Emotional Intelligence As A Potential Underlying Mechanism For Physical Activity Among Malaysian Adults

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ABSTRACT

As we all know the benefits of physical activity (PA) on physical and mental health are well established. However, inactivity among adults in Malaysia is still prevalent. This study examined whether emotional intelligence (EI) was one of the possible underlying psychological mechanisms that may be associated with the current low levels of PA adherence. Therefore, the purpose of the study was to examine whether EI plays a role as the potential underlying mechanism of PA behaviour among Malaysian adults. A total of 172 supporting staffs were recruited at a local Malaysian university. It was found that supporting staffs with higher physical activity in a week had better total EI scores and composite subscale scores. The findings of this study provide further support on the claims that there is a positive relationship between increased levels of EI and physical activity. Thus, the importance of higher emotional intelligence is critical in helping to bombard the sedentary lifestyle and inactivity among Malaysian adults. Therefore, training programs for university staffs in emotional intelligence skills is seen to be one of the upmost important agenda that should be looked at in the public sectors to help in promoting exercise and physical activity participation. It is highly recommended that the programs should be targeted at the maximum level towards individual who were sedentary and low active.

Keywords: Emotional Intelligence as a Potential Underlying Mechanism for Physical Activity; Emotional Intelligence and Physical Activity Among Malaysian Adults

INTRODUCTION

Engaging in regular physical activity (PA) is one of the best ways to improve general health. Physical activity has become the prime health indicator where it plays an essential role in enhancing physical fitness and health related behaviour that could lowers the risk of morbidity and mortality from diseases (Sundland et al, 2008). In fact, regular physical activity in adulthood can reduce risks of coronary heart disease and stroke, type 2 diabetes mellitus, as well as colon and breast cancer (Bauman, 2004). Therefore, it is recognized as one of the most important solution in decreasing the burden of chronic diseases (Bull et al., 2004).

Despite of the well known importance of physical activity in quality of life and well being, inactivity and sedentary lifestyles are prevalent throughout the global populations (WHO, 2004). It seems that less than 60% of individuals globally achieve the minimum recommendation of 30 minutes a day of moderate intensity exercise or continuous physical activity (PA) (WHO, 2004). According to the statistics on Malaysian adult population, about 43.7% of Malaysians engages in light and moderate physical activity on regular basis (Ministry of Health, 2006), with the average MET-minutes per week of 894 MET-minutes which was above average (600-MET minutes per week) for health benefit (National Health Mobidity Survey, 2007). Even though, the above prevalence of physical inactivity among Malaysian adults seem to be still high, however, according to the study that was done by World Health Survey (adopted by Guthold, 2008), Malaysia has the highest percentage of prevalence of physical inactivity

for men at 16% and women 23.6% compared to other countries in the western pacific region such as Laos (9.9%, 15.1%), China (9.3%, 12.5%), Vietnam (7.7%, 9.2%) and the Phillipines (5.7%, 9.1%). Why? This is probably because Malaysia has often been recognised as a role model for developing economies (Mohd. Ismail Noor, 2002).

Even though poverty still exists, a good proportion of the population has also achieved affluence or economic abundance. Therefore, a rapid transition has generated marked changes in lifestyles; that is less labour occupational patterns, more indoor occupational work and increase sedentary habits due to the wide use of technology. In fact, a study by Andres (2006) revealed that there is lack of interest in exercise and sport activities participation among youth. If this trend continues, it will have a tremendous detrimental effect as the health of the next generation would be affected in the long run. Reily et al. (2004) showed that obesity and morbidity incidences in children and adolescents are associated with both short-term and long-term consequences, although the latter may be of a greater health concern. Short-term consequences of physical inactivity can increase the risk of obesity and will promote low self-esteem, adverse social interactions, behavioural problems, clinical conditions such as asthma, and systemic inflammation (Zalilah et al., 2006). While long-term consequences of obesity (due to sedentary lifestyle) may include type -1 diabetes mellitus, increased cardiovascular risks, and premature mortality in adulthood (Zalilah et al., 2006).

A vast number of studies have also associated psychological health and moderate physical activity. For example, Biddle (2000) has associated PA with positive self perception, PA with low occurrence of depression and anxiety (Dishman et al., 2004), and PA with positive mood (Baker & Brownell, 2000). In other words, while physical activity can indirectly improve subjective well-being and life quality by keeping disease and premature death at bay, there has recently been an increasing interest in its direct role in the prevention and treatment of mental health problems as well.

With this in mind, PA also plays an important role in enhancing the emotional health of individuals (Li et al., 2009). Emotions are an integral and significant aspect of human nature and the motivation for behaviour (Li et al., 2009). In other words, physical activity behaviour can be motivated with a strong emotional adapt qualities. According to Mayer & Salovey (1997), being able to tell differences in capabilities to recognize/perceived, understand, manage and use emotions in both intrapersonal and interpersonal contexts is known as emotional intelligence (EI). Emotional intelligence (EI) is a relatively new construct (Zeidner et al., 2004) that has gathered momentum due to proposals that measures of EI are related to a number of desirable outcomes, including health behaviours.

From previous studies, positive correlations were found with EI and positive health behaviours such better stress management (Tsaousis & Nikolaou, 2005) and physical activity (Li et al., 2009) while there were negative correlations with EI and alcohol consumption and smoking (Austin et al, 2005; Trinidad & Johnson, 2002; Tsaousis & Nikolaou, 2005). In fact it is a subject to growing interest in sport and exercise (Meyer & Fletcher, 2007). To date, only a few studies have examined EI in sport but the early studies point to encouraging results. Zizzi et al., (2003) found EI was associated significantly with sport performance (baseball hitting) whereas Thelwell et al. (2008) found that EI related with perceptions of coaching effectiveness. More specifically, high EI has been shown to be associated with individuals who engage in regular physical exercise. In a previous study, using the Emotional Intelligence Scale (Schutte, et al., 1998), Davidson (2004) found a group that reported to be exercisers had significantly higher EI than a group that reported to not exercise (M-123.55 and 117.97, respectively, $t(337)=-2.15$, $p<0.05$).

According to Mayer et al. (2000), EI has four skill hierarchical levels that range in complexity in terms of how individuals identify/perceived, understand, manage and use emotions. Appraisal and recognized sometimes referred to perception of emotion is the lowest skill level. The next level involves evaluating and usage of emotional experiences, for example weighing emotions against one another and against other sensations and thoughts. The third level involves understanding and reasoning about emotions. Each emotion follows its own specific rules. Each emotion changes according to its own characteristics' rules; includes the ability to identify emotions, know how they change, and reason about emotions accordingly. Last but not least, the forth and the highest skill level includes the management and regulation of emotions, such as knowing how to calm down after being really nervous or angry.

Table 1: Four Branch Model (Salovey & Mayer, 1997)

1. Perception, Appraisal and Expression of Emotion			
Ability to identify emotion in one's physical states, feelings, and thoughts.	Ability to identify emotions in other people, designs, artwork, etc. through language, sound, appearance, and behavior.	Ability to express emotions accurately and to express needs related to those feelings.	Ability to discriminate between accurate and inaccurate, or honest vs. dishonest expressions of feeling.
2. Emotional Facilitation of Thinking			
Emotions prioritize thinking by directing attention to important information.	Emotions are sufficiently vivid and available that they can be generated as aids to judgment and memory concerning feelings.	Emotional mood swings change the individual's perspective from optimistic to pessimistic, encouraging consideration of multiple points of view.	Emotional states differentially encourage specific problem-solving approaches such as when happiness facilitates inductive reasoning and creativity.
3. Understanding and Analyzing Emotions; Employing Emotional Knowledge			
Ability to label emotions and recognize relations among the words and the emotions themselves, such as the relation between liking and loving.	Ability to interpret the meanings that emotions convey regarding relationships, such as that sadness often accompanies a loss.	Ability to understand complex feelings: simultaneous feelings of love and hate or blends such as awe as a combination of fear and surprise.	Ability to recognize likely transitions among emotions, such as the transition from anger to satisfaction or from anger to shame.
4. Reflective Regulation of Emotion to Promote Emotional and Intellectual Growth			
Ability to stay open to feelings, both those that are pleasant and those that are unpleasant.	Ability to reflectively engage or detach from an emotion depending upon its judged informativeness or utility.	Ability to reflectively monitor emotions in relation to oneself and others, such as recognizing how clear, typical, influential or reasonable they are.	Ability to manage emotion in oneself and others by moderating negative emotions and enhancing pleasant ones, without repressing or exaggerating information they may convey.

Source: Salovey & Mayer (1997). What is Emotional Intelligence? *Emotional Development and Emotional Intelligence: Educational Implications*, 1, 10-11.

The issue if EI and health associations can be done by two ways that is with performance measures where it requires emotion-related problem items to be completed, and second is the self report (trait) measures which assess EI as a dispositional tendency by using questionnaires (Austin & Saklofske, 2005). The distinction is based on the different measurement approaches of the constructs and not the theoretical content of the models (Petrides & Furnham, 2000). Different measurement approaches result in different operationalisations of the constructs. For example, through the performance or the ability EI measures, it is operationalised through maximal performance measures (i.e., responses to items are either correct or incorrect) as an ability that resembles traditional intelligences, such as verbal and spatial intelligence (Mayer, 2001).

Most studies on EI and health associations have used the self-report measurements although there were a few studies such as study by Trinidad & Johnson (2002) have used the performance EI measures (Saklofske et al., 2007). Associations between EI and health associations are reasonably consistent across studies using performance and self report measures (Schutte et al., 2007). Even though, decisions regarding use of a performance or self-report measure should be informed by the relative contribution of each to the variables of interest (i.e., how strongly do beliefs about EI scores relate to emotion vs. how strongly do performance test scores relate to emotion (Lane et al., 2009), one should know that this approach is different from viewing one conceptualization or measure as inherently superior to the other. With this in mind, it should be noted that self-report is the typical method of construct

assessment in the sport and exercise psychology literature to date (Lane et al., 2009), and in the relatively limited sport and exercise psychology and EI literature specifically (Thelwell et al., 2008; Zizzi et al., 2003). Since, prevalence of physical activity can fall under health behaviours or exercise psychology, the researcher has the liberty to choose the prominent of its occurrence.

Presently, not enough study has been done on the correlation between PA and EI as the emotional domain of PA in exercise psychology has been overlooked in the past. According to Li et al. (2009), Taymoori and Lubans (2008) suggested that the lack of knowledge regarding the mechanisms responsible for behaviour change may explain the low levels of effectiveness in PA interventions among individuals. With that in mind, the main objective of the study was to examine whether EI plays a role as the potential underlying mechanism of PA behaviour among Malaysian adults.

METHODOLOGY

Subjects

Subjects were recruited from two faculties and the registrar department at a local university. Ninety two female and eighty male support staffs were recruited by using purposive sampling. The mean age was 34 years with standard deviation of 5.8 years, range of 25-45 years of age. All subjects were asked to sign an informed consent form before filling the General Demographic Questionnaire, Emotional Intelligence Scale (EIS: Shutte et al., 1998), and International Physical Activity Questionnaire (2005).

Measuring Instruments

Emotional Intelligence Scale (EIS; Schutte et al., 1998)

A 33-item measure of emotional intelligence was used (Schutte et al., 1998). Items for this test were initially constructed on the basis of the theoretical work of Salovey and Mayer (1990), and represent three inter-related dimensions: (a) appraisal and expression of emotion, (b) regulation of emotion, and (c) utilization of emotion. Items are rated on a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). A series of studies by Schutte et al., (1998) revealed adequate internal reliability estimates for the scale at .87 and above, and two week test-retest reliability of.78. Zizzi et al. (2003) found links between EI and sport performance using baseball hitting and throwing statistics. For this study the EIS was conceptualized as a 6-subscale model of emotional intelligence as used and suggested by Lane et al. (2009). The six subscales are: utilization of emotions appraisal of other's emotions, optimism, appraisal of one own emotions, emotional regulation, and social emotional intelligence.

Table 2: Six subscale of the 33-item Emotional Intelligence Scale (Lane et al., 2009)

Items
Appraisal of others emotions
By looking at their facial expression, I recognize the emotions people are experiencing
When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself
I know what other people are feeling just by looking at them
It is difficult for me to understand why people feel the way they do
I can tell how people are feeling by listening to the tone of their voice
I find it hard to understand the non-verbal messages of other people
I am aware of the non-verbal messages other people send
Appraisal of own emotions
I am aware of my emotions as I experience them
I know why my emotions change
I easily recognize my emotions as I experience them
I am aware of the non-verbal messages I send to others
When I am faced with obstacles, I remember times I faced similar obstacles and overcame them

Table 2: Continued

Regulation
I have control over my emotions
I seek out activities that make me happy
Some of the major events of my life have led me to re-evaluate what is important and not important
I motivate myself by imagining a good outcome to tasks I take on
I know when to speak about my personal problems to others
Social skills
I like to share my emotions with others
I arrange events others enjoy
I help other people feel better when they are down
Other people find it easy to confide in me
I compliment others when they have done something well
Utilization of emotions
When my mood changes, I see new possibilities
When I experience a positive emotion, I know how to make it last
When I am in a positive mood, solving problems is easy for me
When I am in a positive mood, I am able to come up with new ideas
When I feel a change in emotions, I tend to come up with new ideas
I use good moods to help myself keep trying in face of obstacles
I present myself in a way that makes a good impression in others
Optimism
Emotions are one of the things that make my life worth living
When I am faced with a challenge, I give up because I believe I will fail
I expect that I will do well on most things I try
I expect good things to happen

Adapted from: Schutte et al. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25, 167-177.

International Physical Activity Questionnaire (2005).

Physical activity was assessed using the official Malay short-version format of IPAQ, which is available at www.ipaq.ki.se. The short form of IPAQ that was used in the present study has seven items providing information on time spent walking, in vigorous- and moderate intensity physical activities and in sedentary activity during the previous seven days. IPAQ defines moderate physical activities as those that produce a moderate increase in respiration rate, heart rate and sweating for at least 10 min duration. This is equivalent to 3–6 metabolic equivalents (MET) based on the compendium of physical activity. Vigorous physical activities are defined as those producing vigorous increases in respiration rate, heart rate and sweating for at least 20 min duration. The metabolic equivalent value is above 6 MET (Ainsworth et al., 2000).

In addition to physical activity questions, IPAQ includes some other questions on age, education years, employment and job hours. Participants are asked to refer to all domains of physical activity including occupational, transport, household, yard/garden and leisure/sports. In additions, MET-min per week for each of walking, moderate- and vigorous intensity activities were calculated as follows: walking = (3.3 x walking minutes x walking days); moderate activity = (4.0 x moderate activity minutes x moderate activity days); vigorous activity = (8.0 x vigorous activity minutes x vigorous activity days). Furthermore, sufficient vigorous activity was computed on the basis of 3 or more days of vigorous-intensity activity of at least 20 min per day. Likewise, sufficiently moderate and walking activities were computed based on 5 or more days of moderate-intensity and walking of at least 30 min per day. Physical activity levels were also classified into three categories: low, moderately active and highly active, according to the scoring system provided by IPAQ. For the purpose of the study, three levels of activity groups were determined from the scores of the IPAQ questionnaire which were as follows: (1) **Highly Active PA group (HAc)** who satisfy vigorous exercise ≥30 min/day, ≥ 3 days a week (>1500 MET-minutes/week; 7 or more days of any combination of walking, moderate intensity or vigorous-intensity achieving at least 3000 MET-minutes/week (2) **moderate active PA group (MAc)** who satisfy > 3 days /week of vigorous-intensity activity of at least 20 minutes a day; >5 days/week of moderate-intensity activity or walking at least 30 minutes a day; or a total of PA >600 MET-minutes/week and (3) **low active PA group (LAc)**, who are the non exercisers and irregular exercisers, whom do not meet the criteria for moderate and high active physical activity level.

Procedure

The data was collected in a period of two weeks at the selected faculties and departments. The study was described to the supporting staffs as an investigation of the relationship between emotional factors and health behaviours i.e., exercise. The support staffs who agreed to complete the questionnaire were also asked to sign a consent form. Permission for the study was granted by the head of the registrar. Questionnaires were completed anonymously and the only identifying data requested were age, sex and educational background. Protocols were examined to determine that all necessary information and responses had been provided by the participants.

Statistical analysis

SPSS version 17.0 (SPSS Inc., Chicago, IL, USA) was used to analyze the data. The three different levels of physical activity (PA) groups (HAc, MAc, LAc) were the independent variables while EI was the dependent variable. A factorial analysis of variance for independent groups was computed to determine the differences in EI scores among supporting staffs (male/female) participating in different levels of PA. Two (acquired for male and female) one-way ANOVA and post hoc analyses were also performed for multiple comparisons of the three different levels of PA groups on the six EQ subscales. The level of significance was set at 0.05 for all statistical analyses.

RESULTS

Out of the 172 subjects, 28.8% were categorized into HAc PA group, 50.6% as the MAc group, and 20.6 % into the LAc group. The descriptive data of the subjects are presented in Table 3.

Table 3: Subjects divided to three levels of physical activity (PA) groups (n=172).

Group	High Active PA (HAc)		Moderate active PA (MAc)		Low active PA (LAc)	
	Male	Female	Male	Female	Male	Female
N	31	18	30	57	19	17
Age	31.4±6.8	29.3±5.2	36.7±7.2	35.7±9.4	39.5±4.9	42.8±2.7
Years of education	11.3±2.5	12.7±2.8	10.9±2.3	9.5±3.3	9.8±3.7	9.9±2.8
Marital status	22 (M) 9 (S)	11 (M) 7 (S)	26 (M) 3 (S) 1 (D)	47 (M) 5(S) 4(D) 1(W)	14(M) 4(D) 1(W)	12(M) 2(D) 3(W)

M=married; S=single; D=divorced; W=widow

Group differences in physical activity

Based on the data given from Table 3, there were more females [57 women (33%) ; mean age of 35.7±9.4)] that was in the moderate physical activity group compared to the other groups, while, more males [31 men (18%); mean age of 31.4±6.8] were seen in the high active groups compared to the other two groups. Significant F of 0.607 >0.05 from the Levene's Test of Equality of Error Variance showed the data meet the assumption of equality of variance (homogeneity test). There was a significant main effects for gender on EI scores, $F(1, 166)= 14.0$, $p = 0.03$, partial $\eta^2 = 0.14$, meaning there is a significant differences between EI and gender (males and females). Moreover, there was a significant main effects for physical activity groups on EI scores, $F(2, 166) = 21.9$, $p = 0.000$, partial $\eta^2 = 0.279$, meaning there is a significant differences between EI and the physical activity groups (HAc, MAc, LAc). However, there was no significant interaction effects between gender and physical activity groups, $F(2,166) = 2.93$, $p = 0.3$, partial $\eta^2 = 0.065$ (Table 4).

Table 4: Factorial ANOVA on gender, level of PA group and EI

Source	SS	df	MS	F	p
Gender	746.7	1	746.7	14.0	0.02
Physical activity group	2338.8	2	1169.4	21.9	0.00
Interaction	312.2	2	156.1	2.93	0.30
Error	8950.6	166	53.2		
Total	12348.3				

The univariate F ratios (one-way ANOVA) comparing the three PA group regard to total EQ and the six EQ subscale measures are presented in Table 5. There was a significant differences ($p<0.05$) in the three PA groups on males for the subscales of regulation and utilization of emotions; but no significant difference ($p>0.05$) was found for the appraisal of one own emotion, optimism, appraisal of others emotion and social skills subscale (Table 4). The post hoc tests of the three PA groups were used to determine which pairs of means were significantly different. The mean subscale scores for the regulation and utilization of emotions of the HAc PA group was significantly higher than that of the MAc and the LAc groups. The mean subscale scores for the appraisal of one own emotion and appraisal of others emotion of MAc PA group was higher than the LAc group. Furthermore, the total EI scores of the HAc and MAc PA groups were both significantly higher ($p<0.05$) than that of the LAc group (Table 5).

For females however, there was a significant differences ($p<0.05$) in the three PA groups for the subscales of appraisal of one own emotion, appraisal of others emotion, optimism, regulation and utilization of emotions and; but no significant difference ($p>0.05$) was found for the social skills subscale (Table 5). The post hoc tests of the three PA groups were used to determine which pairs of means were significantly different. The mean subscale scores for appraisal of one's own emotions, optimism, regulation and utilization of emotions of the HAc PA group was significantly higher than that of the MAc and the LAc groups. Furthermore, the total EI scores of the HAc and MAc PA groups were both significantly higher ($p<0.05$) than that of the LAc group (Table 5).

Table 5: Univariate F ratios comparing emotional intelligence (EI) of the three levels of physical activity groups between genders.

EI subscales	Mean ± SD		F		P		Post hoc
	Male	Female	Male	Female	Male	Female	
Total EI			11.25	14.69	0.003*	0.001*	HAc>MAc>LAc (male & female)
HAc	107.8±14.7	110.6±13.6					
MAc	97.7±16.3	96.7±15.6					
LAc	86.0±21.4	84.2±23.4					
Appraisal of others emotions			1.96	3.49	0.07	0.04*	HAc=MAc=LAc (Male)
HAc	22.8±4.4	22.9±3.5					
MAc	20.6±2.7	20.3±2.9					HAc=MAc>LAc
LAc	19.2±3.7	18.8±3.6					(Female)
Appraisal of own emotions			2.36	4.38	0.05	0.005*	HAc=MAc>LAc (Male)
HAc	15.2±2.4	16.8±1.3					
MAc	14.6±2.9	14.3±2.7					HAc>MAc>LAc
LAc	12.2±3.7	11.2±4.1					(Female)
Regulation of emotions			4.21	5.69	0.005*	0.003*	HAc>MAc>LAc (Male)
HAc	18.6±0.4	17.3±1.4					
MAc	15.4±2.3	14.9±2.2					HAc>MAc>LAc
LAc	12.3±2.6	11.5±4.7					(Female)

Table 5: Continued

Social Skills HAc MAc LAc	 16.6±2.4 15.7±2.7 13.5±2.9	 17.6±1.8 17.4±1.3 16.3±3.6	1.94	0.54	0.06	0.08	HAc=MAc=LAc (Male) HAc=MAc=LAc (Female)
Utilization of emotions HAc MAc LAc	 23.8±2.4 20.8±2.2 18.6±3.8	 23.2±3.2 20.2±2.7 17.2±2.7	4.54	5.46	0.005*	0.004*	HAc>MAc>LAc (Male) HAc>MAc>LAc (Female)
Optimism HAc MAc LAc	 12.8±2.7 10.6±3.5 10.2±4.7	 12.8±2.4 9.6±3.8 9.2±4.7	1.87	3.98	0.07	0.05	HAc=MAc=LAc (Male) HAc>MAc=LAc (Female)

DISCUSSION

The findings of the current study provide further support on the claims that there is a positive relationship between increased levels of EI and physical activity. The current findings are in line with those of Li et al. (2009) and Sklofske et al. (2007). It was found that the university supporting staffs that had higher physical activity in a week had better total EI score and composite subscale scores. This study found that the higher the level of PA, the higher the scores for the appraisal of one own emotion and regulation of emotions which are consistent with the finding from previous studies that PA has benefit on an individual's sense of self worth and self perception (Asci, 2003). With that note, supporting staffs with high levels of PA and obviously EI will benefit the most when they are able to demonstrate effective working relation with customers (students or academicians) and their direct authoritative leaders. Apart from that, positive associations were also found between PA and appraisal of others emotion and PA with utilizations of emotion which are line with the studies by Biddle (2000) and Smith (2000). This means supporting staffs with high self control and positive thinking, in other words, those with high control of emotions will not resort to unhealthy solutions when facing with difficulties, but on the contrary, they will proactively seek for techniques to cope with distressed situation. Several plausible mechanisms for PA effects on emotion have been identified (Carron et al, 2003; Biddle & Mutrie, 2001), include increased endorphin production following exercise (Leith, 2002), increased activity of central serotonergic system from exercise and increase of norepinephrine through exercise (Dishman, 1997).

However, trend of physical activity within age for women were not as similar in other studies (WHO, 2004; Hallal, 2003) where physical activity decreases with age. For this study, it was found that the early middle age women were more physically active as compared to the other groups (young adult and late middle age). However, there was a similar trend for men compared to the previous studies (WHO, 2004; Hallal, 2003), where the older they get, the lesser their physical activity was. This is probably due to the standards that culture has for men compared to women. A man's appearance is less important than a woman's appearance. Gender differences were also identified in this study regarding the total EI scores and composite subscale scores. In general, females scored significantly to more subscale scores than males. Moreover, females scored significantly higher than males, similarly to the findings from other studies (Ciarrochi et al., 2000; Jasovee & Jasovee, 2005). Pugh (2002) claims that 'male-female differences in expressiveness are well established' with female demonstrate better ability to perceive and express emotions successfully. Furthermore, females seem to score higher in appraisal of others emotions, appraisal of own emotions and social skills. This is probably because men and women have different styles of coping especially with stressors. Men are believed to be more likely to confront a problem head-on and also are assumed to be more likely to deny a problem exist (Tamres et al., 2002). Women on the other hand are believed to exhibit a more emotional response to problems and are expected to spend more time discussing problems with friend and families (Tamres et al., 2002). Studies also show that women are more likely than men to cope with emotion-oriented behaviours and to seek social support (Stone & Neale, 1984). These stereotypes are seen through this study and maybe so it is seen true in almost all parts of the world where emotional expressiveness is the core of differences between the genders.

Femininity and female roles are associated with the ability to experience, express, and communicate emotions to others, and to empathize with other' s feelings, whereas masculinity and male roles are defined as the ability to suppress and control one's emotions.

A limitation of the study is that since the data were collected during office hours, the results may not reflect a true picture. However, it would be useful in future work to examine associations of physical activity and emotional intelligence in a more general sample.

Similar to the study done by Li et al., (2009), although we found positive relationships between PA and EI, however, this does not mean that EI causes high PA. It is equally possible that good PA is the effect of good EI as the supporting staffs with high EI may simply be more active and exercise driven. Hence, more research must be done to clarify this issue.

In conclusion, university supporting staff that was more physically active was more likely to have better EI compared to their sedentary counterparts. In relation to that, university supporting staff that had better EI was also relevantly more active than the sedentary counterparts. Thus, the importance in increasing physical activity especially in systematic routine exercise among university staffs should be reinforced and implemented. An example that can be followed is by our Eastern counterpart in Japan that carries out morning exercise among their civil servants, and the consequences for them are remarkable. Also, another way of looking at it, is to implement effective emotional intelligence programs in public sector so that good exercise attitude can be fostered in their everyday lives. However, longitudinal research designs are necessary in order to explore the long-term effects of physical activity of on EI and vice versa.

AUTHOR INFORMATION

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