# 31<sup>st</sup> ANNUAL CONFERENCE AASP2016 Phoenix, AZ Sept. 28 – Oct. 1

# 2015 Conference 2015 Schedule-At-A-Glance



118-

### 2016 Conference Proceedings • Committee & Editorial Board Meetings

### COMMITTEE & EDITORIAL BOARD MEETINGS

Wednesday, September 28

#### 9:00 AM - 12:00 PM

Certification Review Committee Camelback C

#### Thursday, September 29

11:30 AM - 12:30 PM	
Past Presidents Council Meeting	Palm 2AB
TSP Editorial Board	Camelback D
12:30 PM - 1:30 PM	
Development Committee	Sierra 1
Distinguished Student Practice Review Committee	Sierra 2
Graduate Program Committee	Eucalyptus
Hospitality Committee	Foxtail
SIG Coordinators	Noble
Research Development Committee	e Sierra 3

#### Friday, September 30

7:00 AM - 8:00 AM	
CSSEP Editorial Board	Camelback D
Diversity Committee	Eucalyptus
Ethics Committee	Goldwater
Fellow Review Committee	Ironwood
Finance Committee	Sierra 1
International Relations Committee	Juniper
Web Presence Committee	Sierra 2/3

#### 7:30 AM - 8:00 AM

Distinguished Professional Practice Foxtail Review Committee

11:30 AM - 12:30 PM

JCSP Editorial Board

Camelback D

#### 12:30 PM - 1:30 PM

Community Outreach Committee	Sierra 1
Continuing Education Committee	Sierra 2/3
Foundation Committee	Foxtail
Newsletter Committee	Goldwater
Student Development Committee	Ironwood
JASP Editorial Board	Noble

#### Saturday, October 1

7:00 AM - 8:00 AM	
JSPA Editorial Board	Noble
Sport Psychology Council	Mesquite

### POSTER SESSION I

#### THURSDAY, SEPTEMBER 29

#### 5:30 pm - 7:00 pm GRAND BALLROOM A-D

#### Aggression, Violence, and Moral Behavior

1: Moral Disengagement in U.S. National Collegiate Athletic Association (NCAA) Division III (DIII) Collegiate Athletes and Non-athletes

Teri Shigeno, University of Tennessee, USA Leslee Fisher, University of Tennessee, USA Mimi Murray, Springfield College, USA

#### 2: Predicting Deviant Behavior in Sports Using the Extended Theory of Planned Behavior

Sungho Kwon, Seoul National University, Korea Inwoo Kim, Seoul National University, Korea Hyunsoo Jeon, Seoul National University, Korea Sangwook Kang, Seoul National University, Korea Yunsik Shim, SoonChunHyang University, Korea

#### 3: WITHDRAWN

#### Anxiety, Stress, and Emotions

#### 4: The Question of Choking: An Examination of the Concept and Phenomenon of Choking Under Pressure

Ashley Fryer, Florida State University, yes Gershon Tenenbaum, Forida State University,

#### Profile of pre-competitive state anxiety of Nigerian college athletes

Olanrewaju Ipinmoroti, Tai Solarin University of Education, Nigeria

### 6: An integrated model for emotion research in sport organizations

Christopher Wagstaff, University of Portsmouth, UK Sheldon Hanton, Cardiff Metropolitan University, UK

#### 7: The relationships between mindful self-compassion and pre-competition state-anxiety of NCAA women's equestrian team athletes

Nathan Lee, California State University, Fresno, USA Jenelle Gilbert, California State University, Fresno, USA Stephanie Reed, California State University, Fresno, USA Wade Gilbert, California State University, Fresno, USA

#### 8: Intuitive control and positive competitive state anxiety: New assessments for the prediction of clutch performance

Deanna Perez, Boston University, USA Alfredo Leon, California State University, Northridge, USA Sehvan Sherikian, California State University, Northridge, USA Stefanee Van Horn, West Virginia University, USA Rocky Zamora, California State University, Northridge, USA Mark P. Otten, California State University, Northridge, USA

#### Burnout and Transition Out of Sport

9: Perceived organizational support of collegiate student-athletes transitioning out of sport and the influence on life satisfaction

Paul Knackstedt, The University of Notre Dame, USA

10: Exploring Deselection and Adjustment in Ex-Professional Soccer Players

Max Avory, Sheffield Hallam University, UK James Rumbold, Sheffield Hallam University, UK

11: Associations among Optimism, Affect, Life Satisfaction and Burnout in Collegiate Athletes

Lindsay Smith, UNC-Chapel Hill, USA J.D. DeFreese, UNC-Chapel Hill, USA Melissa Fraser, UNC-Chapel Hill, USA Jason P. Mihalik, UNC-Chapel Hill, USA Kristen Kucera, UNC-Chapel Hill, USA

#### **Clinical Issues**

12: Triggers and Risk Factors of Substance Use Among College Student Athletes

Blake Riddell, Pacific University School of Professional Psychology, USA

13: NCAA CHOICES Grants: Promising Initiatives for Sport Psychology Professionals

Nile Brandt, Ball State University, USA Nathan McGee, Ball State University, USA Selen Razon, Ball State University, USA

#### 14: Participation on university sport teams, binge drinking, and social support among first-year college students

Chelsey Bowman, Boston University, USA Jennifer Green, Boston University, USA Melissa Holt, Boston University, USA

#### Coaching/Leadership

15: An exploration of the role of the captain in field hockey: The coach's perspective.

Stewart Cotterill, University of Winchester, UK James Grant, University of Winchester, UK

#### 16: The Relationship between Perceived Autonomy-Supportive Coaching Behavior on Motivation Among High School Athletes

Chelsea Burrell, UNCG, USA Diane Gill, UNCG, USA Erin Reifsteck, UNCG, USA

#### 17: Leaders Among Leaders

Ira Martin, United States Coast Guard Academy, USA Adam Naylor, Boston University/Telos SPC, USA

#### 18: "Sportspersonship" and Positive Coaching Behavior Vincenzo Aiello, Rider University, USA Gary Brosvic, Rider University, USA

19: Coaching Competency and Trust in Coach in Sport Teams

San-Fu Kao, West Virginia University, USA

20: The Relationship between Servant Leader Coach Behaviors and Achievement Goals in Collegiate Tennis Players: The Mediating Role of Perceived Motivational Climate

Leah Parton, Eastern Washington University, USA Jon Hammermeister, Eastern Washington University, USA

#### **Consulting/Private Practice**

21: Going to Work: Examining a First-Year Experience of Developing a Sport and Performance Psychology Consulting Business

Katherine Wurst, First15 Sport Performance LLC, USA

- 22: A case of psychological support through counseling: Following the struggles of a female Olympic athlete Masashi Suzuki, Gifu University, Japan
- 23: Sport psychological support of Paralympic athletes: An Overview of current science and application

Bernd Strauss, University of Muenster, Germany Sydney Querfurth, University of Muenster, Germany Kathrin Staufenbiel, University of Muenster, Germany

#### **Developmental/Lifespan Perspectives**

- 24: Parent Motivational Climate and Goal Orientations of Female College Athletes Tobie Langsam, Springfield College, USA
- 25: Understanding Sport Expertise Development & Maintenance Through a Developmental, Motivational, and Cultural Pespective

Elmer Castillo, Florida State University, USA Jean-Charles Lebeau, Florida State University, USA Seongkwan Cho, Texas A&M International University, USA Camilo Sáenz, Florida State University, USA Graig Chow, Florida State University, USA

26: Exploring Social Influences on the Development of Athletic Identity in Varsity Athletes

Kacey Neely, University of Alberta, Canada Kassi Boyd, University of Alberta, Canada Nicholas Holt, University of Alberta, Canada

27: Dual Career Balance in Student-Athletes' University Transition

Lukas Linnér, Halmstad University, Sweden Natalia Stambulova, Halmstad University, Sweden James Parker, Halmstad University, Sweden Johan Ekengren, Halmstad University, Sweden

#### Elite Performance

#### 28: Still Playing in Traffic: Examining use of psychological skills by today's pit crew athletes

29: The Relationship between Resilience and NCAA Swimming Times: Does it Contribute to Peak Performance?

Igor Kowal, California State University, Fresno, Jenelle Gilbert, California State University, Fresno, Stephanie Moore-Reed, California State University, Fresno, Wade Gilbert, California State University, Fresno,

30: Implementing an In-Season PST Program with Elite Cyclists

Paul Wright, Lindenwood University, USA Christopher Curran, Pedal Hard, USA

31: An examination of the association between grit and the Big Five personality traits in NCAA student athletes.

Mellanie Nai, University of Wisconsin - Milwaukee, USA Barbara Meyer, University of Wisconsin - Milwaukee, USA Stacy Gnacinski, University of Wisconsin - Milwaukee, USA Monna Arvinen-Barrow, University of Wisconsin - Milwaukee, USA

32: Female Olympic and Paralympic weightlifters' experiences of preparing for major competition. Peter Olusoga, Sheffield Hallam University, UK

Hugh Gilmore, English Institute of Sport, UK Dave Hembrough, Sheffield Hallam University, UK

33: What predicts Mental Toughness in an Athlete's mind?

Wonbae Kim, Myongji College, Korea

34: Coaching from the "inside out": Understanding the role of emotional abilities in elite sports coaching

Laura Hodgson, Sheffield Hallam University, UK Joanne Butt, Sheffield Hallam University, UK Ian Maynard, Sheffield Hallam University, UK

35: Exploring relationships among self-talk and balance beam performance in gymnastics

Erika Van Dyke, Springfield College, USA Judy Van Raalte, Springfield College, USA Elizabeth Mullin, Springfield College, USA Britton Brewer, Springfield College, USA

36: An investigation into role of personality in collegiate athletes' readiness to engage in psychological skills training

Gina Emmer, University of Wisconsin-Milwaukee, USA Stacy Gnacinski, University of Wisconsin-Milwaukee, USA Jennifer Earl-Boehm, University of Wisconsin-Milwaukee, USA Monna Arvinen-Barrow, University of Wisconsin-Milwaukee, USA

#### **Exercise and Health Behaviors**

37: Senior Golfers: An Exploratory Study of Aerobic Fitness, Exercise Enjoyment, and Mood Alteration

Bonnie Berger, Bowling Green State University, USA Lynn A. Darby, Bowling Green State University, USA David R. Owen, Brooklyn College of the City University of New York, USA

Stephanie Stadden, Lenoir-Rhyne University, USA

### SPORT PSYCHOLOGY

- 38: Psycho-Physio Therapy And Its Inherent Benefits Among Higher Institution Staff In Lagos State, Nigeria Celina Adewunmi, University of Lagos - Akoka, Nigeria
- 39: The Risk of Exercise Addiction within the General Exercising Population: An Emphasis on Aerobic and Resistance Training Exercise

Jessica Smosky, USA Duncan Simpson, Barry University, USA Kathy Ludwig, USA David Feldman, USA

- 40: Assessing Student Knowledge and Incorporation of Smart Technology into Daily Physical Activity Nicole Martin, Pacific Lutheran University, USA
- 41: The development, implementation, and evaluation of an exercise psychology workshop for personal fitness trainers: A mixed-methods approach Adam Wright Arate Fitness & Porformance Training Inc. 1004

Adam Wright, Arete Fitness & Performance Training Inc., USA

42: Empowering health behavior change through fan allegiance in European football: Using contemporary motivation theories to promote health behavior change in the European Fans in Training (EuroFIT) project.

Glyn Roberts, Norwegian University of Sport Science, Norway

#### 43: "I Never Considered Not Doing It": Women's Experiences of CrossFit During Pregnancy

Tanya Prewitt-White, Adler University, USA Alexandra Bladek, Evolve Performance Consulting, USA Sarah Forsythe, Adler University, USA Logan Hamel, Adler University, USA Mary McChesney, Adler University, USA

#### 44: Does Engagement with Challenge Explain Enjoyment and Boredom in Group Fitness Classes?

Maria Newton, University of Utah, USA E. Whitney Moore, University of North Texas, USA Elyse D'Astous, University of Utah, USA

#### 45: Body and mind in yoga: Experiences of yoga teachers

Ineke Vergeer, Victoria University, Institute of Sport, Exercise and Active Living (ISEAL), Australia

Grant O'Sullivan, Victoria University, Institute of Sport, Exercise and Active Living (ISEAL), Australia

#### 46: The Relationship between Undergraduate Students' Effort, Satisfaction, and Attitudes towards Fitness Testing

Daniel Marshall, University of North Texas, USA Mitch Barton, University of North Texas, USA Gene Farren, University of North Texas, USA Paul Yeatts, University of North Texas, USA Tsz Lun (Alan) Chu, University of North Texas, USA E. Whitney Moore, University of North Texas, USA Scott Martin, University of North Texas, USA

#### 47: Results from a Six-Month Pedometer-Based Walking Program for Rural Older Adults: Effects on Self-Efficacy, Affect, and Well-Being

Samuel Forlenza, Shippensburg University, USA Sally Paulson, Shippensburg University, USA Dara Bourassa, Shippensburg University, USA Benjamin Meyer, Shippensburg University, USA Joohee Sanders, Shippensburg University, USA

#### 48: The relationship between young adults' resilience and physical fitness performance

William Travis, University of North Texas, USA Paul Yeatts, University of North Texas, USA Mitch Barton, University of North Texas, USA Gene Farren, University of North Texas, USA Tsz Lun (Alan) Chu, University of North Texas, USA Nicole Hegberg, University of North Texas, USA Scott Martin, University of North Texas, USA E. Whitney Moore, Wayne State University, USA

#### Group Dynamics

#### 49: Passion, satisfaction, and intra-team conflict in sport

Kyle Paradis, University of Western Ontario, Canada Luc Martin, Queen's University, Canada

50: Visual Anthropology: A Unit of Brotherhood in Gaelic Footballall

Lindsey Miossi, University of Illinois at Chicago, USA John Coumbe-Lilley, University of Illinois at Chicago, USA

#### Injury/Trauma/Rehabilitation

51: Psycho-Emotional Profile of Athletes Who Continue to Participate with Sport Injury

Fanchon Ohlrogge, Ohio State University, USA Dawn Lewis, California State University, Fresno, USA

- 52: From Theory to Practice: The Application of Self-Efficacy Theory to People with Disabilities. Jon Macri, John E. Macri, Ph.D., LLC, USA
- 53: Preliminary investigation into previously injured athletes' views and experiences of a multidisciplinary approach to sport injury rehabilitation



Monna Arvinen-Barrow, University of Wisconsin - Milwaukee, USA Damien Clement, West Virginia University, USA

#### 54: A Preliminary Investigation of Re-injury Anxiety in Club Sport Athletes

Stefanee Van Horn, West Virginia University, USA Damien Clement, West Virginia University, USA

#### 55: Sport Psychology in Pediatric Orthopedic Sports Medicine

Erica Force, Texas Scottish Rite Hospital & Force Sport Psychology & Counseling, USA Meagan Sabatino, Texas Scottish Rite Hospital for Children, USA Amanda Fletcher, Texas Scottish Rite Hospital for Children, USA John Ellis, Texas Scottish Rite Hospital for Children, USA Phillip Wilson, Texas Scottish Rite Hospital for Children, USA

# E THE DATE

# October 18 – 21, 2017 Hilton Orlando Lake Buena Vista Orlando, FL



### PSYCHO-PHYSIO THERAPY AND ITS INHERENT BENEFITS AMONG HIGHER INSTITUTION WORKERS IN LAGOS STATE, NIGERIA

BY

Adewunmi, Celina Mojisola (Ph.D) E-mail: cadewunmi@unilag.edu.ng Mobile no: 08023173323

Department of Human Kinetics and Health Education

University of Lagos

#### ABSTRACT

-P 349

> Maintenance of a healthy state in this era has received a paradigm shift. With the demand of day-to-day activities, there is need for the body to be conditioned to meet its obligation without breaking down. This study investigated psycho-physio therapy and its inherent benefits. The participants were one hundred and sixty non-academic staff from University of Lagos and Federal College of Education, Akoka, Lagos. They were purposively selected based on sedentary nature of their responsibilities. The participants were further selected randomly into four groups of three experimental and one control. Three hypotheses were tested at 0.05 level of significance. Mean, standard deviation and T-test were used to analyse data. There was a significant difference in the psycho therapy of the sexes [male subjects - (Experimental Group 1: 12.10 >9.40 and Control Group: 10.35>10.10)]; [female subjects - (Experimental Group 1: 12.05 >9.55 and Control Group: 10.10>9.85)]. A slight significance difference were observed in the physio therapy of the sexes [male subjects - (Experimental Group 2: 147.60 < 197.60 and Control Group: 185.25<190.25)]; [female subjects – (Expermental Group 2: 143.15 <193.40 and Control Group: 182.10<187.70)]. It was therefore concluded that both therapies have significant impact / on health of individuals. Moreover, it was recommended that an holistic approach should be adopted in prescribing physical activity programmes.

Key Words: Exercise, Physical activity, Health, Therapy

#### Introduction

The trend in health requires paradigm shift. Recent advances in psychological, medical and physiological research (Ilies, Dimotakis & Watson, 2010; Johnson, Weinman & Chater, 2011; Ogden, 2012) have led to a new way of thinking about health and illness. This conceptualization, which has been labeled the biopsychosocial model, views health and illness as the product of a

combination of factors including biological characteristics (e.g., genetic predisposition), behavioral factors (e.g., lifestyle, stress, health beliefs), and social conditions (e.g., cultural influences, family relationships, social support). Galantino, Baime, Maguire, Szapary and Farrar (2005) stressed that changes in the health-care environment during the last decade have affected the roles and responsibilities of all health-care professionals, requiring the maintenance of high quality care through adaptation to an evolving system and its continual demands.

Purdy (2013) quoting Centers for Disease Control (2010) observed that chronic diseases such as heart disease, cancer and diabetes are among the leading causes of death and disability in the United States, and nearly 1 out of 10 Americans suffer significant functional limitations as a result. An expanding evidence base implicates psychosocial etiologies in the pathophysiology of several disease states. Chronic stress exceeding an individual's capacity to cope affects the brain, endocrine system and the immune system. Integrative medicine practices with the understanding that the mind is inherently inseparable from endocrine, immune and central/peripheral nervous systems, and thus, psychophysiological interventions seek not only to eradicate disease symptomatology but also to enhance health by facilitating the mind's capacity to optimize physical function (Hoffman, Chatoff, Papas & Kerns, 2007).

Mattke et al (2013) submitted that over the last several decades, an epidemic of "lifestyle diseases" has developed in the world: unhealthy lifestyles, such as inactivity, poor nutrition, tobacco use, and frequent alcohol consumption, are driving up the prevalence of chronic disease, such as diabetes, heart disease and chronic pulmonary conditions. These chronic conditions have become a major burden, as they lead to decreased quality of life, premature death and disability, and increased health care cost. Furthermore, although chronic disease was once thought to be a problem of older age groups, there is a shift toward onset during individuals' working age that adds to the economic burden, because of illness-related loss of productivity due to absence from work (absenteeism) and reduced performance while at work (presenteeism).

Healthy living cannot be achieved by medication or diet alone. It is a lifestyle that requires dedicated action to overall mental and physical stimulation. Older people can live fulfilling lives as they age if they take initiative and are encouraged to live in a healthy way. There are four areas of focus that will help seniors achieve wellness. They are nutrition, exercise, social

involvement and mental health (Adewunmi & Olayemi, 2015). According to Scully, Kremer, Meade, Graham & Dudgeonetal (1998) the positive role that physical exercise can play in the prevention and treatment of a range of medical conditions has received a great deal of attention over recent years, with numerous high profile reports supporting the popular message that exercise is good for you. In addition, research has identified the long term protection that regular exercise affords against a plethora of somatic complaints, including coronary heart disease, hypertension, a number of cancers, diabetes and osteoporosis.

A wide array of physical and mental health benefits has been linked with living a physically active life style (Salokun, 2013). Scientific research evidences (Biddle & Mutrie, 2008; Spence, McGannon & Poon, 2005) reinforcing this impression are readily available and numerous within the physiological science and medical scenes. In the field of social sciences also, scholars are not ignorant of the possibility of some relationship between some social psychological parameters and man's style. There is however the need for a better degree of sensitivity to this relationship by more people in the society. According to McGuirk (2012) engaging in physical activity is one of the best ways to improve physical and psychological health as well as emotional health. Physical activity is defined by World Health Organiation (2004) as any bodily movement produced by skeletal muscles that require energy expenditure. It is crucial for an individual to keep physically active as sedentary living doubles the risk of mortality and morbidity by means of coronary heart disease and strokes.

Apart from physiological benefits associated with regularly performed physical exercise, a number of psychological benefits have also been reported in the literature (Edwards, Ngcobo, Edwards & Palavar, 2005; Hassmen, Koivula & Uutela, 2000; Szabo, 2003). These benefits include reduced depression, anxiety and anger, as well as generally improved mood. The potential alleviating effect of physical exercise on negative moods is highly attractive, considering the large number of people in modern society who suffer from physical problems having some type of psychological origin. The prevalence of depression alone is noteworthy-6.8% of men and 12.1% of women reported high rates of depressive symptoms when a sample of the Finnish 55-year-old population was investigated. Depression scores were also found to be higher among those with a sedentary lifestyle than among those exercising moderately. Even higher percentages have been reported for the American population, where the lifetime

prevalence of anxiety and depression has been estimated to reach 20-30% among adults (Hassmen et al, 2000).

#### **Research Hypotheses**

The following research hypotheses constituted the basic assumptions for this study:

- Physiological therapies would not have significant impact on higher institution staff in Lagos state, Nigeria.
- Psychological therapies would not have significant impact on higher institution staff in Lagos state, Nigeria.
- 3. Psycho-physiological therapies would not have significant impact on higher institution staff in Lagos state, Nigeria.

#### Methodology

Quasi experimental research design was used for the study. Participants consist of 160 nonacademic staff from University of Lagos and Federal College of Education, Akoka, Lagos, Nigeria. They were purposively selected based on sedentary nature of their responsibilities and consent to participate in the study. The participants were further selected randomly into four groups of three experimental and one control. All data were collected during work free days throughout the duration of the study.

Data were collected using the following instruments: Informed consent form, Treadmill, Bicycle ergometer, Progressive Relaxation Technique by Anshel (1997), Ikulayo Stress Management Approach (ISMA) (2007) and Questionnaire. Experimental group 1 were subjected to physiological therapies that involve Aerobics, a regimen of 30minutes of moderate speed on Treadmill and Bicycle Ergometer. Thereafter, Pulse rate, Systolic Blood Pressure and Diastolic Blood Pressure were taken. Experimental group 2 were presented and guided to use psychological therapies which include Progressive Relaxation Technique and Stress Management Technique of ISMA. A self-structured questionnaire, Adewunmi Psychological Questionnaire (APQ) was administered on the participants to ascertain their perception on psychological therapies they were subjected to. Reliability of the questionnaire was .79

Experimental group 3 on the other hand were administered with combination of physiological and psychological therapies. The control group had no treatment but were given placebo experience.

#### Results

These are comparative analyses of the measurable observations made on the research participants. The analyses were both descriptive as well as inferential in nature; however, based on each variable of interest considered in the research, the analyses include: age group classification based on gender across groups (i.e. 3 experimental groups and 1 control group), average (mean) variables observed in the participants at the pretest as well as the posttest level, and paired-sample t-test on the differences observed between the pretest and posttest level. Using the Statistical Packages for Social Sciences (SPSS) and Microsoft Excel as softwares for the analyses, the analyses were conducted on 160 sampled research participants that responded to the research instrument (i.e. questionnaires).

#### Age Group Classification based on Gender across Groups per Variable of Interest





Fig.2: Gender-based Age Grp Distribution for Grp.2





The first four figures above are *Stacked 3D Column Charts* respectively. A keen observation at each of them informs that the study involved 20 males and 20 females in each of the response groups (i.e. 3 experimental groups and 1 control group); this implies that a total of 40 respondents were sampled into each of the four groups in order to make a total of 160. Moreso, from the fact that simple random sampling was used, each of the *3D Column Charts* reveals age group classification with respect to their gender across the groups. In Group 1 (i.e. Figure 1), majority (5, 25.0%) of the 20 male respondents were aged between 35-39 years and 55-59 years; while most (6, 20.0%) of the 20 females are aged between 50-54 years; in Group 2 (i.e. Figure 2), majority (8, 40.0%) of the 20 male respondents were aged between 35-39 years; while most (6, 30.0%) of the 20 females are aged between 33-39 years; while most (6, 30.0%) of the 20 male respondents were aged between 33-39 years; while most (6, 30.0%) of the 20 male respondents were aged between 33-39 years; while most (6, 30.0%) of the 20 male respondents were aged between 33-39 years; while most (6, 30.0%) of the 20 male respondents were aged between 33-39 years; while most (6, 30.0%) of the 20 male respondents were aged between 33-39 years; while most (5, 25.0%) of the 20 male respondents were aged between 33-39 years; while most (5, 25.0%) of the 20 male respondents were aged between 33-39 years; while most (5, 25.0%) of the 20 male respondents were aged between 33-39 years; while most (5, 25.0%) of the 20 male respondents were aged between 35-39 years; while most (5, 25.0%) of the 20 male respondents were aged between 35-39 years; while most (5, 25.0%) of the 20 male respondents were aged between 35-39 years; while most (5, 25.0%) of the 20 females are aged between 35-39 years; while most (5, 25.0%) of the 20 females are aged between 55-59 years.

**Hypotheses Testing** 



### Average (Mean) Participants' Blood Pressure (Systolic and Diastolic) across the Groups

Fig. 5: Average (Mean) Systolic Blood Pressure for Males Fig.6: Average (Mean) Systolic Blood Pressure for Females

The figures above reveal that the systolic blood pressures at the posttest level were less than those at the pretest level for both males and females.

In order to test these hypotheses, paired - samples *t*-test was used, and the result obtained is shown in following tables.

# Table 1: Paired-Samples *t*-Test of Difference in the Participants' Systolic Blood Pressure Level across the four (4) Groups

	Systolic Blood Pressure																		
				Male	Subjects				Female Subjects										
	Exper	imental	Exper Grou	imental o 2	Experi Group	mental 3	Contr	Control		Experimental		rimental o 2	Experimental Group 3		Control				
	Group 1 (N=20, df=19)		(N=20, df=19)		(N=20, df=19)		Group ((N=20, df=19)		Group 1 (N=20, df=19)		(N=20, df=19)		(N=20, df=19)		Group ((N=20, df=19				
	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.			
	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error. )	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)			
Pretest	142.75		143.75		144.00		142.25		146.00		144.5		144.00		140.75				
	(1.23)	16.34	(1.20)	18.41	(1.24)	33.05	(1.28)	7.29	(0.93)	61.75	(1.35)	23.16	(1.24)	33.05	(1.67)	7.65			
Posttest	126.85	(*0.00)	126.65	(*0.00)	124.10	(*0.00)	139.55	(*0.00)	126.85	<b>(*</b> 0.00)	127.0	(*0.00)	124.10	(*0.00)	138.75	(*0.00)			
	(0.57)		(0.55)		(0.80)		(1.19)		(0.71)		(0.69)		(0.80)		(1.56)				

# \*Significant at $p\leq0.05$ ; Enclosed in the brackets are the standard errors of the mean and the level of significance

With respect to the illustrations given from the earlier graphical charts, the systolic blood pressure at the posttest level were less than those at the pretest level [Male Subjects-(Experimental Group1: 126.85 < 142.75, Experimental Group2: 126.65 < 143.75, Experimental Group3: 124.10 < 144.00, and Control Group: 139.55 < 142.25)]. The differences between these posttest and pretest systolic blood pressure were found to be statistically significant for the male subjects (Experimental Group1: t-cal. =16.34, p-value=0.00 < 0.05, Experimental Group2: t-cal. =18.41, p-value=0.00 < 0.05, Experimental Group3: t-cal. =33.05, p-value=0.00 < 0.05, and Control Group: t-cal. =7.29, p-value=0.00 < 0.05). In the same vein, the result for the females are as follows: [Female Subjects - (Experimental Group3: 124.10 < 144.00, and Control Group: 138.75 < 140.75)]. The differences between these pretest and posttest systolic blood pressure were found to be statistically significant for the females are as follows: [Female Subjects - (Experimental Group3: 124.10 < 144.00, and Control Group: 138.75 < 140.75)]. The differences between these pretest and posttest systolic blood pressure were found to be statistically significant for the female subjects (Experimental Group1: t-cal. =61.75, p-value=0.00 < 0.05, Experimental Group2: t-cal. =33.05, p-value=0.00 < 0.05, Experimental Group3: t-cal. =33.05, p-value=0.00 < 0.05, and Control Group: t-cal. =7.65, p-value=0.00 < 0.05).



Fig. 7: Average (Mean) Diastolic Blood Pressure for Male Fig. 8: Average (Mean) Diastolic Blood Pressure for Females

The figures above reveal that the diastolic blood pressures at the posttest level were less than those at the pretest level for both males and females.

In order to test whether the observed differences in the average (mean) blood pressures were statistically significant, paired - samples *t*-test was used, and the result obtained is shown in the table below.

## Table 2: Paired-Samples *t*-Test of Difference in the Participants' Diastolic Blood Pressure Level across the four (4) Groups

				2		Dia	stolic	Blood	Press	ure			_			
				Male S	Subjects		Female Subjects									
	Expe	rimental	Experimental Group 2		Experimental Group 3		Contr	Control		Experimental		rimental p 2	Experimental Group 3		Control	
	Group 1 (N=20, df=19)		(N=20	), df=19)	9) (N=20, df=19)		Group ((N=20, df=19)		Group I (N=20, df=19)		(N=20, df=19)		(N=20, df=19)		Group ((N=20, df=19)	
	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.
	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error. )	(p-value)	(Std. Error.)	(p-value)	(Std. Error. )	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)
Pretest	99.75		97.90		96.75		95.20		97.25		97.00		98.25		91.95	
	(1.47)	11.63	(1.34)	14.48	(1.42)	14.93	(1.57)	4.45	(1.23)	15.32	(1.22)	15.98	(1.46)	14.40	(1.53)	8.94
Posttest	80.80	(*0.00)	80.20	(*0.00)	78.50	(*0.00)	90.20	(*0.00)	79.80	(*0.00)	80.15	(*0.00)	78.95	(*0.00)	88.10	(*0.00)
	(0.30)		(0.38)		(0.32)		(0.85)		(0.56)		(0.33)		(0.30)		(1.39)	

\*Significant at  $p\leq 0.05$ ; Enclosed in the brackets are the standard errors of the mean and the level of significance

With respect to the illustrations given from the earlier graphical charts, the diastolic blood pressure at the posttest level were also less than those at the pretest level [Male Subjects: (Experimental Group1: 80.80 < 99.75, Experimental Group2: 80.20 < 97.90, Experimental Group3: 78.50 < 96.75, and Control Group: 90.20 < 95.20). The differences between the posttest and pretest diastolic blood pressure were found to be statistically significant for the male subjects (Experimental Group1: t-cal. =11.63, p-value=0.00 < 0.05, Experimental Group2: t-cal. =14.48, p-value=0.00 < 0.05, Experimental Group3: t-cal. =14.93, p-value=0.00 < 0.05, and Control Group: t-cal. =4.45, p-value=0.00 < 0.05). Likewise, the result for the females are as follows: [Female Subjects: (Experimental Group1: 79.80 < 97.25, Experimental Group2: 80.15 < 97.00, Experimental Group3: 78.95 < 98.25, and Control Group: 88.10 < 91.95). The differences between the pretest and posttest diastolic blood pressure were found to be statistically significant for the female subjects (Experimental Group3: 78.95 < 98.25, and Control Group1: t-cal. =15.32, p-value=0.00 < 0.05, Experimental Group2: t-cal. =15.98, p-value=0.00 < 0.05, Experimental Group3: t-cal. =14.40, p-value=0.00 < 0.05, and Control Group: t-cal. =8.94, p-value=0.00 < 0.05].

Average (Mean) Participants' Psychological Attributes (Stress Control Ability and Anxiety) across the Groups



Fig. 9: Average (Mean) Stress Control Anxiety for Males Fig. 10: Average (Mean) Stress Control Anxiety for Females The figures above reveal that the stress control ability at the posttest level were greater than those at the pretest level for both males and females.

In order to test whether the observed differences in the average (mean) psychological attributes were statistically significant, paired - samples *t*-test was used, and the result obtained is shown in the table below.

							St	ress Con	trol A	bility							
				Male	Subjects			Female Subjects									
	Experimental Group 1 (N=20, df=19)		Experimental Group 2 (N=20, df=19)		Experimental Group 3 (N=20, df=19)		Control Group ((N=20, df=19)		Experimental Group 1 (N=20, df=19)		Experimental Group 2 (N=20, df=19)		Experimental Group 3 (N=20, df=19)		Control Group ((N=20, df=15		
	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	
	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error. )	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	
Pretest	8.05		8.45		8.65		9.55		8.30		8.05		8.20		9.10		
	(0.25)	-13.27	(0.29)	-12.55	(0.28)	-17.00	(0.34)	-1.44	(0.37)	-13.32	90.25 0	-19.44	(0.30)	-14.17	(0.23)	-2.37	

 Table 3: Paired-Samples t-Test of Difference in the Participants' Stress Control Ability

 across the four (4) Treatment groups

Posttest	14.10	(*0.00)	14.20	(*0.00)	12.85	(*0.00)	9.90	(0.17)	13.60	(*0.00)	14.40	(*0.00)	12.45	(*0.00)	9.50	(*0.03)
	(0.36)		(0.35)		(0.23)		(0.40)		(0.31)		(0.23)		(0.28)		(0.34)	

### \*Significant at $p \le 0.05$ ; Enclosed in the brackets are the standard errors of the mean and the level of significance

With respect to the illustrations given from the earlier graphical charts, the stress control ability at the posttest level were greater than those at the pretest level [Male Subjects- (Experimental Group1: 14.10 > 8.05, Experimental Group2: 14.20 > 8.45, Experimental Group3: 12.85 > 12.858.65, and Control Group: 9.90 > 9.55]. For the male subjects, these differences between the pretest and posttest stress control ability were found to be statistically significant across the groups except for the Control Group (Experimental Group1: *t-cal.* =13.27, *p-value*=0.00<0.05. Experimental Group2: t-cal. =12.55, p-value=0.00<0.05, Experimental Group3: t-cal. =17.00, p-value=0.00<0.05, and Control Group: t-cal. =1.44, p-value=0.17>0.05). The results for the females are as follows: [Female Subjects - (Experimental Group1: 13.60 > 8.30, Experimental Group2: 14.40 > 8.05, Experimental Group3: 12.45 > 8.20, and Control Group: 9.50 > 9.10]. The differences between these stress control abilities were found to be statistically significant for the female subjects (Experimental Group1: *t-cal.* =13.32, p-value=0.00<0.05, Experimental Group2: t-cal. =19.44, p-value=0.00<0.05, Experimental Group3: t-cal. =14.17, p*value*=0.00<0.05, and Control Group: *t-cal.* =2.37, *p-value*=0.03<0.05).







In order to test whether the observed differences in the average (mean) psychological attributes were statistically significant, paired - samples t-test was used, and the result obtained is shown in the table below

Table 4: Paired-Samples *t*-Test of Difference in the Participants' Anxiety Management across the four (4) Groups

			1	Anxiety Mana	gement		·····					
		Male Subje	ects	Female Subjects								
	Experimental	Experimental Group 2	Experimental Group 3	Control	Experimental	Experimental Group 2	Experimental Group 3	Control				
	Group 1 (N=20, df=19)	(N=20, df=19)	(N=20, df=19)	Group ((N=20, df=19)	Group 1 (N=20, df=19)	(N=20, df=19)	(N=20, df=19)	Group ((N=20, df=19)				
	Mean t-cal. (Std. (p-value) Error.)	Mean t-cal. (Std. (p-value) Error.)	Mean t-cal. (Std. (p-value) Error.)	Mean t-cal. (Std. (p-value) Error. )	Mean t-cal. (Std. (p-value) Error.)	Mean t-cal. (Std. (p-value) Error. )	Mean t-cal. (Std. (p-value) Error.)	Mean t-cal. (Std. (p-value) Error.)				
Pretest	8.70	8.90	10.00	10.15	9.30	9.00	9.85	10.35				
Posttest	(0.13) -7.47 12.00 (*0.00)	$(0.20) -10.32$ $\overline{12.45} (*0.00)$	(0.15) -14.17 $12.60 (*0.00)$	(0.15) -1.83 $\overline{10.45}$ (0.08)	(0.33) -5.79 12.05 (*0.00)	(0.22) -12.34 12.95 (*0.00)	(0.22) -20.34 $\overline{12.65}$ (*0.00)	(0.15) -2.65 10.80 (*0.02)				
	(0.45)	(0.36)	(0.13)	(0.21)	(0.32)	(0.29)	(0.11)	(0.20)				

\*Significant at  $p \le 0.05$ ; Enclosed in the brackets are the standard errors of the mean and the level of significance

With respect to the illustrations given from the earlier graphical charts, the anxiety management at the posttest level were greater than those at the pretest level [Male Subjects- (Experimental Group1: 12.00 > 8.70, Experimental Group2: 12.45 > 8.90, Experimental Group3: 12.60 > 10.00, and Control Group: 10.45 > 10.15)]. For the male subjects, these differences between the pretest and posttest ability management were found to be statistically significant across the groups except for the Control Group (Experimental Group1: t-cal. =7.47, p-value=0.00<0.05, Experimental Group2: t-cal.=10.32, p-value=0.00<0.05, Experimental Group3: t-cal.=14.17, p-value=0.00<0.05, and Control Group: t-cal.=1.83, p-value=0.08>0.05). The results for the females are as follows: [Female Subjects - (Experimental Group1: 12.05 > 9.30, Experimental Group2: 12.95 > 9.00, Experimental Group3: 12.65 > 9.85, and Control Group: 10.80 > 10.35)]. The differences between these anxiety management were found to be statistically significant for the female subjects (Experimental Group1: t-cal.=5.79, p-value=0.00<0.05, Experimental Group2: t-cal.=12.34, p-value=0.00<0.05, Experimental Group3: t-cal.=20.34, p-value=0.00<0.05, and Control Group: t-cal.=2.65, p-value=0.02<0.05].

# Average (Mean) Participants' Cholesterol Level across the Groups



Fig.13: Male Participants' Average (Mean) Cholesterol Level across the three (3) Experimental Groups and Control Group



Fig. 14: Female Participants' Average (Mean) Cholesterol Level across the three (3) Experimental Groups and Control Group

The figures above reveal that the amounts of cholesterol at the posttest level were less than the amount at the pretest level for both males and females.

In order to test whether the observed differences in the average (mean) amount of cholesterol were statistically significant, paired - samples *t*-test was used, and the result obtained is shown in the table below.

## Table 5: Paired-Samples t-Test of Difference in the Participants' Cholesterol Level across the four (4) Treatment groups

				Male	Subjects							Female	Subjec	ts		
	Experimental Group 1 (N=20, df=19)		Experimental Group 2 (N=20, df=19)		Experimental Group 3 ( <i>N=20, df=19</i> )		Control Group ((N=20, df=19)		Experimental Group 1 (N=20, df=19)		Experimental Group 2 (N=20, df=19)		Experimental Group 3 (N=20, df=19)		Contr Group ((N=2	rol 9 90, <i>df=19)</i>
	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.	Mean	t-cal.
	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)	(Std. Error. )	(p-value)	(Std. Error.)	(p-value)	(Std. Error.)	(p-value)
Pretest	198.20		197.60		195.00	****	190.25		198.00	<u></u>	193.4		194.30		187.70	
	(2.56)	66.83	(2.19)	NS	(2.76)	NS	(2.86)	NS	(1.67)	NS	(3.30)	285.77	(2.32)	NS	(3.40)	NS
Posttest	146.80	(*0.00)	147.60	-	140.00	=	185.25	-	148.00		143.1	(*0.00)	139.30	-	182.70	-
	(2.51)		(2.19)		(2.76)		(2.86)		(1.67)		(3.24)		(2.32)		(3.40)	

\*Significant at  $p \le 0.05$ ; NS = No Statistic; Enclosed in the brackets are the standard errors of the mean and the level of significance

The table above reveals that for males and females, the amount of cholesterol at the posttest level were less than the amount at the pretest level [Male Subjects- (Experimental Group1: 146.80 < 198.20, Experimental Group2: 147.60 < 197.60, Experimental Group3: 140.00 < 195.00, and Control Group: 185.25 < 190.25)]. The difference between these posttest and pretest cholesterol level was found to be statistically significant for these male subjects only in experimental group 1 (Experimental Group1: t-cal. =66.83, p-value=0.00 < 0.05), but surprisingly there were no statistics computed for other groups because the standard error of the mean difference between the posttest and the pretest is 0 (i.e. zero)or approximate of 0 (zero).

The result for the female subjects [**Female Subjects**- (Experimental Group1: 148.00 < 198.00, Experimental Group2: 143.15 < 193.40, Experimental Group3: 139.30 < 194.30, and Control Group: 182.70 < 187.70]. The difference between these posttest and pretest cholesterol level was found to be statistically significant for these male subjects only in experimental group 2 (Experimental Group2: *t-cal.* =285.77, *p-value*=0.00<0.05), but surprisingly there were no statistics computed for other groups because the standard error of the mean difference between the posttest and the pretest is 0 (i.e. zero) or approximate of 0 (zero).

#### Summary of the Research Findings

After carefully done analyses of the research, below is the summary of the findings in the research:

- 1. There is a statistical significant difference between the posttest and pretest systolic blood pressures for both males and females across the groups.
- 2. There is a statistical significant difference between the posttest and pretest diastolic blood pressures for both males and females across the groups.
- 3. For psychological attributes like stress control ability and anxiety management, the females experienced a statistical significant difference between the posttest and pretest levels across the groups; however, for the males, the statistical significant difference between the posttest and pretest levels was only found across the three experimental groups.
- 4. For amount of cholesterol, the statistical significant difference was only obtained for males in experimental group 1 and for females in experimental group 2. There were no statistics computed for other groups because the standard error of the mean difference between the posttest and the pretest is 0 (i.e. zero) or approximate of 0 (zero).

#### Discussion

The physiological therapies which the central focus was on physical activity level of participants have significant impact on the study variables. The differences between the posttest and pretest of both systolic and diastolic blood pressure were found to be statistically significant for the experimental groups compare with control group. Many forms of physical activity are healthy; it is pleasing to see that physical activity for health is now very high priority for governments and other agencies (Biddle & Mutrie, 2008). Professional Associations for Physical Activity (2010) reported that physical activity benefits many parts of the body – the heart, skeletal muscles, bones, blood (for example, cholesterol levels), the immune system and the nervous system – and can reduce many of the risk factors for NCDs (Non-communicable diseases). These risk factors include: reducing blood pressure, improving blood cholesterol levels and lowering body mass index (BMI).

Significant health benefits can be achieved from regular physical activity (McGuirk, 2012), the right amount of PA which is at least 30 minutes of moderate activity a day, 5 times a week, or 20 minutes of vigorous activity at least 3 days a week according to Gorin and Arnold (2006),

take a positive effect on mental and general health. Haskell et al (2007) also reported that a combination of moderate and vigorous PA in greater than 10 minute bouts produce health benefits. These bouts can lead to numerous overall health benefits, for example in fitness (Bouchard, Bear & Haskell, 2007), PA also participates in a reduction in blood pressure and bad cholesterol (Myers, 2003) as well as playing a role in preventing chronic diseases such as obesity, hypertension, cancer and diabetes (Warburton, Nicol & Bredin, 2006).

The result of the study also established significance difference in the second and third hypotheses. In view of this, psychological therapies and combination of physiological and psychological therapies would improve the health of average workers. In proffering suggestion to active health lifestyle, physiological and psychological techniques should be emphasized. The psychological techniques would also provide reinforcement for continuation when participants are experiencing lethargic factors. Biddle and Mutrie (2008) postulated that physical activity are placed within a wider framework of psychological factors, it shows how important 'cognitive mediation' is in physical activity decision-making. For example, even when a workplace is well served with dedicated cycle routes and safe walking routes, creating an incentive system for people to cycle or walk to work still requires the development of beliefs and attitudes, as well as decision-making, choice, motivation and, ultimately, behavior on the part of the individual.

In the study of Hassmen et al (2000) on physical exercise and psychological well-being using adult participants in Finland, the results agree with the findings of this study as it indicates a consistent association between enhanced psychological well-being, as measured using a variety of psychological inventories, and regular physical exercise. They emphasized further that apart from physiological benefits associated with regularly performed physical exercise, a number of psychological benefits have also been established. These benefits include reduced depression, anxiety and anger, as well as generally improved mood. This study has established the fact that psychological consideration must be enshrined in a planned programme of physical activity.

#### Conclusion

The health and well-being of workers in any organization cannot be left unprioritized by management and workers themselves. Active and healthy workforces are guarantee of delivery and meeting the set vision and mission of an organization. In view of this, sedentary and all

categories of workers should be encouraged to adopt engaging in a balanced physical activity as a lifestyle. This study established that a combination of physiological and psychological therapies would foster healthy habit. Research in epidemiology reveals that a physically active lifestyle yields numerous health benefits. Evidence also shows that physical activity is associated with positive mental well being and reduced reactivity to cognitive stress.

#### References

- Adewunmi, C.M., & Olayemi, B.O (2015). Psychological benefits of exercise on health and wellness. Journal of Research and Contemporary Issues in Human Kinetics and Health Education, 2 (1), 106-114.
- Biddle, S.J.H., Mutrie, N. (2008). Psychology of Physical Activity: Determinants, well-being and interventions (2<sup>nd</sup> ed.). New York, NY: Routledge.
- Bouchard, C., Bear, S.N., & Haskell, W. (2007). *Physical Activity and Health*. Illinois: Human Kinetics Inc.
- Edwards, S.D., Ngcobo, H.S.B., Edwards, D.J., & Palavar, K. (2005). Exploring the relationship between physical activity, psychological well-being and physical self-perception in different exercise groups. South African Journal for Research in Sport, Physical Education and Recreation, 27(1), 75-90.
- Galantino, M.L., Baime, M., Maguire, M., Szapary, P.O & Farrar, J.T. (2005). Comparison of psychological and physiological measures of stress in health care professionals during an eight-week mindfulness meditation programme. *Stress and Health 21(1)*, 255–261.

Gorin, S.S., & Arnold, J. (2006). Health Promotion in Practice. San Francisco: Jossey-Bass

- Haskell, W.L., Lee, I.M., Pate, R. R., Powell, K. E., Blair, S. N., Franklin, B. A., Macera, C., Health, G., Thompson, P.D., & Bauman, A. (2007). Physical activity and public health: Updated recommendation for 317 adults from the American College of Sports Medicine and the American Heart Association. *Medicine & Science in Sports & Exercise*, 39, 1423– 1434.
- Hassmen, P., Koivula, N., & Uutela, A. (2000). Physical exercise and psychological well-being: a population study in Finland. *Preventive Medicine* 30, 17–25.
- Hoffman B, Chatoff D, Papas R, Kerns R. (2007). Meta-analysis of psychological interventions for chronic low back pain. *Health Psychology*, 26(1), 1–9.
- Johnson, M., Weinman, J., & Chater, A. (2011) A healthy contribution. *Health Psychology*, 24 (12), 890-902.
- Ilies, R., Dimotakis, N., & Watson, D. (2010). Mood, blood pressure, and heart rate at work: An experience-sampling study. *Journal of Occupational Health Psychology*, 15(2), 120-130.

- Mattke, S., Liu, H., Caloyeras, J.P., Huang, C.Y., Busum, K.R., Khodyakov, D & Shier, V. (2013). Workplace wellness programs study. Santa Monica: Rand Corporation.
- McGuirk, E. (2012). Physical activity, its relationship with psychological well being and self perception, and in keeping us all psychologically healthier, (Unpublished Research Project). DBS School of Arts.

Myers, J. (2003). Exercise and cardiovascular health. Circulation, 107(1), 2-5.

- Ogden, J. (2012). Health psychology: a textbook (5th ed.). Maidenhead, UK: Open University Press.
- Professional Associations for Physical Activity. (2010). Physical Activity in the Prevention and Treatment of Disease. Retrieved from http://www.fhi.se/en/Publications/All-publicationsin-english/Physical-Activity-inthe-Prevention-and-Treatment-of-Desease/
- Purdy, J. (2013). Chronic physical illness: a psychophysiological approach for chronic physical illness. *Yale Journal of Biology and Medicine*, 86 (1), 15–28.
- Salokun, S.O. (2013). Psychological implication of active lifestyle on wellness. Lagos: Kogbon print and communications.
- Scully, D., Kremer, J., Meade, M.M., Graham, R & Dudgeonetal, K. (1998). Physical exercise and psychological well being: a critical review. *Journal of Sport Medicine*, 32 (1), 111– 120.
- Spence, J.C., McGannon, K.R., & Poon, P. (2005). The effect of exercise on global self-esteem: a quantitative review, *Journal of Sport and Exercise Psychology*, 27, 311-334.
- Szabo, A. (2003). Acute psychological benefits of exercise performed at self-selected workloads: implications for theory and practice. *Journal of Sports Science and Medicine*, *2*, 77-87
- Warburton, D., Nicol, C. & Bredin, S. (2006). Health benefits of physical activity: the evidence. Canadian Medical Association Journal, 174(6), 801-809.
- World Health Organization (WHO). (2004). Global Strategy on Diet, Physical Activity and Health. Geneva: World Health Organisation. Retrieved from: http://www.who.int/dietphysicalactivity/publications/facts/pa/en/index.html