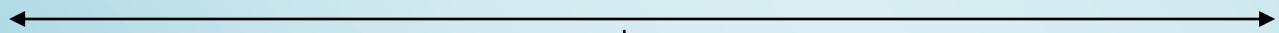


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# FACTORS AFFECTING ON JOGGING TRAIL USERS' BEHAVIOR: THE RELATIVE INFLUENCE OF INDIVIDUAL, SOCIAL AND PHYSICAL ENVIRONMENTAL FACTORS

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## ABSTRACT

*Performing a physical activity on a regular basis will help to improve overall health and fitness, as well as to decrease the risk for many chronic diseases. There have been many efforts to increase physical activity which mostly focused on the individual. Jogging is the most commonly reported and the most accessible form of leisure time physical activity among general population. However little is known about the factors that influence Jogging in leisure time physical activity. The main purpose of this study was to identify social and physical environmental level factors and individual level factors that affect jogging trail user's behavior. Primary data were collected using semi structured interview and analyzed using Atlas ti 7.0. The study identified that individual level factors such as motivation to walk, knowledge about walking and physical activity, physical fitness, mental fitness, emotions on walking and routing and time priority is directly influencing on jogging trail users' behavior. Social environmental factors such as social support and advice, community norms, social interaction, social network is directly affecting for jogging trail users' behavior and physical environmental factors such as safety and maintain, natural environment, located area and cleanliness, aesthetic and scenery, light, characteristics place and accessibility is directly affecting Jogging trail users' behavior.*

**Key words:** Physical activity, Jogging trail, Social & Physical Environment

## INTRODUCTION

Physical activities, when undertaken regularly, are highly beneficial for health, and for physical and psychological well-being (Pedro J Teixeira, 2012). Yet, only a minority of adults in modern society reported for engaging in physical exercise at a level compatible with most public health guidelines. For instance, 2009 data indicate that, on a typical week, 60% of adults in Europe engaged in no physical exercise or sports. In the United Stat (U.S.), less than 50% of adults are considered regularly physically active while only 15% of adults in Canada meet national physical activity recommendations. Such findings suggest that many people lack sufficient motivation to participate in the recommended 150 minutes of moderately intense exercise or physical activity per week.

Small amounts of physical activity can have a significant health impact (Blair and Connelly, 1996, Hakim et al., 1998). Substantial health benefits appear to occur with the move from a completely sedentary lifestyle to modest levels of activity (Blair and Connelly, 1996). The 1996 release of the U.S. Surgeon General's Report on Physical

Activity broadened the recommendations for physical activity (U.S. Department of Health and Human Services, 1996). Most adults should participate in at least 30 minutes of moderate intensity physical activity on most days of the week (Pate et al., 1995).

Physical activities like jogging are compulsory for people to balance their wellbeing. According to community and worksite wellness program conducted by the Texas Department of Health, with the development of environmental supports such as walking trails within communities, Texans would have the power to increase their level of physical activity and decrease their risk for chronic health conditions. Jogging and running both help the body shed calories and so eventually help to reduce weight. At the same time, they help to strengthen leg muscles, abdominal muscles, and the cardiovascular system. Jogging prevents muscle and bone loss that often occurs with age. Both jogging and running benefit the human body as a whole (Jogging vs. Running, n.d.).

Light to moderate activity, such as walking at a rate of three to four miles per hour, provides some of the same health benefits as do more vigorous types of physical activity (Stampfer et al., 2000, Lee and Paffenbarger, 2000). Walking is the most common physical activity among the general population and in major subgroups such as overweight individuals, older persons, and persons of low income and education levels (Siegel et al., 1995). A low impact activity that uses the entire body, walking is easy to perform, requires no new skills or special equipment, is very low cost and convenient, and can be accommodated in daily routines. The large number of sedentary individuals in the population and those individuals at risk for certain health problems, especially the obese and elderly, may benefit from walking (Phillips et al., 1996, Morris and Hardman, 1997, Duncan et al., 1991). Walking is a promising focus of interventions due to its acceptability and accessibility, particularly among populations with a low prevalence of physical activity (Brownson et al., 2000b, Morris and Hardman, 1997, Siegel et al., 1995, Hillsdon et al., 1995).

Research has indicated multiple levels of influence on physical activity. Understanding these influences is important because interventions aimed mostly at individual levels of change have not produced long-term increases in physical activity (Dishman and Sallis, 1994). An ecological perspective that focuses attention beyond the individual has been proposed to address health promotion interventions (McLeroy et al., 1988, Simons-Morton et al., 1988, Sallis and Owen, 1997, Stokols, 1996, Stokols et al., 1996, Breslow, 1996). This viewpoint stresses the importance of intervening at multiple levels, and the interaction and integration of factors within and across all levels.

Even though, understanding of environment for physical activity behavior is very important. In physical environment, increasingly, research has identified links between various elements of the built environment and physical activity (e.g., Brownson, Hoehner, Day, Forsyth, & Sallis, 2009; Humpel, Owen, & Leslie, 2002; Lenthe van, Brug, & Mackenbach, 2005; Owen, Leslie, Salmon, & Fotheringham, 2000; Sallis, 2009; Transportation Research Board, 2005). These studies stated that understanding the neighborhood context is important for developing effective interventions to promote participation in physical activity. Giles & Donovan Examined the influence of social environmental factors in promoting physical activity and concluded that factor overshadowed the role of physical environmental appearances (Giles & Donovan, 2002). The social environment includes aspects such as safety and degeneration. Gemmell analyzed associations between individual and neighborhood perceptions and physical activity (Gemmell, 2007).

In rural communities there are limited availability of places to be physically active (Parks et al., 2003, Wilcox et al., 2000). Establishment of walking trails can be a low cost intervention that can facilitate walking by eliminating

or reducing barriers and can encourage its maintenance because the trails become a permanent fixture in the community. Evaluation of actual use of the trails can determine whether presence and promotion of the trail has an impact on walking or jogging.

Efforts must be made to determine the reasons for use jogging trails. In order to more fully evaluate jogging trail use it is important to understand factors, beyond the existence of the trail, that influence jogging behavior. The purposes of this study were to identify social and physical environmental level factors and individual level factors that affecting for jogging trail user's behavior.

## METHODS AND ANALYSIS

An inductive qualitative approach was chosen in order to generate rich detailed data and provide a contextual understanding of the factors that affecting for jogging trail users' behavior. Data were collected from 30 participants who participated the jogging in Kiribathgoda-Dalupitiyajogging trail under the semi structured interview.

Kiribathgoda, Kiribathgoda-Dalupitiya jogging trail in Sri Lanka were used as the study area. The sample community represented different demographics such as in economy, social class, educational level and racially diverse. Sample had urban and semi urban consisted of population. At present, huge joggers and walkers using the jogging trail for different recreational physical activities.

**Sample:** The qualitative research involves obtaining large number of rich detailed descriptive information from a small number of sample (Dalla, 2006). The simple random sampling method had been used to collect data. 30 participants were selected as the sample who engaged in recreational physical activities at Kiribathgoda-Mahara jogging trail.

**Data collection:** A total of 30 individual interviews were held on 25<sup>th</sup> September of 2014 to 28<sup>th</sup> September 2014 at Kiribathgoda-Dalupitiya jogging trail. The final outcome of this study was to identify the individual, social and physical environmental factors that affecting jogging trail user's behavior. To reach the purpose desired data were collected through primary data such as interviews and observations. In order to get a deeper understanding and for more clarification it was intended to collect data from secondary sources as well. Personal face to face interviews with semi structured questions were conducted for the respondents.

**Interview Method and Guide:** There are a variety of methods of data collection in qualitative research, including observations, textual or visual analysis (from books or videos) and interviews (individual or group). However, the most common methods used particularly in healthcare research are interviews and focus groups. There are three fundamental types of research interviews: structured, semi-structured and unstructured (www.nature.com, 2008). In this study researchers used semi structured interview method.

Interview guide used as a support. It did not provide to the respondent. The interview questions were designed with 14 questions accurately to identify the physical environmental, social and individual factors.

**Codes, Categories and Concept:** When coding some interview transcribes or audio files or other primary data sources it is clear that those should be put all together in sub categories. Then sub categories emerge main

category. Then organized it together and researcher can make new concept theory or theme. Some categories contained clusters of coded data that merit further refinement into subcategories. And when the major categories were compared with each other and consolidated in various ways, to transcend the “reality” of data and progress toward the thematic, conceptual, and theoretical. For an example, data were coded under the main objective of the study which was to identify factors affecting jogging trail user’s behavior. Some codes among those were categorized under the sub categories, aesthetic and scenery, natural environment, accessibility and safety.

**RESULTS**

As per the table 01 basic demographic characteristics of the 30 participants who participated in the interview can be identified. There were 70% of males and 30% of females participated in the survey. 90% of participants were employed and 10% were unemployed according to the survey. There were only 13.3% of joggers who had either a degree or a diploma. There were 56.7% of joggers who read their advanced level (A/L) studies while 16.7% of respondents had ordinary level (O/L) education. Table shows 23.3% of the sample had income level of Rs.10,000-30000. 13.3% had 30,000-50,000 income level, 16.7% were in between 50,000-75,000 income level and 43.3% earned more than 75000 Rupees of the sample. 20% of the sample were single while the majority (80%) of joggers were married.

**Table 01: Demographic Characteristics**

Characteristics	Total (N=30)
Age	
15-30	16.70%
30-45	40.00%
45-60	33.30%
More than 60	10.00%
Gender	
Male	70.00%
Female	30.00%
Education	
Degree	13.30%
Diploma	13.30%
A/L	56.70%
O/L	16.70%
Family Income LKR	
10,000-30,000	23.30%
30,000-50,000	13.30%
50,000-75,000	16.70%
More than 75,000	43.30%
Marital state	
Married	80.00%
Unmarried	20.00%
Employability	
Yes	90.00%
No	10.00%

**Table 02: Factors that Influence jogging trail users’ behavior**

Social environmental factors	Individual level factors	Physical environmental factors
Social support and advice	Motivation to walk	Aesthetic and scenery
Community norms	Knowledge about walking and physical activity	Natural environment
Social interaction	Mental fitness	Accessibility
Social network	Physical fitness	Located area and cleanliness
	Emotion about walking	Safety and maintenance
		Characteristic of place
		Light

**Social environmental factors:** Some of the factors were at a social environmental factors and include Social support and advice, community norms, social interaction and social network.

Social support and advice: Most respondent felt a need for social support and had mixed feelings about receiving advice from others. In general they told that those giving advice about being healthy are probably right and, though they may not want to hear it, it’s being said out of concern. Many respondent spoke of walking with others and receiving encouragement from others is directly affecting to their walking.

*“Both my son and daughter are doctors. They look after us well. They advise me to involve in such exercise. I come here due to their persuasion”*

*“Friends asked me to jog in the jogging track near my place. As my stomach as I sit in the office often.”*

Social network: Some of respondent told that they are jogging because of build-up social network. Some of them got know about trail from gossip. Some of them came there with family members even some of coming without any one. It is clear that most of participants doing their physical activity on the trail as a result of social network or to build up social network.

*“I come here with my family members. We know about this place from gossips. There is only a little crowded here when we come first. You can see now crowded in here. I come here even without my family members to meet people.”*

Social interaction: Researcher were identify through interview data social interaction in influence to walking trail users behaviour as a social environmental factor.

*“This place and people who come here are really decent. We can associate a large number of respectable people here. It’s a trend to society to come such places”.*

Community norms: Walking was identified as a behaviour that has become more popular within the communities. The respondent told that people of all ages, both genders, healthy and unhealthy, walk.

*“There is only a little crowded here when we come first. You can see now crowded in here”*

Through the respondent's answer researchers were identified the above factors that affecting to jogging trail user's behavior.

***Individual level factors:*** Researcher were identified that Some of the factors were at an individual level and included physical fitness, mental fitness, routine and time priority, knowledge about walking and physical activity, emotion about walking and motivation to walk. Most of the respondent had positive affect toward walking though some would rather do other types of physical activity.

Physical fitness: The participants had a great understanding of the benefits of walking, especially the health related benefits such physical fitness consequences. Some participants were satisfied with the improved quality of life resulting from being physically active.

*“It's difficult for us to run and play now. I was a sports man. It's difficult to now. Walking is easy. I have sugar. Actually it's easy to control my sugar from exercise rather than through medicine”*  
*“It helps me to maintain the activeness and the sugar level of my body. That's why I do exercise especially.”*

Mental fitness: The entire respondent mentioned walking and jogging here was directly affecting for mental fitness and mental balance. .

*“Doing jog or walk here is psychological comfort”*

Routine and time priority: The participants indicated they have many responsibilities that may be limit the time they can spend being physically active in leisure time activities. They identified responsibilities that include family and household, work, community and neighbors, and lastly, oneself. More often than not, other commitments and responsibilities limited time they had for themselves. They felt that time for leisure time physical activity must be taken when it is available however, it is most likely what they give up. The respondent wanted to spend more time taking care of themselves but in reality most took care of others before themselves. They told that they are going to pay attention on physical activity such walking and jogging something like this when it is available however.

*“We really come here when time available however. Hardly have I missed to come. This has become necessity of our daily life. The time we spend here is no a waste”*

Knowledge about walking and physical activity: The participants had a great knowledge of the physical activity and walking. In general the respondent's knowledge of physical activity and walking was extensive. All respondents understood that physical activity was bodily movement that included being on the go and the ability to get around and take care of oneself, not just exercise.



*“I was a karate master. So I have a good knowledge about the necessary exercises for the body. Because of that I come here 3-4 days per week.”*

*“Our bad food habits make us patients. We often use quick foods. They are spring of illnesses. I think physical activities like walking and jogging helps to protect from diseases and to maintain and balanced the body”*

Emotion about walking: All the respondents mentioned that they have good emotion to doing physical activity like walking and jogging. They used terms like no boring, I came here as myself, I want to get a change etc.

*“It is no boring to walk here. it is free for the body. it is good for a defense to come here. This place is excellent to get rid of our regular lives. The freedom that rule. This place makes me come here for my own necessity.”*

Motivation to walk: Every respondent told that there are some characteristics to motivate them for doing physical activity. They used terms like there is no traffic, pretty girls, crowded etc.

*“Jogging here completely differs from doing it at a road or house. There is less protection and much traffics in roads. There is dust in roads. Therefore this place is more protective than a road. And pretty girls come here and they attract us also”*

Through the respondent’s answer researchers were identified the above individual factors that affecting to jogging trail user’s behavior.

**Physical environmental factors:** Physical environment factors that influenced walking included accessibility, natural environment, safety and maintain, characteristic of places, aesthetic and scenery, located area and cleanliness, light.

Accessibility: Every people mentioned that accessibility is drives them to doing physical activity. All most all people mentioned accessibility is directly influence on their jogging experience on the trail. They used terms like Easy, near, access etc.

*“Because I live nearby. It is only 100 m from my home”*

Most people in the sample were lived in less than 1km from walking trail. Many of the respondent who do not live close to the mentioned physical environment conditions of other places to walk or exercise as impacting walking behavior. They discussed exercising or walking at home, on streets, on sidewalks indoor exercise facilities and spoke of issues regarding, cost, and the need to feel comfortable no matter where you exercise.

Natural environment: Many of the respondents mentioned that natural environmental factors influence directly to them for doing physical activity. Varied naturel environmental factors induce participants to do jogging or walking or other type of physical activity.

Safety and maintain: Safety was a major concern for the respondent in sample community. The safety issues that were mentioned included fear of other people, fear of injury, fear from unattended animals, and concern about traffic flow (especially for those who walking on the streets). They used terms like safety, well maintain.

*“This place is really good. There are well maintain. Because of well maintain and safety people are induce to doing physical activity here. And I feel safe as far as the traffic on the road”*

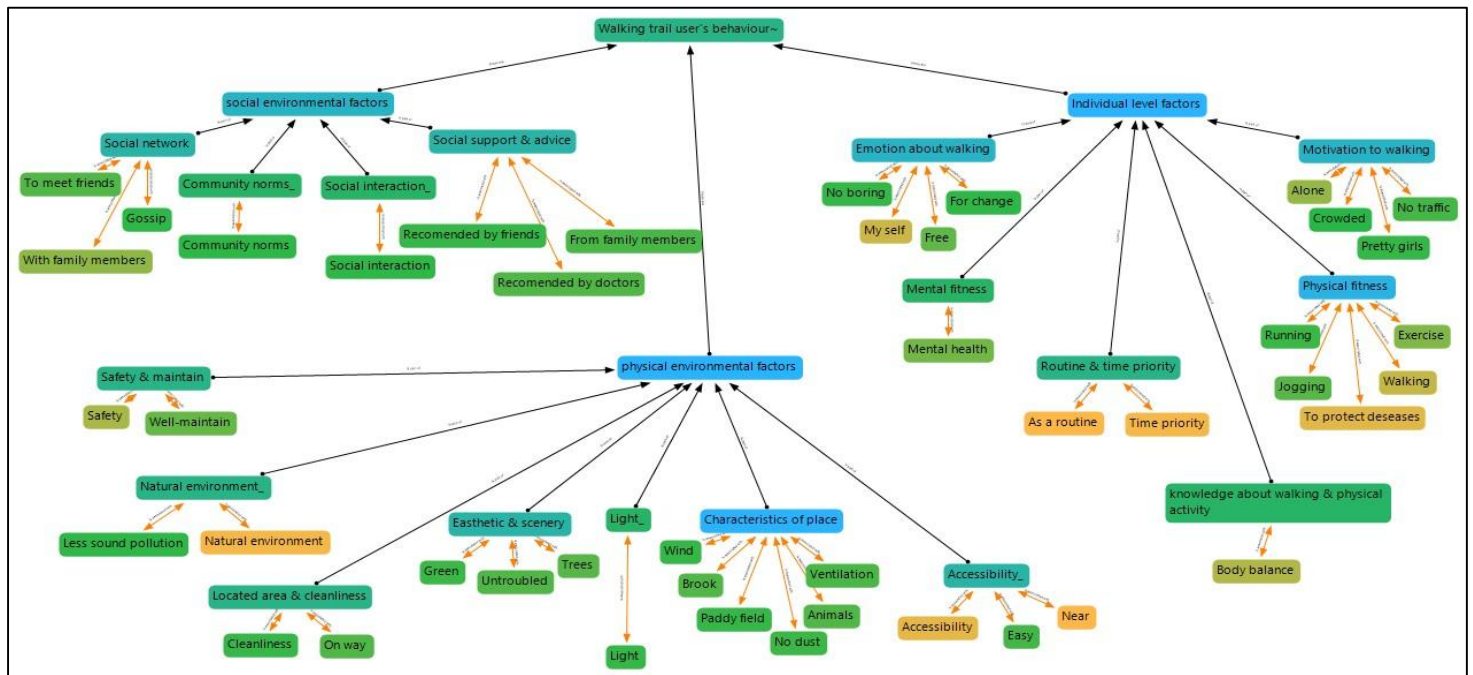
Characteristics of places: The respondent identified characteristics of walking trail that make it an accessible form of exercise almost anyone could do. For example, they felt that walking was a natural activity, it was low impact and less strenuous than other types of physical activity, natural features is very important to doing jogging. They used terms like wind, ventilation, no dust, lake, and animals.

*“I really like this place. I can see a lots of beautiful animals here such as birds and fish. We urban people can see such things only in places like this. It is a psychological comfort. There are very good ventilation more than other places in the city,”*

Light: The respondents felt that there were characteristics of the physical environment surrounding the track that may facilitate or inhibit track use. The factors that would facilitate use include adequate lighting and other lighting conditions. Lighting conditions on the trail is straight affecting to trail use.

*“Sola power light here really soft and good for both public and the environment.it is really beautiful here with lights at night. Walk from the beginning to end if you want to feel it”*

Through the respondent’s answer researcher were identified the above physical environmental factors that affecting to jogging trail user’s behavior. The network view of these factors shown below in figure 12. The summary of these all factors shown below in figure 01



## CONCLUSION

In order to improve health, people need to be physically active. This does not mean running a marathon; being physically active includes spending 30 minutes per day in moderate activity such as walking at a pace of three to four miles per hour. The health benefits are more significant for those that are completely sedentary, in poor health, overweight, or elderly.

Much is known about the influencing factors on physical activity in general. However, not much is known about increasing walking behavior. This study has identified several factors that influence walking trail user's behavior in Sri Lanka. The qualitative nature of this studied allowed us to explore and identify factors for walking that were in addition to those previously identified for trail user's behavior. Prior to this study, the role of the environment on physical activity was understood but not well verified. This study indicated that the social and physical environment and individual level factors have some bearing on walking behavior.

Consideration of study findings it can be said that social environmental factors and individual level factors influence to people to doing jogging and them expecting favorable physical environmental surrounding during having their jogging experience.

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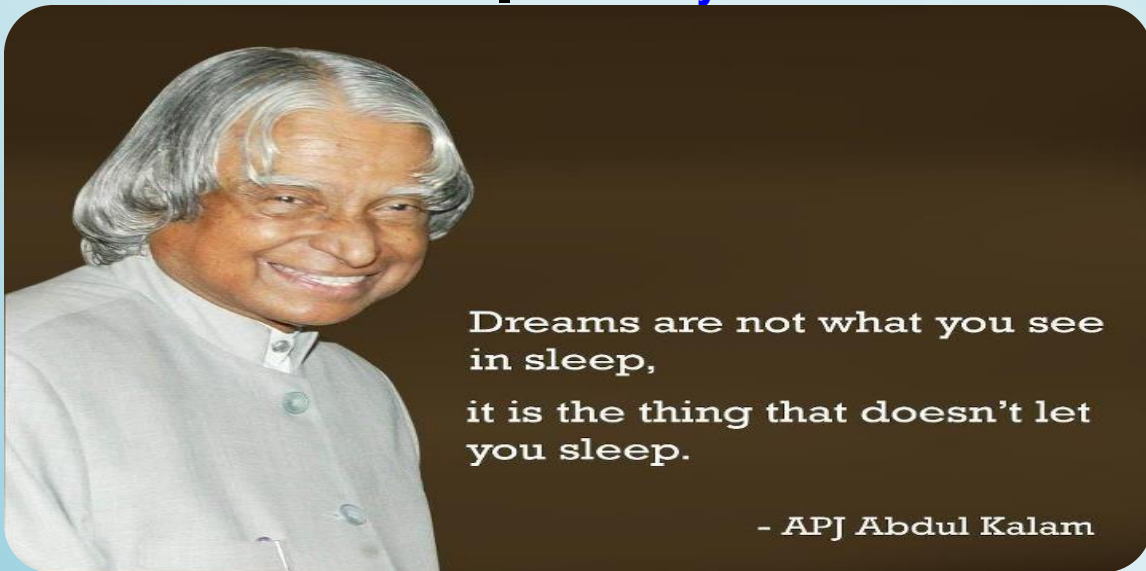
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Dreams are not what you see  
in sleep,  
it is the thing that doesn't let  
you sleep.

- APJ Abdul Kalam