. Descriptive statistics of frequency counts and simple percentages were used to analyze demographic data while inferential statistics of the Pearson Product Moment Correlation Coefficient was used to test the hypotheses at a significant alpha level of  $p < 0.05$ .

### 3. Results and Analysis

**Table 1: Frequency Distribution of Fitness Instructors by Age, Gender, Highest Academic Qualification, Area of Study, Years of Experience, Fitness Instruction Training Level and Certification**

Variable	Frequency	Percent
<b>Age</b>		
30-39	4	22.2
40-49	7	38.9
50-59	4	22.2
60 and above	3	16.7
total	<b>18</b>	<b>100</b>
<b>Highest Academic Qualification</b>		
Basic	5	27.8
Secondary	6	33.3
Diploma	3	16.7
HND	1	5.6
Bachelors	1	5.6
Master	2	11.2
total	18	100
<b>Area of Study</b>		
Physical Education	3	16.7
Health Education	1	5.6
Allied Health	1	5.6
Others	13	72.2
total	18	100
<b>Years of Experience</b>		
More than 10 years	13	72.2
5-9 years	4	22.2
2-4 years	1	5.6
total	18	100
<b>Fitness Training Levels</b>		
None	4	22.2
Basic	11	61.1
Intermediate	3	16.7
total	18	100
<b>Certification (no)</b>	18	100

Table 1 shows that all the fitness instructors are males, none was below age 30, only (3) representing 20% had bachelor's degree or higher, while only 30% studied areas related to physical, health or allied health education, more than 70% had ten and more years of experience as fitness instructors, majority had basic fitness training with none of them certified.

**Table 2: Table Showing the Levels of Content and Pedagogical Knowledge of Fitness Instructors**

Area of knowledge	Frequency	Percent
<b>Knowledge of Fitness Theories</b>		
Average	8	44.4
Good	6	33.4
Very good	2	11.1
Excellent	2	11.1
total	18	100
<b>Pre-exercise Assessment</b>		
Poor	6	33.4
Average	8	44.4
Good	4	22.2
total	18	100
<b>Exercise Equipment and Machines</b>		
Poor	3	16.7
Average	14	77.8
Good	1	5.5
total	18	100
<b>Signs and Symptoms</b>		
Poor	4	22.2
Average	9	50.0
Good	5	27.8
total	18	100
<b>Mode of Instruction</b>		
Poor	6	33.3
Average	7	38.9
Good	5	27.8
total	18	100
<b>Fitness Practices</b>		
Poor	5	27.8
Average	6	33.3
Good	4	22.2
Very good	3	16.7
total	18	100
<b>Total Score</b>		
Poor	1	5.6
Average	13	77.8
Good	4	22.2
Total	18	100

Table 2 shows that fitness instructors generally have average content and pedagogical knowledge about fitness instruction. Only one of the respondents scored 27 out of the 50 items which is just a little over 50%. The result further reveals that most of the instructors performed poorly in the area of pre-exercise assessment and scored higher in the area of fitness practices than other areas of knowledge which could be as result of the academic and/or professional qualifications.

**Table 3: Correlation ‘r’ Between the Levels of Content and Pedagogical Knowledge of Instructors and Their Highest Academic Qualifications, Area of Study and Years of Experience.**

VARIABLE	Highest academic Qualification (HAQ)	Area of Study (AoS)	Years of Experience (YoE)
<b>Level of knowledge</b>			
Pearson Correlation ‘r’	.427	-.385	.192
Sig. (2 –tailed)	.077	.115	.444
N	18	18	18

**Correlation is significant at the 0.05 level (2-tailed)**

Table 3 indicates that level of knowledge has positive but weak relationship with both HAQ (.427) and YoE (.192) while it had weak and negative relationship with AoS (-.385).

#### 4. Discussion

This study was carried out to assess the predictors of content and pedagogical knowledge of fitness instructors in the Greater Accra Region of Ghana. Specific references were made to the analyses of the relationship between highest academic qualification, area of study and years of experience and level of knowledge. Level of knowledge was operationally defined as the total score obtained from specific areas in fitness instruction categorized into poor, average, good, very good and excellent.

The results from table 1 indicated that that all the fitness instructors were males, none was below age 30; only (3) representing 20% had Bachelors degree or higher, while only 30% studied areas related to physical, health or allied health education. More than 70% had more than ten years of experience as fitness instructors, and had basic fitness training without certification.

The results are in consonance with the assertion from Abbott, (2012), that fitness instructors must have at least high school certificate and a bachelor's degree in physical, health and allied health science and must be duly certified. This implies that physical fitness instruction will produce total wellness when the instruction is delivered by professionals with required formal training, certification, and recertification and with all the human relation abilities (Garber & Nigg, 2012; Segal, Gutin, Presta, Wang & Van Italie, 1985). Therefore there is a need for an academic or professional development courses for Fitness Instructors in Ghana, if the desired health and wellness benefits are to be derived from such club instructors.

Results from table 2 also showed that the level of knowledge the fitness instructors had was generally average. This fell short of the fact espoused by Abbott, (2012), that physical fitness instructors must be knowledgeable in all areas of fitness and wellness programme including anatomy, physiology as well as maintaining Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED).

The results from table 3 showed that the highest level of academic qualification (HAQ) reported had a positive and weak relationship (.427) with level of knowledge of fitness instructors. The significant (2-tailed) value of .077 is greater than 0.05 and therefore suggests that there is no statistically significant correlation between HAQ and level of knowledge. Therefore null hypothesis 1 which states that there is no significant relationship between HAQ and level of knowledge was upheld. The finding is in contrast with other researchers (Abbott, 2012; international Fitness Association, 2012; Occupational Outlook Handbook, 2013, Young, et al, 2012, Garber & Nigg, 2012) that physical fitness instructors must have at least a high school diploma and possibly a bachelor's degree related to health or fitness field needed for the acquisition of high level content and pedagogical knowledge in fitness instruction.

Similarly to null hypothesis 1, the null hypotheses 2 and 3 which stated that there will be no significant relationship between area of study and years of experience and level of knowledge respectively were also upheld also contrasting other studies by ACSM (2012), Abbott (2012), Garber and Nigg, (2012) that fitness instructors must have a bachelor's degree related to health or fitness field, such as exercise physiology, kinesiology, or physical education with knowledge in nutrition, exercise techniques, and group fitness. Fitness Instructors are also expected to possess such qualities as customer-service skills, listening skills, motivational skills, problem-solving skills and communication skills as well as being physically fit (Occupational Outlook Handbook, 2013) in order to exude professional competence.

#### 5. Conclusion

This study found that the highest academic qualification, area of study and the years of experience an instructor possess did not predict levels of content and pedagogical knowledge. This can be attributed to the fact that all the instructors were practicing without the required levels of training and certification and therefore lacked current knowledge in fitness instruction that can be acquired through continuous education (recertification every two years) as ascribed by ACSM (2012) and International Fitness Association (2012).

#### 6. Recommendations

Based on the findings of the study, the following recommendations were made:

1. The National Association for all Sports, Ghana (NASFAG), The Ministries of Education and Health and other stakeholders must develop a national plan for the training, certification and licensure of fitness instructors in Ghana.
2. Tertiary Institutions should develop certificate and Diploma Fitness Instruction training programmes in order to develop competent man-power for this important segment of Health Development
3. Investigations into why females do not work as fitness instructors in Ghana should be the focus for future research.

#### References

- Abbott, A. A. (2012): *Code Blue: Member Down: The Legal aspects*.  
Adèr, H.J. (2008). Chapter 14: Phases and initial steps in data analysis. In H.J. Adèr & G.J. Mellenbergh (Eds.)

- (with contributions by D.J. Hand), *Advising on Research Methods: A consultant's companion* (pp. 333–356). Huizen, the Netherlands: Johannes van Kessel Publishing
- American College of Sports Medicine (ACSM) (2012), ACSM's Continuing Education Self Tests moving online: *ACSM's Health and Fitness Journal*, 16 (3): 346- 355.
- Beni, A.M., Assarzadeh, M., & Sadeghian, H. (2011). The effects of combined strength endurance training on the improvements of cardiovascular disease risk factor of obese middle-aged men. *Annals of Biological Research*, 2(6), 123-129, Retrieved November 15, 2012 from <http://www.scholarsresearchlibrary.com.html>
- Bordens, K. S. & Abbot, B. B. (2002). *Research design and methods: A process approach*. Boston: the McGraw-Hill Cos Inc.
- Fraenkel, J. R. & Wallen, N. E. (2000). *Educational research: A guide to process (4<sup>th</sup>ed.)*. New York: McGraw Hill Inc.
- International Fitness Association, (2012). *Fitness Instructor Guidelines*. IFA [www.ifafitness.com](http://www.ifafitness.com), Retrieved November 15, 2012
- Koring, M., Richert, J., Lippke, S., Parschau, L., Reuter, T., & Schwarzer, R. (2012). Synergistic effects of planning and self-efficacy on physical activity. *Journal of Health Education Behaviour*, 39 (2): 152-158.
- Narh, E. (2012). *School of exercise science medicine to support gyms and keep-fit clubs in Ghana*; [www.modernghana.com/news/](http://www.modernghana.com/news/). Retrieved November 15, 2012
- Occupational Outlook Handbook (2013). [www.workplace-weekly.com/ebook-2/](http://www.workplace-weekly.com/ebook-2/) Retrieved December 5, 2013
- Patricia, P. & Susan, H. (2004). Obtaining, maintaining, and advancing your training and fitness certification. *Journal of Physical Education, Recreation and Dance*, 5 (75).
- Ramadan, J., Vuori, I., Lankenau, B., Schmid, T. & Pratt, M. (2010). Developing a national physical activity plan: The Kuwait example. *Global Health Promotion*, 17(2), 52-57.
- Segal, K. R., Gutin, B., Presta, E., Wang, J. & Van Itallie. T. B. (1985). Estimation of human body composition by electrical impedance methods. A comparative study. *Journal of Applied Physiology*, 58, 1565 – 1571.
- Truex, L. (2011). *Water aerobics instructors certification*. [www.LiveStrong.com](http://www.LiveStrong.com) (retrieved: 24/01/2015)
- Vivian, W. H. (2002). *Advanced fitness assessment and exercise prescription (4<sup>th</sup> ed.)* Human Kinetics
- Young, E., Kuder, J., & Nelson, M. E. (2012). Improved physical fitness among older female participants in a nationally disseminated, community-based exercise program. *Journal of Health Education Behaviour*, 39 (2): 183-190