BARRIERS EFFECTING PHYSICAL ACTIVITY: EMPERICAL STUDY OF MIDDLE AGED STAFFS

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Abstract

A broad understanding of the barriers inhibiting physical activity among middle aged is critical because it affect productivity at workplace. Research stream on barriers effecting physical activity is sparse, hence this paper aims to fill the void by assessing the barriers for middle-aged staffs in participating physical activity which at a minimum recommended amount to maintain health and function. This study employed Quantitative survey method by combining a set of International Physical Activity Questionnaire (IPAQ) and Barriers Questionnaire adopted from Australian Bureau of Statistics. The participants in this cross-sectional study were 225 middle-aged Custom staff age 35 to 55 years old and randomly selected. Evidence established that the barriers to participate in physical activity among middle-aged custom employees were both effected by the internal (lacks of energy) and external (lack of time) factors. Discussions of the implication for future directions were deliberated.

Keywords: Middle-aged, physical activity, barriers, government employees.

1.0. Introduction

Government employees are the human resources that uphold the constitution as well as to generate revenues to the country. These are the process to achieve stability and enhance economic growth. Productive, educated, dedicated and experienced employees are the asset to achieve maximum productivity. To achieve these objectives, physical activity is vital to ensure the health wellbeing of employees in the ability to work in a good condition. Unfortunately employees were to report at healthy level only during the recruitment process. Since then employees are at their own responsibility to ensure individual's healthy condition.

Evidence shows that middle-aged employees rarely participate in physical activity which is related to the increase of employees with health risk. Medical leavers among experienced middle-aged employees contribute to the decrease of working hours and reduce in output.

Regardless of the fact that the decrease in physical performance has been identified among middle-aged

government employees. This is related to the decrease in participating physical outdoor activities at regular basis. Strong evidence shows that government staffs has been identified to rarely participate in physical outdoor activities or physical exercise after their working hours. This is associated to the society as a whole. According to Martinez-Gonzalez et al., (2001); Haskell et al., (2007), due to biological and environmental factors, physical functioning typically declines with age.

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Government staffs have been identified to be rarely involved in doing physical exercises after their working hours and during leisure time. The Custom staffs in Port Klang are no acceptance in this matter. Recent statistics from the Human Resource Department shows an increase in medical problems, obesity and health risk among middle-aged Custom staffs. Strong evidence shows middle-aged employees rarely participate in physical activity at minimum recommended amount. This probably led to the increase of medical leavers and absenteeism, lack of staffs and hospitalized employees. The productivity of the enforcement department may be affected by these health problems. Employees spend almost 12 hours a day away from home at their workplace. Time constraint due to long working hours might be among one of the reasons for them to ignore participating in physical activities. Most employees feel exhausted and fatigue from the workload at the workplace. These situation influenced employees especially middle-aged to remain sedentary at home. Against the backdrops, this study attempts to fill the empirical on the objectives as below:

1. To determine the barriers that could possibly hinders middle-aged Port Klang Customs staff of 35 to 55 years old in participating physical activity.
2. To determine whether middle-aged Customs staff participate at minimum recommended amount of physical activity to maintain health and function.

Physical inactivity influenced physical performance at the workplace and physical performance effect productivity. The difference of this research from other researchers is, this study is focused on middle-aged employees of Customs Department and their involvement in achieving organizational goal of collecting 10b revenue in a healthy and active working condition. Most of the middle-aged with chronic diseases were found not participating in physical activity at minimum recommended amount. Of course, the productivity of the department would be affected and performance will decline. Middle-aged government staff is considered experienced workers who are able to contribute his or her experiences to increase productivity. But, task can only be carried out and achieved excellently through physically healthy workers.

2.0 Physical Activity

Physical activity has been identified as a key factor in improving and maintaining health. The Chief Medical Officer for England has recommended that people undertake at least 30 min of moderate intensity exercise on at least five days of every week. Children are recommended to take 60 min of moderate intensity exercise every day

(Department of Health, 2004). Adults are advice to exercise for at least 30 minutes a day at moderate intensity levels (Burke, McCarthy, 2010). Physical activity is particularly important among older adults, who represent the least active population group yet can benefit greatly from increasing activity levels (Nelson et al., 2007:, Troiano et al., 2008)

2.1 Barriers (Lack of Time)

Middle-aged employees contribute their experience and time at workplace to enhance productivity but most of the work-style is sedentary. Employed adults spend about half of their work-day waking hours at workplaces. Job characteristics equally affect functioning (Leino-Arjas et al., 2004) and are associated with leisure time physical activity (Wu and Porell., 2000, Gimeno et al., 2009 and Lahti, Laaksonen, Lahelma, Rahkonen, 2010). Workplaces may implement physical programs in hope of keeping workers healthy and reducing healthcare costs. (Cited: Conn, Hafdahl, Cooper, Brown, Lusk, 2009). Certain units in Customs Department carries heavy work-loads but with a limitation of staff. The Customs staffs have to work overtime to overcome this problem. The incentive offers, enable Customs staff to earn extra income by ignoring physical activity participation.

2.2 Barriers (Social Influence)

Some participants in physical activities may be influenced by family or friends. Office friends also influences one another to participate in the same kind of event and have to show positive lifestyle related to physical activity in behaviour change process. External barriers were grouped into 3 categories: lack of resource, lack of social support and lack of time (Daskapan, Tuzun, and Eker, 2006). The two most important reasons for participating in physical activity were to improve fitness and health and for the enjoyment and interest of the activities, whereas not having enough time or resources and lacking the support of family or friends were the three most important barriers to participation (Sit, Kerr, Wong, 2008).

2.3 Barriers (Lack of Energy)

The internal barriers were grouped to 3 categories: Lack of energy, lack of motivation and lack of self-efficacy (cited: Daskapan, Tuzun, and Eker, 2006). Employees who work with full commitment and who are productive might be too tired after long hours of work**.** As mentioned before, feeling fatigue is related to lack of energy during employees' leisure time. This will lead to employees' refusal to participate in physical activity. Fatigue and exhausted employees also need to spend their weekend resting at home.

2.4 Barriers (Lack of Motivation)

Most programs promoting PA has failed and has significantly changed the population's behavior. To develop efficient interventions improving PA practice, understanding the determinant of PA behavior, such as perception of self-efficacy, motivators and barriers is an essential step (Brazeau, Mircescu, Desjardins, Dube, Weisnagel, lavoie, Lhoret, 2012)

2.5 Barriers (Fear of Injury)

Many government employees who are actively involved in sports might experience injury during their adult participation. Sports injury and work style is believed to influence the decrease of physical activity participation among middle-aged employees. According to a report from Australian Bureau of Statistics (2007), the incidence of age/too old and injury/illness as a constraint increased with age while insufficient time due to work/study and not being interested decreased with the increasing age.

2.6 Barriers (Lack of Skill)

In recent years, development in public health PA (physical activity) promotion have shifted from changing individual knowledge, attitudes and skills, to changing social and physical environmental factors (Sallis, Bauman, & Pratt, 1998 ; Spence & Lee, 2003 and Phongsavan, McLean, Bauman, 2007). Lack of skills have been identified as one of the reason why middle-aged ignores physical activity. Skills in sport might motivate individuals to take part in physical activity during their leisure time.

2.7 Barriers (Health Problem)

Health problems have been identified as a barrier for them to participate in physical activities. Middle-aged of 35 to 55 are mostly affected by serious health problem which disables them to be involved in any physical activity for a long time before recovery. The majority of obese Americans do not exercise (Miller and Miller, 2010) is related to health problems. According to Conn, Hafdahl & Brown, (2007) most adults with chronic illnesses remain sedentary.

2.8 Barriers (Lack of Facilities)

Facilities play an important role in influencing the population of physical activity participation. The SLOTH model suggests that it is important to consider various sources of activities, and that infrastructural development,

services and facilities in communities in which people live and work can be significant factors in determining declines in physical activity (Ng, Norton, Popkin 2009). Providers need to know the interest of consumer to attract them.

3.0 Methodology

In this study the researcher is using a questionnaire similarly used by past researchers. The questionnaires will be divided into 3 parts. Part **A**, consist of demographic basic particulars. Part **B** is about physical activity level. In this part the frequency of participation in physical activity will be determined. Physical activity level is determined from questionnaire developed by International Physical Activity Questionnaire (IPAQ, 2002). However only part 4 of IPAQ (2002) will be used considering the items focus on recreation, sport and leisure-time physical activity. Five point Likert type scale is used to measure physical activity level is a modification from the original, so as to make it convenient for researcher to assess. Part **C** is determining the barriers for respondents to participate in physical activity. It consists of questions for barriers participation in physical activity. Questionnaire similarly used by Cardinal Hill Rehabilitation Hospital, Canada. Out of 22 questions, only 14 were selected which are relevant to our study. The same questionnaire, were also used by past researcher on barrier but different environment and focus group.

Data analysis will be using SPSS (Statistical Package for Social Science) IBM version 19. The results of the analysis would reveal the frequency, number of respondents (N) percentages (%), mean (M) and standard deviation (SD) of variables in this study.

4.0 Results

PART A: RESPONDENTS' DEMOGRAPHIC CHARACTERISTIC

Table 4: Part A4 Respondents Demographic – Working Experience

		Frequency	Percent	Mean	Std. Deviation
Valid	less 10	39	17.3	118.74	63.605
	10-19	75	33.3	105.47	63.872
	20-29	65	28.9	134.75	60.520
	30 and above	46	20.4	89.67	66.304
	Total	225	100.0	113.00	65.096

PART B: FREQUENCY IN PHYSICAL ACTIVITY PARTICIPATION

Table 7: Part B2 **Frequencies - How much time did you usually spend on one of those days walking in your leisure time per days**

		Frequency	Percent	Mean	Std. Deviation
Valid	not at all	14	6.2	94.86	79.691
	>10 minutes	69	30.7	112.29	64.480
	>30 minutes	99	44.0	120.11	62.474
	>45 minutes	22	9.8	117.50	64.974
	60 minutes & above	21	9.3	89.19	67.369
	Total	225	100.0	113.00	65.096

Table 9: Part B4 **Frequencies - How much time did you usually spend on one of those days doing vigorous physical activities in your leisure time?**

		Frequency	Percent	Mean	Std. Deviation
Valid	not at all	62	27.6	122.47	60.272
	10-19 minutes	52	23.1	98.92	67.524
	20-29 minutes	51	22.7	119.16	65.175
	30-39 minutes	31	13.8	114.16	63.557
	40 minutes & above	29	12.9	105.93	71.267
	Total	225	100.0	113.00	65.096

Table 11: Part B6 **Frequencies - How much time did you usually spend on one of those days doing moderate physical activities in your leisure time?**

		Frequency	Percent	Mean	Std. Deviation
Valid	not at all	43	19.1	110.88	63.888
	10-19 min/day	74	32.9	110.69	67.920
	20-29 min/day	58	25.8	110.97	65.139
	30-39 min/day	26	11.6	120.38	62.483
	more than 40 min/day	24	10.7	120.83	65.220
	Total	225	100.0	113.00	65.096

PART C: BARRIERS IN PARTICIPATING PHYSICAL ACTIVITY

Table 12: Part C1 **Physical Activity takes too much time away from other commitments, time, work, family, etc**

		Frequency	Percent	Mean	Std. Deviation
Valid	strongly disagree	26	11.6	124.19	64.489
	Disagree	78	34.7	107.55	60.812
	Neutral	72	32.0	105.15	66.937
	Agree	40	17.8	132.38	70.456
	strongly agree	9	4.0	104.56	53.733
	Total	225	100.0	113.00	65.096

Table 16: Part C5 I'm just too tired after work to get any exercise

		Frequency	Percent	Mean	Std. Deviation
Valid	strongly disagree	30	13.3	100.40	68.074
	Disagree	53	23.6	104.89	54.107
	Neutral	61	27.1	111.26	64.282
	Agree	62	27.6	134.11	67.614
	strongly agree	19	8.4	92.21	71.296
	Total	225	100.0	113.00	65.096

Table 17: Part C6 I'm too tired during the week and I need the weekend to catch up on my rest.

		Frequency	Percent	Mean	Std. Deviation
Valid	strongly disagree	23	10.2	115.17	66.149
	Disagree	50	22.2	109.00	54.417
	Neutral	67	29.8	109.18	64.520
	Agree	63	28.0	124.71	70.949
	strongly agree	22	9.8	97.91	70.865
	Total	225	100.0	113.00	65.096

Table 22: Part C11 doesn't get enough exercise because I have never learned the skills for any sport.

		Frequency	Percent	Mean	Std. Deviation
Valid	strongly disagree	40	17.8	102.73	65.541
	Disagree	85	37.8	112.46	63.300
	Neutral	70	31.1	114.56	68.859
	Agree	22	9.8	127.68	61.545
	strongly agree	8	3.6	116.13	64.521
	Total	225	100.0	113.00	65.096

Part A of the data analysis identified the demographic characteristic of the respondents. The result shows out of 225 respondents (N=225), 167 are male and 58 are female. Most of the respondents are at the age of 35 to 39 years old (43.1%), (N=97), (M=107.10), (SD=64.847) and 50 to 55 years old (25.3%), (N=57), (M=98.72), (SD=69.681). 196 of the respondents or 87.1%, (M=111.33), (SD=65.078) are married, 25 respondents, (11.1%), (M=121.20), (SD=69.670) are still bachelor and only 4, (1.8%), (M=143.50), (SD=17.311), are divorcees. Most of the respondent are having 10 to 19 years of working experience (33.3%), (N=75), (M=105.47), (SD=63.872) and followed closely by 20 to 29 years of working experience at 28.9%, (N=65), (M=134.75), (SD=60.520). Their salary are mostly at RM1500 to RM2499 per month at 44.9%, (N=101), (M=108.09), (SD=63.912) and RM2500 to RM3499 per month at 36%, (N=81), (M=123.14), (SD=66.696).

Part B of the data analysis identified the physical activity level of participation among the respondents. Six questions from B1 to B6 were suggested to determine the frequency in physical activity participation. The data analysis shows more than 11% but less than 12% of the respondents participated in physical activity at recommended level as suggested by The Chief Medical Officer for England (Department of Health, 2004). This factor refer to questions, B1 where only 11.1% (N=25) walk at least 10 minutes for 5 to 6 days during the last 7

days and B6 at 11.6 % (30 to 39 minutes per day) of spend time on one of those days doing moderate physical activities in their leisure time. But the result from question B5 reported only 15 respondents (N = 11+4) or 6.7% (4.9% + 1.8%) do moderate physical activities like bicycling at regular pace, swimming at regular pace, and doubles tennis in their leisure time at least 5 days a week.

Part C of the data analysis determines the barriers to participate in physical activity of the respondents. There are 14 questions represented as C1 to C14. Respondents need to choose whether to answer strongly disagree, disagree, neutral, agree, or strongly agree. To value the objective of this research, strongly disagree and disagree represent not as barriers. Neutral answer represent that the respondent is 50 – 50 or not sure which is more whether agree or disagree, while agree and strongly agree represent the barriers to respondents in participating physical activity. From the result of the data analysis, the highest percentage of the respondent disagree that they don't have access to jogging trails, swimming pools, bike paths, etc. (C13), that is at 42.2%, (N=95), (M=109.74), (SD=64.490). The second highest is strongly disagree that they are embarrassed how they will look when they exercise with others (C4) at 40.9%, (N=92), (M=105.62), (SD=68.841). The highest percentage barrier to participate physical activity is the respondents agree that they are too tired during the week and need the weekend to catch up on their rest (C6) at 28%, (N=63), (M=124.71), (SD=70.949), and the second highest is they are just too tired after work to get any exercise (C5) at 27.6%, (N=62), (M=134.11), (SD=67.614).

5.0 Discussion

5.1 Physical Activities

To further substantiate and support the purpose of this study, it is helpful to highlight similar researches and findings. The Chief Medical Officer for England has recommended that people undertake at least 30 minutes of moderate intensity exercise on at least five days of every week. Children are recommended to take 60 min of moderate intensity exercise every day (Department of Health, 2004). Adults are advised to exercise for at least 30 minutes a day at moderate intensity levels (WHO 2007), (cited: Burke, McCarthy, 2010). But the result from the data analysis shows, out of 225 respondents, 26 respondents or 11.6% do physical activity at 30-39 minutes per day but only 15 respondents (N = 11+4) or 6.7% (4.9% + 1.8%) do moderate physical activities like bicycling at regular pace, swimming at regular pace, and doubles tennis in their leisure time at least five days a week.

5.2 Barriers (Lack of Time)

According to report by National Centre for Culture and Recreation Statistics (2007), for the rest of the population (those aged 15-54 years), insufficient time due to work / study was the most common constraint reported. Persons aged 35-44 years (both 31%) and persons aged 45-54 years (27%). The report was made for the Australia Bureau of Statistics. This physical inactivity conflict is mostly reported in developing countries. In this

study the researcher found that lack of time is the highest percentage of external barrier. Out of 225 respondents, 36% (C2 = 25.3% + 10.7%) agree and strongly agree that their free time is too short to include exercise as a barrier. The result agrees with the statement from Reichert, Barros, Domingues, Hallal, (2007).

5.3 Barriers (Social Influence)

Some individuals participate in physical activity motivated by the support of family and friends. Others may feel uncomfortable to exercise and wonder how their middle-aged figure will look like. But the low percentages from the results shows middle-aged Customs staffs are not much affected from the barriers. This matter refers to table 14: C3 and table 15: C4.

The limitation of the study is that Body Mass Index (BMI) of the respondents were ignored in the process to safe the time taken to answer the questionnaire. The studies only focus on the frequency and barriers that we believed are related to active and productive middle-aged employees. The researcher is also avoiding the recommended BMI which is resulted from dietary program by the respondents. Some middle-aged might feel sensitive when their personal BMI is being asked. Respondents might answer the questionnaire in impromptu situations and is not truly based on personal experience. Some may hide their medical health conditions to answer question C9 and C10 which will affect the outcome of the data analysis.

5.4 Barriers (Lack of Energy)

Part C5 shows the data of "I'm just too tired after work to get any exercise ". From the result of the data analysis the percentage of agree and strongly agree is at 36% (27.6% + 8.4%), (N= 62+19). Part C6 shows the data of "I'm too tired during the week and I need the weekend to catch up on my rest ". From the result of the data analysis the percentage of agree and strongly agree is 37.8% (28% + 9.8%). These percentages show lack of energy as internal barriers that carry the most reasons for not participating in physical activity. The results also agree with Daskapan, Tuzun and Eker, (2006) that internal barriers were grouped to 3 categories: Lack of energy, lack of motivation and lack of self-efficacy. Reichert, Barros, Domingues, Hallal, (2007) mentioned " feeling too tired " as a similar reason. Work responsibilities and commitment among middle-aged staff will lead them into fatigue and need rest on their weekend.

5.5 Barriers (Lack of Motivation)

Most programs promoting physical activity has failed, significantly changing the populations' behavior. To develop efficient interventions in improving Physical activity practice, understanding the determinant of Physical activity behavior, such as perception of self-efficacy, motivators and barriers is an essential step (cited: Brazeau,

Mircescu, Desjardins, Dube, Weisnagel, lavoie, Lhoret, 2012). Middle-aged refusal to physical activity might be influenced by discouraging people surrounding them as a motivators or lack of personal willpower. The results from table 18 : C7 and table 19 : C8 both shows quite similar percentages as barriers of about 30%.

5.6 Barriers (Fear of Injury)

Since most middle-aged staffs are familiar with sports and physical activities they would be aware of risk and safety during performing activities. These internal barriers are not influencing much in physical activity participation. But some may hide their medical problem to answer question C9 and C10.

5.7 Barriers (Lack of Skill)

The low percentages from the results of data analysis, C11 and C12 shows middle-aged government staff are normally familiar with any sports or physical activities to make it fun. Skills are not the main barriers for not participating in physical activity.

5.8 Barriers (Health Problem)

Health problems have been identified as a barrier for them to participate in physical activities. Middle-aged of 35 to 55 are mostly affected by serious health problem which disables them to be involved in any physical activity for a long time before recovery. The majority of obese Americans do not exercise (cited : Miller and Miller, 2010) is related to health problems. According to Conn, Hafdahl, A. Brown, M. Brown, (2007) most adults with chronic illnesses remain sedentary.

5.9 Barriers (Lack of Facilities)

The results in this study shows low percentage of external barriers in lack of facilities. This statement refers to C13 (62.6%) and C14 (51.6%) disagree and strongly disagree because the 3 main Customs offices in Westport, Northport and Southport are mostly provided with facilities like showers, praying rooms, tennis courts, swimming pools and cafeteria. The Staffs of Customs Department are mostly stays in government quarters which provide basic need for physical activities. Easy access to recreational area such as jogging path, cycling area, swimming pools and tennis courts are available. Most respondents disagree with the theory from Daskapan, Tuzun and Eker, (2006).

6.0 Recommendation

The researcher recommended this study to be extended to other government agencies by other researchers. Other government agencies with various workloads but with different environment may experience other kinds of barriers to physical activity thus this needs to be identified. Work style is changing and physical activity participation among middle-aged employees has to be identified to accommodate the present environment and as well influencing them to prevent from reduction in physical activity participation. As mentioned before, research has also shown that physical activity rates decrease steadily during adulthood. As such, increasing levels of physical activity to meet current guidelines during adulthood is a public health priority (cited: Brunet, Sabiston, 2010). More studies from other researchers on barriers to physical activity among middle-aged employees are helpful in identifying the accurate findings. Continuous study on barriers to physical activity among middle-aged government staffs will be helpful since the work-style of government employees is experiencing a transformation. Employers may use the findings of this research to identify the solution in managing the performance of employees in terms of health and active middle-aged which are related to productivity. We would also suggest government employers to provide and manage time for their employees to participate in physical activity.

7.0 Conclusion

From the analysis of this study it can be justified that barriers to physical activity is related to the frequency in physical activity participation among middle-aged employees. The Chief medical Officer for England has recommended that middle-aged employees undertake at least 30 minutes of moderate intensity exercise at least five days every week. The low percentage of 6.7% middle-aged do moderate physical activities like bicycling at regular pace, swimming at regular pace, and doubles tennis in their leisure time at least five days a week revealed that adults in modern society often fail to reach the minimum amount of physical activity recommended, to maintain health and functioning. The less frequent in participating physical activity is also supported by only 11.6% middle-aged employee's do physical activity at 30-39 minutes per day. The findings of this study can be concluded that the barriers to participate in physical activity among middle-aged Custom employees are both internal and external barriers. Lack of energy is the highest percentage of internal barriers. Total of 36% (C5) and 37.8% (C6) of the respondents agree and strongly agree that they are too tired and need rest as barriers. Experienced middle-aged employees spend most of their energy during office hours to carry work load physically and mentally. Mental work load are usually sedentary work style that also contribute to fatigue.

Lack of time is the highest external barriers. Total of 36 % of the respondents agree and strongly agree, that their limitation of time during the day to involves in exercise. Most middle-aged are married government employees who reported to spend more than half a day away to work and back home. Family obligation is always the main reasons for middle-aged to ignore physical activity participation.

Apparently, effort to undertake longitudinal research is required to look into in-depth study. The limitation of the present study provide opportunity for further research direction by providing more scientific approach by looking into Body Mass Index (BMI). Academic and practitioners could impart deeper insight perspectives.

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