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Physical Activity Status of Gyms and Outdoor Based Group Fitness Program Participants as A Sustainable Health Model*

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Abstract

Health benefits of being physically active are well documented and accepted as a remedy for many non-communicable diseases (NCDs). Yet many people are reluctant to make lifestyle adjustments to adopt available fitness programs sustainably. The study assessed Physical Activity Status (PAS) among young adults in Nairobi County who participate in Gym Based Group Fitness Programs (GBGFPs) and Outdoor Based Group Fitness Programs (OBGFPs) to a sustainable health model guided by the 3rd SDG. The objective was to assess PAS between GBGFP and OBGFP participants and across socio-demographic characteristics. The study used a cross-sectional analytical survey research design and a GPAQ questionnaire. Tools used were; descriptive statistics, Cross tabulations, independent T-test and chi-square. The findings were gender distribution was 37.6% male and 62.4% female with 45.6% outdoor and 54.4% gym participants. PAS (Activity at work t(240)=-7.562,p<.000, Travel/cycle t(313)=-6.176,p<.000 and Recreational activity t(295)=-6.273,p<.000 showed a significant difference where outdoor had more participants than gym. However, Sedentary behavior t(338)=-109,p<.913 had more gym participants and showed no significant difference. There was a significant relationship between the mode of training and the social-demographic status age and marital status unlike gender. The conclusion of this study informed and advocated for more efficacious sustainable fitness programs and brought more knowledge to the different social classes on the need to indulge and sustain fitness for good health. They findings greatly assist design more appropriate programs in the world of fitness harnessing the benefits of outdoor and gym based programs.
Keywords: Sustainable development goal, Physical activity, Recreation, Health

* This study is derived from the author's "Physical Activity Status of Gyms And Outdoor Based Group Fitness Program Participants as A Sustainable Health Model" titled master thesis, completed under the supervision of the 2nd and 3rd author.

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INTRODUCTION

Each year about 17 million people die from non-communicable diseases (NCDs) before the age of 65 years, 87% of these premature deaths occur to the low and the middle-income countries (Pryor et al., 2017). Lack of, inadequate of, inconsistency of physical activity, tobacco use, harmful use of alcohol and unhealthy diets all increase the risk of dying from NCDs (Watts, 2015). Developing countries have a high low-income population who according to the world standards, have a daily spend or survival income of less than a dollar, have unhealthy diets and their living standards are below average (Wickford & Duttine, 2013). It is widely documented the health benefits of a longitudinal physical activeness in exercises yet many are still reluctant in lifestyle adjustment. Hence the question of whether there is enough awareness out there, and what other programs are on board to help curb the sedentary lifestyle on the young energetic adult population (Watts, 2015). The rapid industrialization has made gym fitness to be accessible to the urban population. This has brought a great wind of popularity, thus indoors are now designated as the primary source of physical fitness (Theofilou & Saborit, 2013). In the last one-decade outdoor fitness has had very few engagements worldwide yet it has recorded the least numbers of withdrawals in comparison with gym fitness programs (Kaleth et al., 2011). A total of 50% of the gym participants withdraw from their program within the first 6 months. Only 38% of the outdoor participants withdraw from their program in the same number of months thus lots of thoughts on the fitness practitioners (Theofilou & Saborit, 2013).

Outdoor group fitness is of particular interest in achieving the first three UN Sustainable development goals following the high numbers of developing countries with low and middle-income young adults (Wickford & Duttine, 2013).

Global statistics on participation as outlined by Outdoor Recreation Participation Topline Report, (2016) shows that Outdoor running (jogging and trail running) is done by 14.9% adults while outdoor bicycling (road and mountain) is done by 12.3% adults globally. Nielsen Global Consumer Exercise Trends Survey, (2014) summated Indoor fitness in that, there are about 153.000 health club facilities worldwide and they serve a membership of about 1.7% of the world population.

In Kenya about 82% children and youths engage in physical activities or any bodily movement generated by skeletal muscles and needs energy expenditure whereas 50% engage in sufficient physical activity practices which are activities tailored to enhance physical fitness and maintain overall good health and wellness (Onywera et al., 2016). The other phase 68% of young adults engage in physical activity while 42% engage in sufficient physical activity practices geared to optimal good health (Kitur, 2010). According to Nielsen Global Consumer Exercise Trends Survey, (2014) 36% of males and 52% of females participate in group fitness exercise.

The future fitness industry has been confined and turned into a business venture thus not accessible to every individual due to their financial requirements difference. This has led to laxity and increase of lifestyle diseases thus an overall strain in the health budget. Different outdoor and gym based fitness programs have been emerging and only very few have been

studied to give optimal physical activity to young adults in Kenya. This has brought the need to test the physical activity status of the outdoor and gym programs participants. This study researched the physical activity status and brought more knowledge and light on the other reliable and sustainable fitness options for all the young adult population.

Theoretical Framework and Previous Studies

The study employed a Social Cognitive Theory (SCT). The SCT focuses on individual's response consequences. The vicarious learning of others in their social situations and degree of attachment which result to cost benefit analysis to attempt a given behavior (Conner & Norman, 2007). The theory encompasses some varieties of models such as health belief model, theory of planned behavior, health locus of control and the theory of reasoned action on individuals (Conner & Norman, 2005). The study focuses on the health behavior from a social cognitive theory framework. The test of variables of the SCT it's relation to the physical activity status of the gym fitness participants versus the outdoor fitness participants. According to SCT a reciprocal relationship exists, when the natural environment, behavior and internal factors of the outdoor fitness group participant are biologically, affectively and cognitively influenced by ones behavior (Bandura, 1997). According to Bandura, individual beliefs of self-efficacy are central to a process of decision making to participate in physical activity with greater levels of self-efficacy aiding to higher goal setting and great commitment to accomplish goals. Great physical activity status is denoted when a participant's levels of the exercise program self-efficacy is high thus obstacles are viewed less challenging and self-managed skills are relatively high to such exercise participants (Bandura, 2004). Thus health behavior research has demonstrated the SCT construct of self-efficacy having strong positive association with physical activity status thus this theoretical framework was most suitable for the study.

Every individual stands a chance to participate and benefit from exercises and physical activities in various capacities if you engage in them. Achieving good health is a global challenge and any program bringing new knowledge on board is readily accepted.

A study by Giarmatzis et al., (2015) on the outdoor and laboratory walking and running showed that in as much as both walks led to improvement in affective (revitalization, arousal, physical exhaustion and total engagement) responses, the participant reported greater pleasant affective states of enjoyment and lots of intentions to future walking in outdoors. The self-selected speed was slightly higher in outdoors and there was less Rating on the Perceived Exertion (RPE) the research was strictly on the rating of perceived exertion thus did not address much. Ferro & Floria, (2013) on the other hand did a comparison between the outdoor and indoor fitness programs on the RPE- guided exercise, the findings were; speed, heart rate and also blood lactates differed in these environments. Physiological responses were higher outdoors thus same exercise evaluated by perceived feeling and the guidance should be two RPE-units less for outdoors, similarly same effect- less RPE with same speed (Giarmatzis et al., 2015). Their findings were enclosed to the physiological changes of the participants in the outdoor and the gym environment thus no much knowledge on the other health components. The current study did not evaluate the fine variables, like the above study. However, we can deduce that there is an increased outdoor based group fitness program participating mean unlike

the gym based group fitness program participant's mean in the respective programs as per the study findings.

A study on the restorative quality of indoors and outdoors exercise settings as a predictor of the exercise frequency in Swiss on a group of 320 subjects, found out that outdoor setting was more rated restorative. Each environment rated the predicament of; the frequency of the exercise the past 30 days, independence of socio-demographic characteristics, expectations of the participants to the benefits of the exercise (health & social) and the personal barriers (Impact of outdoor environment on fall incidences among older adults by frequency of outdoor use, 2016). The study did not bring out the efficacy of the participants to the different exercise settings. The current study had a section on the participants exercise self-efficacy to the two programs, the outdoor based group fitness program had a high mean rank in efficacy unlike the participants in gym based group fitness program.

Allen-Craig & Hartley, (2012) conducted a study on long term effect of physical outdoor education on women. The conclusion was that the physical education program with the outdoor activities gave significant results in fitness, body composition levels, great cardiovascular endurance, muscle strength and endurance and better flexibility than the indoor physical education. The study was limited to health related fitness components only and did not enlighten on the descriptive perception of the participants. The current study was not limited to women only and it encompasses both the health benefits and rating of training.

METHODOLOGY

Study Design and Participants

The study employed a cross-sectional analytical survey design to assess physical activity status among participants in outdoor and gym based group fitness programs in Nairobi County Kenya.

The study's independent variable was mode of training and was measured at a nominal level. It included gym based group fitness programs, outdoor based group fitness programs and the demographic information of the respondents. The gym program included group aerobics, dances and circuit training. Outdoor programs included running, cycling and boot-camps, while the dependent variable was physical activity status measured at an ordinal level.

The study was conducted among clients with membership at the selected gyms with group fitness training centers and outdoor fitness group participants in Nairobi County. The outdoor study regions included partial Thika Superhighway, Karura Forest which is shared with Kiambu County, Nairobi arboretum, City Park, Spring Valley lower Kabete road, Chaka road in Hurlingham, partial Mombasa road, Outering road, Kasarani Mwiki, Jogoo road and Zimmerman Mirema.

The target population was guided by the client's membership at the fitness centers and the outdoor groups located in Nairobi County. The Nairobi Business Directory (2016) and the Yellow Pages Directory (2016) under the categories of 'Gyms and Fitness Centers in Nairobi'

was used. The total number of the gyms were 279 but those with group fitness are 170 gyms, while Outdoor fitness groups were 15 as cited by the ("Running Groups in Kenya Archives – Jambonairobi", 2017). The minimum number per the indoor fitness facility needed to be at least 10 in the 170 indoor group fitness facilities in Nairobi County thus the target population was approximately 170x10=1700. The outdoor fitness group were 15 with a minimum of 100 thus an approximate population of 15*100=1500. This gives us a total target population of 3200 clients in both gym and outdoor based group fitness programs.

Instruments

The study used a well-structured self-administered questionnaire. Which was structured as follows; sociodemographic factors of the participant and an adopted World Health Organizations Global Physical Activity Questionnaire (GPAQ) Hankins and Smith, (2007) to assess the level of PA participation of the gym and outdoor based fitness groups. The questionnaire has been validated by Herrmann, Heumann, Der Ananian & Ainsworth, (2013) for use in WHO member countries where Kenya is a member. It consists of 16 questions collecting information on PA participation in 4 domains: activity at work, travel to and from places, and recreation activities.

Validity was ensured by having the draft questionnaires discussed and relevant comments made which were synchronized by the experts and professionals to see the objectivity and also critique the clarity and how adequate was the research instruments. Reliability of the data collection instrument was tested by a test-retest reliability method The questionnaire was administered twice to the same group of people with a difference of one-month period. The pre-test and post-test scores gave a reliability index of 0.92 which is considered adequate.

Ethical considerations

The study clearance was obtained from the Kenyatta University Graduate School and the Kenyatta University Ethical Review Board. Research authorization and permit was obtained from the National Council for Science, Technology and Innovation (NACOSTI). The authorization to collect data was obtained from Regional Coordinator of Education Nairobi City County. Permission to collect data from clients at selected gym based fitness centres was obtained from managers and fitness instructors and from outdoor fitness managers/coaches, and prior arrangements for the right time to access clients was arranged. The 5 research assistants were sports science undergraduate, and prior training both verbal and written information on interpersonal skills, socio-demographic items, inclusion and exclusion criteria happened before pre-test so as to help administer the questionnaires with utmost profession.

Data analysis

For individual scores data was summarized into percentages means and standard deviations. Cross tabulations were done for analysis of nominal level data to establish the physical performance in relation to gym based and outdoor based program. Chi square was used to test the relationship of participants social-demographic status among the two programs the gym based program and outdoor based program. Normality tests were run to establish the sample distribution. Independent sample t- test was run to test the mean difference significance.

RESULTS

Table 1. Descriptive statistics for all study variables

Age(Years)	**20-25**	**26-30**	**31-35**	**36-40**	**41-45**	**Total**
Frequency	66(19.4%)	81(23.8%)	63(18.5%)	62(18.2%)	68(20%)	
Gender	Male	Female				
Frequency	128(37.6%)	212(62.4%)				
Marital Status	Divorced	Single	Married	Windowed		
Frequency	6(1.8%)	156(45.9%)	163(47.9%)	15(4.4%)		
Mode of Training	Gym	Outdoor				
Frequency	185(54.4%)	155(45.6%)				

Physical Activity Status among Participants in Gyms and Outdoor Based Group Fitness Programs

The assessment of the physical activity status was done in guidance to the categories provided by the GPAQ questionnaire. Every category will be analyzed individually and all of them will build up to the general hypothesis. These categories include; Activity at work (vigorous and moderate), Travel/cycling to and from places, Recreational activities (vigorous and moderate) and lastly Sedentary behavior of the respondents

Activity at Work

Vigorous Activity at Work

The study showed that there were 112 and 131 participants in gyms and outdoor based fitness programs respectively who did vigorous activities at work. 42.9% (48) of the gym based fitness participants worked out for 0- 2 days in a week compared to 11.5% (15) in outdoor based fitness programs, 58.1% (58) in gym based fitness program worked out for 3- 5 days compared to 66.4% (87) in outdoor based fitness program with only 5.4% (6) and 22.1% (29) working out between 6- 7 days for gym and outdoor based fitness programs respectively. This implied that there were more outdoor based fitness participants engaging in vigorous activities at work for 3-7 days unlike the gym based fitness participants.

Time Taken for Vigorous Activities at Work

The mean time for vigorous activities at work for gym based fitness program participants was M=1.03, SD=0.5965 while for outdoor based fitness program was M=1.68, SD=0.70961 as shown in the table 4.5. This implies that participants of the outdoor based fitness program worked out more hours than those who participated in gym based fitness program.

Table 2. Time taken for vigorous intensity activities at work

Group Statistics	**Mode of training**	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Time for the vigorous intensity activities	Gym based training	111	1.0315	.59650	.05662
	Outdoor based training	131	1.6756	.70961	.06200

We can therefore say that from the results in the table 4.6 below, when an independent t-test was computed on the means of the time taken in the vigorous activities for both the gym and the outdoor based group fitness programs. The $t(240) = -7.562$, $p<.000$ which is less than our 95% confidence level showing there is a significance difference in duration of vigorous activities for gym and outdoor participants.

Moderate Activities at Work

The study results in the table 4.7 below showed that there were 56 and 17 participants in gyms and outdoor based fitness programs respectively who did moderate activities at work. 48.2% (27) of the gym based fitness participants worked out for 0- 2 days in a week compared to 5.8% (1) in outdoor based fitness programs, 51.8% (29) in gym based fitness program worked out for 3- 5 days compared to 76.5% (13) in outdoor based fitness program with only 0.0% (0) and 17.6% (3) working out between 6- 7 days for gym and outdoor based fitness programs respectively.

The Mean time taken for moderate intensity activities is M=1.09, SD=0.65544 for gym participants, while the mean time taken by outdoor participants was M=1.77, SD=0.92725 as shown in table 4.8 below

Table 3. Time taken for moderate intensity activities at work

Group Statistics	Mode of training	N	Mean	Std. Deviation	Std. Error Mean
Time for moderate intensity activities	Gym based training	139	1.0935	.65544	.05559
	Outdoor based training	139	1.7662	.92725	.07865

We can therefore say that from the results in the table 4.9 below, when an independent t-test was computed on the means of the time taken in the moderate activities for both the gym and the outdoor based group fitness programs. The t(276) =-6.984, p<.000 which is less than our 95% confidence level showing there is a significance difference in duration of moderate activities for gym and outdoor participants.

Travel/Cycling to and from Places

Majority of the respondents 92.6% (315) participated in walking and cycling activities while 7.4% (25) did not participate in either walking or cycling as shown in the table 4.10 below.

There were 315 participants who walk or cycle for at least 10 minutes, 52.7% (166) do it in gyms while 149 do it outdoors. Among those who do cycling or walking exercises, majority 44.6% (74) and 47.0% (70) do so between 3-5 days in a week for both gym and outdoor based fitness program respectively. 41.6% (69) and 27.5% (41) do so between 0-2 days in a week for both gym and outdoor based fitness program respectively. The minority 13,9% (23) and 25.5% (38) do so between 6-7 days in a week for both gym and outdoor based fitness program respectively.

The mean time taken by gym based fitness participants in walking and cycling is M=1.09, SD=0.61370 per day while for outdoor based fitness participants is M=1.66, SD=1,00748 as illustrated in the table 4.11 below.

Table 4. Time taken for travelling /cycling as per the two mode of training

Group Statistics	Mode of training	N	Mean	Std. Deviation	Std. Error Mean
Time for walk or cycle	Gym based training	166	1.0904	.61370	.04763
	Outdoor based training	149	1.6644	1.00748	.08254

We can therefore say that from the results in the table 4.12 below, when an independent t-test was computed on the means of the time taken in travelling/cycling activities for both the gym and the outdoor based group fitness programs. The t(313)= -6.176, p<.000 which is less than

our 95% confidence level showing there is a significance difference in duration of travel/cycling activity for gym and outdoor participants.

Recreational Activities

Vigorous Intensity for Recreational Activities

An overall 84.7% (288) of all respondents participate in sports, fitness or recreational (leisure) activities while 15.3% (52) do not as illustrated in the table 4.13 below. In relation to the program that they participate, 87.6% of gym program participants were involved in vigorous intensity, sports, fitness or recreational (leisure) activities with only 81.3% of outdoor based program participating in such activities.

For gym based program participants 46.3% (75) did vigorous intensity sports and recreational activities for 0- 2days, 53.7% (87) for 3- 5 days and 0% for 6-7 days. On the other hand, 21.4% (27) of outdoor based training participated for 0- 2 days, 76.2% (96) for 3 to 5 days while 2.4% (3) did participate for 6- 7 days.

For gym based goers the mean time is M=1.06, SD=0.55556 for outdoor participants, the mean time is M=1.47, SD=0.57225 as illustrated in the table 4.14 below.

Table 5. Mean time taken for vigorous intensity in recreational activities

Group Statistics	Mode of training	N	Mean	Std. Deviation	Std. Error Mean
Time for vigorous intensity sports for recreation	Gym based training	162	1.0586	.55556	.04365
	Outdoor based training	135	1.4704	.57225	.04925

We can therefore say that from the results in the table 4.15 below, when an independent t-test was computed on the means of the time taken in vigorous recreational activities for both the gym and the outdoor based group fitness programs. The t(295)= -6.273,p<.000 which is less than our 95% confidence level showing there is a significance difference in duration of Vigorous recreational activity for gym and outdoor participants.

Moderate Intensity for Recreational Activities

Overall 48 of all the participants who indicated they did not participate in vigorous recreational activities participated in moderate intensity recreational activities as illustrated in the table 4.16. While 45.8% (22) participants of gym based training program were involved in activities of moderate intensity, 54.2% (26) of outdoor based training program participants were involved in moderate recreational activities.

36.4% (8) of gym based participants do moderate activities for 0- 2 days, 40.9% (9) do them in 3-5 days and 22.7% (5) do them for 6-7 days. In regard to outdoor based training participants, 30.8% (8) participated for 0- 2 days while the rest 69.2% (18) did so for 3-5 days. On the other hand, 30.8% (16) of respondents who do moderate intensity recreational sports do them for 0- 2 days in a week, 51.9% do them for 3- 5 days while 9.6% do them for 6-7 days. There were some missing 7.7% (4) participants who did not indicate the days they do moderate intensity exercises for recreation.

The average time for gym based group participants is M=0.841, SD=0.6616 while the average time for outdoor based group participants was M=2.25, SD=0.8396. as illustrated in tables 4.17 below.

Table 6. Mean time taken by moderate activities by participants in gym and outdoor

Group Statistics	Mode of training	N	Mean	Std. Deviation	Std. Error Mean
Time for moderate intensity sports for recreation	Gym based training	22	.841	.6616	.1411
	Outdoor based training	26	2.250	.8396	.1647

We can therefore say that from the results in the table 4.18 below, when an independent t-test was computed on the means of the time taken in moderate recreational activities for both the gym and the outdoor based group fitness programs. The t(46)= -6.371, p<.000 which is less than our 95% confidence level showing there is a significance difference in duration of moderate recreational activity for gym and outdoor participants.

Sedentary Behavior

The average time for sedentary behavior of gym based group fitness participants is M=4.84, SD=1.4458 while outdoor based group fitness program is M=4.82, SD=1.6796 as shown in the table 4.19 below.

Table 7. Mean time for sedentary behavior on the two modes of training

Group Statistics	Mode of training	N	Mean	Std. Deviation	Std. Error Mean
How much time do you spend sitting on a typical day	Gym based training	185	4.8378	1.44582	.10630
	Outdoor based training	155	4.8194	1.67960	.13491

We can therefore say that from the results in the table 4.18 below, when an independent t-test was computed on the means of the time taken in moderate recreational activities for both the gym and the outdoor based group fitness programs. The t(338)= -109,p<.913 which is more than our 95% confidence level showing there is no significance difference in duration of moderate recreational activity for gym and outdoor participants.

We can therefore say that from the results in analysis of the physical activity questionnaire which is divided and analyzed in its given 4 categories as stated; Activity at work, Travel/cycling activities, recreation activities and sedentary behavior.

The activity at work (vigorous or moderate), the travelling or cycling activities, the recreational activities (vigorous or moderate) all show that when an independent t-test was computed on the means of the time taken in the above activities for both the gym and the outdoor based group fitness programs. The p-value was 0.001 which is less than our 95% confidence level showing there is a significance difference in duration of above activities for gym and outdoor participants. Thus we can reject the hypothesis that "there is no significant difference between participant's Physical activity status (activity at work, travelling/cycling and recreation activities) and the gym and outdoor based group fitness programs in Nairobi County, Kenya"

We also go ahead to state the last category of physical activity status the sedentary behavior had t(338)= -109,p<.913 which is greater than 0.05 thus fail to reject the hypothesis that 'there is no significance difference between the physical activity status (sedentary behavior) and the gym and outdoor based group fitness programs in Nairobi County, Kenya"

DISCUSSION

The results of the study showed that there were more 26-30-year-old respondents making 23.8% of all respondents in the study. The other age brackets groups ranges between 18.2% which was 31-35-year-olds and 20% which was 41-45-year-old respondents. This indicated that 26-30 and 41-45 year-olds were mostly engaged in trainings either gym or outdoor based fitness programs. According to Cardone, (2019), the age bracket of 26-30-year-old have a tendency of going to the gym for a beauty and feel good effect while 41-45 year olds attend the gym due to recommended lifestyle adjustments by their physicians while the 31-35-year-old have the least attendance owing to the many midlife crises of starting up young family, finding stability at work and trying to balance their social life with other young families.

The gender of the respondents was unequally distributed with female more likely to participate in either gym or outdoor based group fitness programs. The female had 62.4% while the male had 37.6% of the total respondents. The study agrees with Wang et al., (2018) that women indulge more in group workouts exercises for weight loss and toning while male exercised for enjoyment, thus the reason for the high numbers among women. It further explained that women are more cautious of how they look and the clothing they wear with just one option of maintaining shape unlike men who see exercises as fun for competition.

The study further explain that married and single respondents were the most in the study. Married respondents were 47.9% while single were 45.9%. In general population you expect few divorced or widowed categories according to the current study. Single people train more due to lack of companion at their homes thus spending more time at social places this aligns to research by (Gesselman et al., 2019). This study goes ahead to disagree on the same study by Gesselman et al., (2019) that married people spent less time exercising and more time working hard to provide for their families and spending more time with their family.

Vigorous and Moderate Intensity Activity at Work

The GPAQ first subsection on activity at work measured the vigorous intensity activities. The study found out that 46.1% of respondents were gym based group members with a mean of M=1.0315, SD=0.5965 while 53.9% were outdoor based group members with a mean of M=1.6756, SD=0.70961. 51.8% of gym based group training respondents did train 3-5days followed by 42.9% on 0-2days and 5.4% on 6-7days in a week. However, 66.6% of outdoor based group fitness respondents trained for 3-5days followed by 22.1% training for 6-7days and 11.5% training for 0-2days in a week. In this regard, there was a significant difference $t(240)=-7.562$, $p<.000$ between the vigorous intensity of activities in gym based group training program compared to outdoor based group training programs. This meant that outdoor program participants were more engaged in physical activities compared to gym program participants.

Further, the study revealed that, 76.7% of respondents who were involved in moderate intensity activities were gym based group members, while 23.3% were outdoor based group members. Regarding the frequency of moderate activities per week 51.8% of gym based group training respondents did train 3-5days followed by 48.2% on 0-2days and none on 6-7days in a week. However, 76.5% of outdoor based group fitness respondents trained for 3-5days followed by 17.6% training for 6-7days and 5.9% training for 0-2days in a week. The Mean time taken for

moderate intensity activities by participants of gym and outdoor program was M=1.77, SD=0.92725. The mean time taken by gym based group participants program was M=1.09, SD=0.65544., while the mean time taken by participants of the outdoor based group program was 2.9 hrs. Therefore, we can say there is significant difference t(276)=-6.984, p<.000 between the time taken by gym based group training and outdoor based group training program in moderate activities at work. And therefore participants of outdoor based program took more time per session compared to gym based program participants. As such, outdoor program participants were likely to meet the WHO recommendations compared to gym based program participants.

The study showed that the respondents from the outdoor based group programs engaged more in vigorous activities than those in gym based group fitness programs. This is in concurrence to a study by Kerr et al., (2012) on outdoor physical activity and self-assed health in older adults living in two regions of the U.S, concluded that the time of moderate to vigorous intensity physical activity were significantly greater in those who were physically active for outdoor persons who trained at least three times a week compared to those who were physically active indoors only. The study by Kerr et al., (2012) goes on to compared the 3 physical activity settings (Gym/indoor training only, outdoor training only, and both indoor and outdoor) and the results showed training in outdoors created a need to increase intensity with the changing scenery each moment unlike indoor training.

Travelling /Cycling

A study by Barton & Pretty, (2010) showed that even five minutes of exercise in a park, nature trail, or other green space benefits your mental health. Exercising in natural environments was associated with greater feelings of revitalization, more energy, and positive engagement. It also was shown to lower tension, confusion, anger, and depression. The study findings for both intensity and duration showed great benefits from short engagements in outdoor green exercise. Although it was short lived it still had positive returns. Every green environment enhanced both self-esteem and mood boost (Barton & Pretty, 2010).

A research on physiological and psychological responses to outdoor versus laboratory cycling found out that outdoor cycling enabled cyclists to exercise at a higher intensity than in laboratory cycling, despite similar environmental conditions and perceived exertion. In light of this, cyclists may want to ride at a high rated perceived exertion in indoor settings to gain the same benefit as they would gain from an outdoor ride (Mieras et al., 2014).

The current study showed that among those who participated in outdoor based group cycling or walking exercises, majority 47.0% do so between 3-5 days in a week with 27.5% doing it between 0-2 days while 25.5% doing it for 6- 7 days. 41.6% and 44.6% of gym based group training also cycled or walked between 0- 2 days and 3- 5days in a week with 13.9% cycling or walking between 6- 7 days. As far as outdoor program participants are concerned 27.5% and 47.0% walked or cycled for 0- 2 and 3- 5 days in a week with 25.7% walking or cycling for 6 – 7 days in a week. The mean time taken for outdoor and gym based program was M=1.66, SD=1,00748 and M=1.09, SD=0.61370 respectively meaning that outdoor program participants cycled more time. The difference is significant at 0.05 sig level t(313)= -6.176, p<.000

Vigorous and Moderate Intensity Recreational Activities

Vigorous recreation encompasses activities that are enjoyable, and noncompetitive. Recreation is an activity you do during your free time: thus, recreational activities are sometimes known as leisure activities. Many types of vigorous recreation activities are done out-doors because participants always have a feeling that the beauty of the setting and the fresh air help rejuvenate them (Caldwell, 2011). The current study shows that, vigorous recreational activities at the gym had M 1.06, SD 0.55556 while outdoors had M=1.47, SD=0.57225 which gives a significance of t(295)= -6.273,p<.000.

The study shows that many respondents who preferred to engage in vigorous intensity activities for recreational. The same respondents did train highest for 3-5days in a week and the outdoor based group training had the highest mean hours of vigorous intensity training for recreational purposes unlike the gym based group trainings. This agrees with the above work of (Mieras et al., 2014)**.**

It seems that there were less respondents who engaged in moderate intensity recreation activities. Again the study shows the respondents conformed with the WHO guidelines of gaining physical fitness by training 3-5days in a week. There was a high mean time for the respondents in the outdoor based group training than the gym based group training. The current study findings disagree with Niedermeier et al., (2017) by talking of reducing intensity to increase time when our study shows more engagement in vigorous intensity than moderate intensity but same similar timings in both. However, Niedermeier et al., (2017) noted that institutions who decided to investigate whether flipping a workout's focus and emphasizing its length while playing down its intensity found that it increased people's enjoyment and, potentially to participation more.

Sedentary Behavior

The study showed that the average time for sedentary state behavior was 4.83 hours per day for all respondents. The outdoor based group fitness respondents had a mean sedentary time of M=4.82, SD=1.6796 while gym based group fitness respondents had a mean sedentary of M=4.84, SD=1.4458. This showed a significant difference at 0.05 where t(338)= -109, p<.913. We can define sedentary behavior as any waking behavior which is noted by an energy expenditure ≤1.5 metabolic equivalents (METs) this includes but not limited to; sitting, reclining or lying posture. In other terms this means that a person sitting or lying down they are engaging in sedentary behavior. Common sedentary behaviors include viewing TV, playing video game, computer use which (collective termed "screen time"), driving, and reading (Tremblay et al., 2017).

Strengths and Limitations of the Study

The current study has demonstrated significant difference between Physical Activity Status and the type of fitness program among Kenyan fitness clients a population where little is known about these differences. In addition, gender, age and marital status also contribute differently as shown in the significant relationships of Chi square. However, the study acknowledged certain limitations that should be considered in interpreting the findings of this study. For instance, the study is analytical cross-sectional, therefore, limiting the ability to tell

if prior experience of the clients in fitness influenced present results. Additionally, all data gathered included demographic information and a self-report questionnaire. As a result, the researcher could not account for other confounding factors that could have contributed to physical activity status shown in the study.

CONCLUSIONS

There were more outdoor based training respondents who did vigorous activities at work than gym based training respondents. The outdoor based group training respondents spent more time walking or cycling for at least 10 minutes continuously unlike the gym based group training respondents but they were fewer in number. The gym based group trainings had most respondents doing vigorous intensity recreational activities for less time while the outdoor based group trainings had most people do moderate intensity activities for most time. The gym based group training respondents spent more time in their sedentary behaviour unlike the outdoor based group training respondents. The study concluded that there were significant gains in outdoor based group fitness program which participants maintained for the benefits cutting across board and that their sedentary behaviour was less passive. The gym based group fitness participants had more sedentary behaviour and more passive hours thus advocating more outdoor programs due to its gain and sustainable way for good health and wellbeing.

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