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Perceived Psychological, Social,
Environmental and Policy Influence on
Leisure-Time Physical Activities among
Sri Lankans

스리랑카인의 여가 시간 신체활동에 미치는 지각된
심리적, 사회적, 환경적 및 정책적 영향

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Abstract

Perceived Psychological, Social, Environmental and Policy Influence on Leisure-Time Activities among Sri Lankans

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This study focused on to how perceived psychological, social, environmental and policy factors influence on leisure-time physical activity among Sri Lankans in order to provide a clearer understanding of what enables and inhibits leisure-time physical activities in Western Province, Sri Lanka.

There were three research questions were answered. The influence made by demographic factors on leisure time physical activities among Sri Lankans, how do psychological, social, environmental and policy influence

perceived psychological state, social support exercise environment and views on government policies on their facilities and relevant recommendations to enhance leisure-time physical activities among Sri Lankans.

The data collection was based on the completion of an online survey and also through distributing questionnaires for participants (N=207) who were randomly selected. SPSS 23.0 was used to analyze the data. Factor loading and T-test analysis were performed to find significant differences among perceived factors, demographic factors and leisure-time physical activities.

The study identified there is a significant relationship with gender, and the leisure-time physical activities. Perceived self-efficacy and policy factors were underlined.

Keywords : Leisure-time physical activities, Leisure constraints,
Self-efficacy, Policy determinants

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Abbreviation

BMI	Body Mass Index
BPAQ	Barriers to Physical Activity Survey
BRFSS	Behavioral Risk Factor Surveillance System
HBM	Health Belief Model
IBM	Integrated Behavioral Model
IPAQ	International Physical Activity Questionnaire
NHIS	National Health Interview Survey
LTPA	Leisure Time Physical Activities
SCT	Social Cognitive Theory
NCD	Non-Communicable Disease
SEANET	South East Asian Network
SPSS	Statistical Package for Social Solution
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UN	United Nations
WHO	World Health Organization

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Chapter 1. Introduction

1.1. Background

There is an argument that successful human aging may reflect an evolutionary adaption with an intergenerational support human aging societal contributions. To fulfill it, there is a requirement that people should maintain levels of daily functions and vivacity that allows them to participate in the physical activities and other endeavors. Strong evidence shows current aging process is often accompanied by significant declines in physical, cognitive and social function and it pave the way to loss of quality of life with a contribution of economic lost. With this circumstance there is a current global challenge of aging trend and health issues indicate a need for community-based services, programs and to identifying key factors to develop policies and best practices to make a positive impact on the society. Until the middle of the 20th century people engage with more regular physical activities and later on with the technological advancement and diverse nature, the available evolutionary evidence indicates with rapid advancement of technology and changing environment societies has led to conceive very different and sedentary environments that people find themselves today.

Lack of activity destroys the good conditions of every human being, while movement and methodological physical exercise save it and preserve it” Plato.

According to the Global status report; non-communicable diseases (NCD) are offering most of all countries and heavily concentrated in low- and middle-income countries. According to the report NCD consider act as important barrier poverty reeducation and sustainable development. One main risk factors was identified is “insufficient physical activity”. This is a global issue needed to be address to reduce the economic lost and enhance the wellbeing of the people.

There it is more important to understand and influence the determinants of leisure-time physical activity as an important public health challenge. Therefore this study provides insight into the contextual factors that are associated with leisure-time physical activities among Sri Lankans

1.2. Problem Statement

Sri Lanka has transformed into middle income country status (The International Monetary Fund, 2010). Improving economic status and urbanization generates both positive and negatives outcomes. On the positive side, increase educational status, as an example; the Education Sector Development Projects (ESDP) support by promoting equitable access to basic education, improving the quality of education, enhancing the

economic efficiency and equity of resource allocation and distribution within the education system and people's expectations which in turn result in greater demand for quality health care. Concurrently, on the negative side changing life styles, consuming more fast foods, trauma due to occupational exposure and lack of physical activities due to certain limitations.

Escalating health care cost with rising rates of non-communicable disease one of the main health in challenges in Sri Lanka and it has found insufficient physical activities is one of main factors. However there are several studies carried out related to physical activity patterns, the prevalence, predictors and associations of diseases but no study has carried out about perceived psychological, social, environmental and policy influence on leisure-time physical activities in the context of Sri Lanka. Though most of Sri Lankans involve with day today physical activities there is a lack, on leisure time physical activities. Therefore, there was a gap to fulfill in the knowledge of studies regarding perceived factors and leisure-time physical activities among Sri Lankans.

1.3. Purpose of the Study

The purpose of this study is to measure the influence of perceived psychological, social, environmental and policy factors on leisure-time physical activity among Sri Lankan adults in age between 15-64 which

considered as the labor force age category of the country in order to provide a clearer understanding of what enables and inhibits physical activity in this population. Results can be used to inform future interventions. Identifying the level of influence between perceived factors and actual leisure-time physical activity in a sample of adults using the existing instruments, produce better set of recommendations for areas to pay attention to increase leisure-time physical activity involvement of Sri Lankans are main specific aims examined through this study. Meanwhile the results will be contributed to reduce the academic gap and the recommendations can be used for sport policy development in the country.

1.4. Significance

The results will be contributed to reduce an existing academic gap by providing an insight to the perceived factors on leisure-time physical activities among Sri Lankans. The significance of the present study is explained by the lack of research on the topic which has chosen. Therefore the results of the research provide some interesting and useful knowledge for further investigations and as a need assessment for creating sport programs or any kind of awareness program for the community health development in Sri Lanka. Moreover, based on results it can be identifies which areas needed to be improved to change the life styles. This study is

attempt to apply the scales from the previous research to identify how factors influence for Sri Lankans as determinants engaging with sufficient physical activities.

1.5. Research Methods

For the present study perceived psychological, social, environmental and policy influence on leisure physical activities among Sri Lankans, researcher has chosen mix method. Based on the survey findings and the panel discussion recommendations and future research avenues were stated. Sample consisted of 207 participants who live in western province Sri Lanka. The data collection is based on the completion of survey questionnaire for participants who were randomly selected. SPSS 23.0 was used to analyze the data.

Panel members were interviewed base on their areas of specialization. Panel consisted in areas of Sport and Recreation Management, Economics and sustainable development, Architecture and designing, Architecture and Urban Planning, Facility Management, Strategic Marketing Management and Community Medicine. Recommendations were suggested to improve leisure-time physical activities among Sri Lankans based on the findings and the discussion with panel members.

1.6. Overview of the Thesis Content

Thesis consists of five chapters. Chapter one presents introduction. The following chapter two comprised overview of the existed literature on the issues related to the present topic. Chapter three represents methodology used for the investigation of the topic chosen for the research. Results of the study are represented in the chapter four. Discussions alongside with limitations, recommendations for future research and conclusion are included in the chapter five. The few pages are reference list and appendix with the survey used for the study.

Chapter 2. Literature Review

The purpose of this chapter is to emphasize the need for a better understanding of perception of leisure time physical activities among Sri Lankans. In addition, this review is to utilize a wide array of theories and researches to provide a background to the present research and to develop further investigations, views and ideas.

2.1. Defining Terms

In 1985 the epidemiologist Carl J Caspersen defined physical activity as “any bodily movement produced by skeletal muscles that results in energy expenditure”. Neville Owen (et al), Head of the school of Human Movement at Deakin University, Australia, has recognized five arenas in which physical activity can be categorized in to. They are:

- Leisure-time physical activity (sports) for recreational purposes, conditions and competition.
- Leisure-time physical activity such as gardening and household.
- Physical activity transportation and commuting.
- Physical activity as a scheduled school subject or as a paid exercise during work-time.
- Non-scheduled physical activity as seen in kinder garden or school, or in a physical active job (Salmon J, Owen N, Baumanm A et al.)

The report; International Congress (2006) on physical activity and health, confirms a change from an interest in measuring leisure-time and sports-related physical activity, to an interest in assessing moderate-intensity physical activity in other domains in which physical activity occur. Some researchers, emphasize physical activity encompasses two categories, exercise and sport (Sylvia-Bobial & Caldwell, 2006). In addition to exercise and structured sport, physical activity can also be categorized in to active leisure, which includes any volitional activity that results in energy expenditure undertaken during one's free time (Sylvia-Bobial & Caldwell, 2006). Leisure time physical activities as a part of one's regular job duties, household activities or transportation (US Department of Health and Human Service, 1996).

According to the leisure time physical activity recommendations, all healthy adults aged 18-65 years need moderate-intensity aerobic physical activity for a minimum of 30 minutes on 5 days a week or vigorous-intensity aerobic activity for a minimum of 20 minutes on three days each week (Haskell et al., 2007)

2.2. Impact of Physical Activities on Society

Regular physical activity (PA) is providing both physical and psychological benefits and there is substantial evidence demonstrating as a

significant determinant of health-related quality of life. These benefits can be associated with the psychological consequences of participation per se, as well as the socio-cultural aspects accompanying participation (T. Armstrong, Bauman & Davies 2000). An active lifestyle has been identified as a protective factor against coronary heart disease, stroke, type 2 diabetes (non-insulin dependent), some forms of cancer, overweight/obesity, falls and injury and physical impairment (Bauman, 2004; Macera, Hootman & Sniezek, 2003). There is a typical risk reduction in all-cause mortality around 30% for those achieving recommended PA levels compared with those who are inactive (Lee I.M. & Skerrett, 2001).

Vuori (1998) concludes that the health potential of physical activities is substantial because (a) the spectrum of health benefits is large; (b) the size of effects varies from slight to moderate to large, and part of the effects cannot be gained by other means; (c) the number and prevalence of health conditions that are related to sedentariness or amenable to improvement by PA is high; and (d) most PA that is effective in enhancing health is feasible, safe and inexpensive for the majority of populations.

2.3. Influence of Demographic Factors and Physical Activities

Rates of health risk factors show a pattern of considerable variability within developing countries, and may be unequally experienced by

socioeconomic groups (Magnusson R.S., Global health governance and the challenge of chronic, non-communicable disease, 2010). Populations that are socioeconomically disadvantaged in terms of education or income tend to fare worse with regards to NCD risk factors prevalence, though important exceptions exist. Some epidemiological evidence suggests earlier adoption of health risk behavior by advantaged socioeconomic groups has been followed by increased prevalence among disadvantaged socioeconomic groups (Magnusson R.S., 2010).

Insufficient physical activity is one of the 10 leading risk factors for global mortality, causing some 3.2 million deaths each year. In 2010, insufficient physical activity caused 69.3 million DALYs-2.8% of the total-globally. Adults who are insufficiently physically active have a 20-30% increased risk of all-cause mortality compared to those who do at least 150 minutes of moderate-intensity physical activity per week, or equivalent, as recommended by WHO. Regular physical activity reduces the risk of ischemic heart disease, stroke, diabetes and breast and colon cancer. Additionally, regular physical activity is a key determinant of energy expenditure and is therefore fundamental to energy balance, weight control and prevention of obesity (WHO.,2014)

In 2010, 23% of adults aged 18 years and over were insufficiently physically active-i.e. they had less than 150 minutes of moderate-intensity physical activity per week, or equivalent. Women were less active than men, with 27% of women and 20% of men not reaching the recommended level of activity. Overall, older people were less active than younger people: 19% of the youngest age group did not meet the recommended level, compared to 55% of the oldest age group. However, young women were slightly less active than middle-aged women (Global Health Report 2014).

2.4. Global Perspective and Strategy

Table 1. Global Recommendations to Promote Physical Activity

Country/Region	Target population	Message Used
Australia National Physical Activity Guidelines or Adult,(2005)	Adults	<p>Think of movement as an opportunity, not an inconvenience. Where any form of movement of the body is seen as an opportunity for improving health, not as a time wasting inconvenience.</p> <ul style="list-style-type: none"> • Be active every day in as many ways as you can. <p>Make a habit of walking or cycling instead of using the car, or do things yourself instead of using labour-saving machines.</p> <ul style="list-style-type: none"> • Put together at least 30 minutes of moderate-intensity physical activity on most, preferably all, days. <p>You can accumulate your 30 minutes (or more) throughout the day</p>

USA
Be Active Your Way.
A Guide for Adults,
Based on the 2008
Physical Activity
Guidelines for
Americans, 2008 (31).

Adults
(18-64 years old)

by combining a few shorter sessions of activity of around 10–15 minutes each.

- If you can, also enjoy some regular, vigorous activity for extra health and fitness.

Be active your way.

- Pick an activity you like and one that fits into your life.
 - Find the time that works best for you.
 - Be active with friends and family. Having a support network can help you keep up with your programme.
 - There are many ways to build the right amount of activity into your life. Every little bit adds up and doing something is better than doing nothing.
 - Start by doing what you can, and then look for ways to do more. If you have not been active for a while, start out slowly. After several weeks or months, build up your activities—do them longer and more often.
 - Walking is one way to add physical activity to your life. When you first start, walk 10 minutes a day on a few days during the first couple of weeks.
 - Add more time and days. Walk a little longer. Try 15 minutes instead of 10 minutes. Then walk on more days a week.
 - Pick up the pace. Once this is easy to do, try walking
-

		faster. Keep up your brisk walking for a couple of months. You might want to add biking on the weekends for variety.
Pacific Region Pacific physical activity guidelines (24).	Adults (18-65 years old)	<p>If you are not physically active (moving much), it's not too late to START NOW! Do regular physical activity and reduce sedentary activities.</p> <ul style="list-style-type: none"> • Be active every day in as many ways as you can, your way. • Do at least 30 minutes of moderate-intensity physical activity on five or more days each week. • If you can, enjoy some regular vigorous-intensity activity for extra health and fitness benefits.

Source: Global Recommendations on physical activity for health (2010)

According to the WHO Global health is being influenced by three trends: population-ageing, rapid unplanned urbanization, and globalization, all of which result in unhealthy environments and behaviours. Hence, World Health Assembly in May 2014 endorsed Resolution WHA57.17: Global Strategy on diet, physical activity and health and recommended that member states develop national physical activity action plans and policies to increase physical activity levels in their populations.

2.5. Theoretical Approach

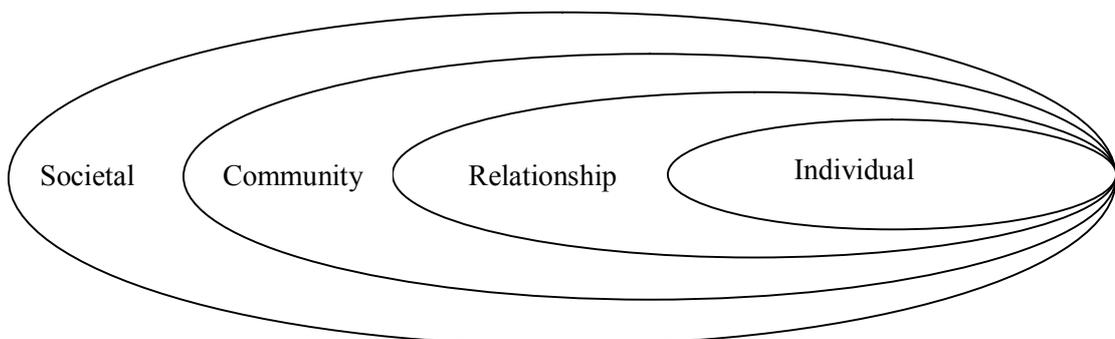
2.5.1. Core theory Ecological Model

It was noted among the most commonly applied frameworks for studying determinants of physical activity, are ecological models and Social cognitive theory. An ecological model theorizes that addressing behavior change should be behavior-specific, and is accomplished through targeting intrapersonal, interpersonal, organizational, community and public policy level factors (Sallis, Owen & Fisher, 2008). Social ecological models have increasingly been applied to understand the determinants of physical activity and inactivity, and there is a growing body of evidence showing that characteristics of the physical environment has a significant influence on the active life styles of adults (Glies-Corti & Donovan, 2002; Sallis, et al., 2008). Social Ecological models for example, highlight the influence of the social context on behaviour, including institutional and cultural factors (Sallis & Owen, 2002).

With an ecological approach, environmental influences on behaviour are seen as multi-dimensional. Moos (1980) for example, identified four categories of environmental variables including physical settings (including features of both the function of organizations, such as worksites), human aggregate (comprising sociodemographic of sociocultural characteristics,

and social climate (including factors such as the supportiveness of a social setting McLeroy et al., (1988) differentiate among institutional factors (reflecting organizational characteristics) community factors (including socio cultural characteristics) and public policy (legislative or regulatory action). Breslow (1996) identifies micro-social environments which consist to relatives, friends, and community associates and organizations, and macro social environments which are larger social arenas such as professional groups and service delivery organizations. Stokols (1996) notes that environments can be described as actual or perceived, social or physical and described in terms of discrete attributes (such as available space) or constructs (such as social climate), and the human-environment interactions can be described at various levels of aggregation, including individuals, communities or whole populations.

Figure 1. Ecological Model



Bronfenbrenner's ecological model for human development

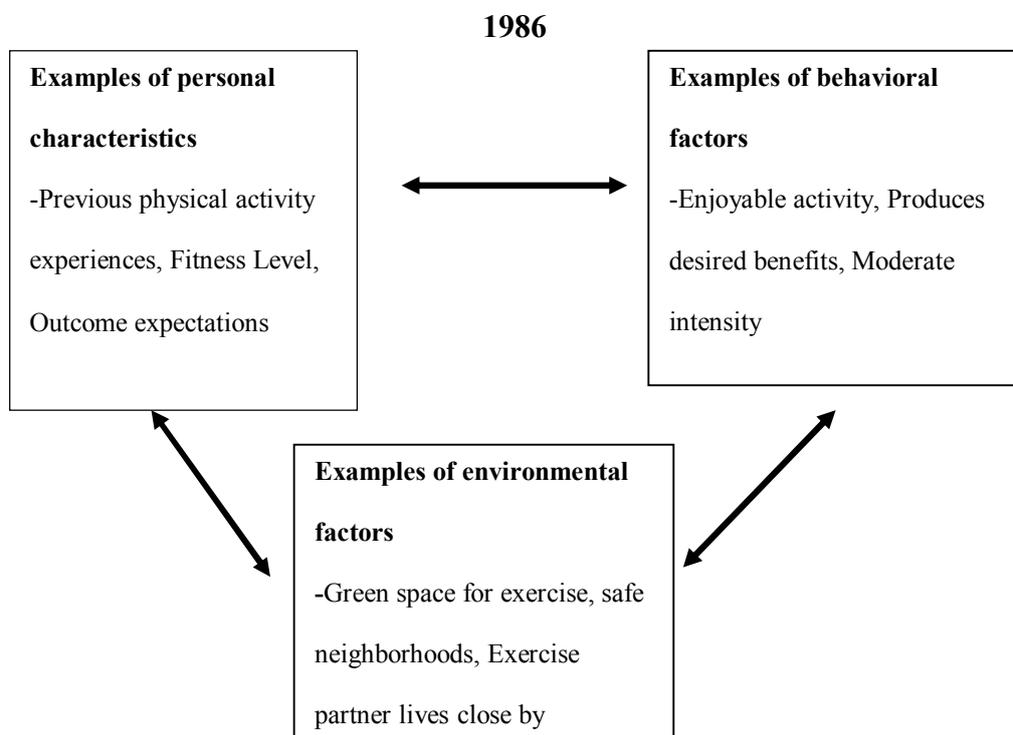
The ecological approach is based on a broad overarching paradigm bridging several different fields of research rather than a single discipline or theory (Stokols, 1996). This framework can therefore, incorporate variables from prominent theories of behavior and health promotion such as the Health Belief Model, the theory of Reasoned Action and Planned Behaviour, and Social Cognitive Theory. Given the range of factors across different correlate domains that are associated with physical activities ecological models are a useful means to integrate such variables (Dzewaltowski, 1997)

2.5.2. Supplementary Theories and Previous Studies

In addition, Social Cognitive Theory highlights the interactions between intrapersonal, social and physical environment variables (Bandura, 1986). Through the process of reciprocal determinism, the theory considers how a behaviour may be supported or constrained via interactions among personal cognitions such as expectations and self-efficacy; social norms and role models, and individual perceptions of the social and physical environment. A key component of social cognitive theory is the relationship between people and environments. The environment refers to objective factors that are physically external to the individual, and includes the social environment (family, peers, and community members) as well as the physical environment (Baranowski, Perry & Parcel, 2002). Major constructs

that determine the likelihood of a behaviour, such as physical activities, being performed include that person's subjective perception of the environment (situation), their knowledge and skill to perform the behaviour (behavioural capability), the outcomes anticipated from the behaviour (expectations) and the value placed on these outcomes (expectancies), personal regulation of behaviour (self -control), opportunities to see the actions and outcomes of others' behaviour (observational learning), responses that increase the likelihood of reoccurrence (reinforcements), confidence to perform the behaviour and overcome barriers (self-efficacy) and strategies to deal with emotional stimuli (emotional coping responses) (Baranowski, et al., 2002).

Figure 2. Reciprocal Determinism, Social Cognitive Theory, Bandura,



At the broadest level, many behavioral models, including those such as the Health Belief Model and the theories of reasoned action and planned behavior, are therefore consistent with social cognitive theory. The Health Belief Model (Rosenstock, 1974) is one of the older and more popular theories of health-related behavior and is commonly used to explain preventive behaviors such as attending screening and vaccination.

The model posits that the likelihood of a behavior is associated with the interaction of four different types of belief: (a) the perceived susceptibility to a problem (b) the perceived seriousness of the consequences of that problem (c) the perceived benefits of a specified action and (d) the perceived barriers to taking action. The perceived susceptibility and severity of a problem contribute to a sense of threat, which is considered against the outcome expectations arising from the perceived benefits and barriers of the action. The behaviors occur when it is believed to reduce a perceived threat and the benefits outweigh any barriers. Later refinements of the model acknowledged the role of modifying factors such as media publicity or personal experience (Sheeran & Abraham, 1996).

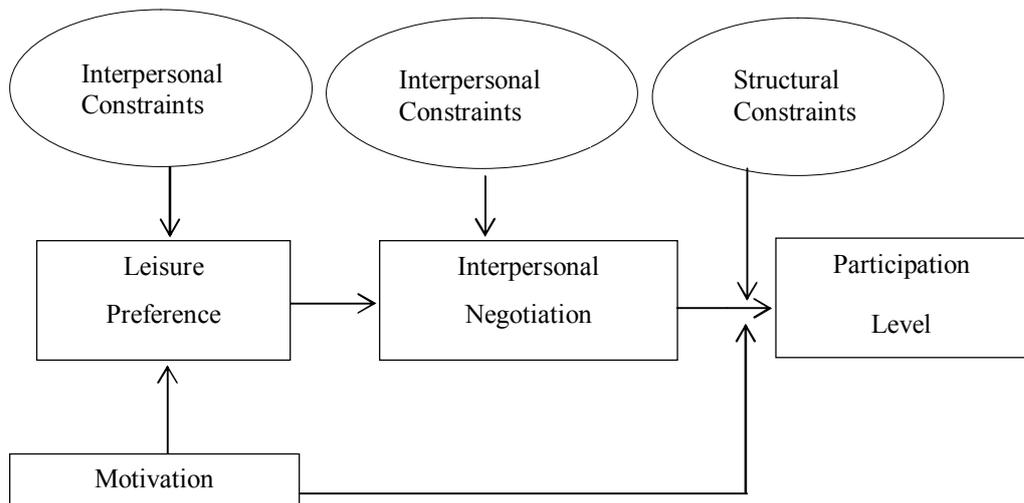
Crawford and Godbey (1987) and Crawford, Jackson and Godbey (1991) presented “The hierarchical leisure constraints model” and subsequently expanded by Jackson, Crawford and Godbey (1993), have

been widely adopted as an important lens through which to view leisure behavior. Hierarchical leisure constraints theory (Crawford, Jackson & Godbey, 1991) which proposed that constraints to leisure behavior is arrayed in a hierarchical fashion. When viewed as three principal components of leisure constraints theory, these models represents stages of theorizing that constituted both a significant departure from existing ways of thinking about leisure “barriers” as well as a cluster of interrelated ideas that came together fairly quickly, in the space of a few years.

The original 1987 model introduced a levels of analysis dimension to contemporary thinking about the factors that promote and deter the pursuit of leisure activities (Crawford & Godbey, 1987). The original model was concerned with describing and explaining the relationship between constraints and leisure activity preferences and subsequent leisure involvement such that constraints were seen as antecedent factors that condition activity preferences (intrapersonal) related to both preferences and participation (interpersonal) or intervene in the preferences-participation relationship. The 1991 hierarchical model extended the initial theory by linking the three constraints factors hierarchically, the factors being arrayed from most proximal (intrapersonal) to most distal (structural) (Crawford, Jackson, & Godbey, 1991). The 1993 model suggested that eventual leisure

behaviour was independent upon the successful negotiation of these constraints levels in a sequential manner (Jackson, & Godbey, 1993).

Figure 3. The hierarchical Model of Leisure Constraints
(Jackson et al., 1993)



Fishbein & Ajzen, 1975 introduced “The Theory of Reasoned Action” and it’s mention that behaviours are immediately influenced by intentions, which are shaped by attitudes towards the behavior and subjective norms.

Behavior attitudes are associated with beliefs about the behavior and evaluations of the behavioral outcome, and subjective norms are associated with normative beliefs and motivation to comply with these. The likelihood of the behavior is therefore, associated with an intention that is formed by beliefs that the behavior will result in positive outcomes and is socially desirable.

A meta-analysis of 72 studies using these constructs to predict physical activities concluded that the major relationships of these theories were supported, and that the theory of planned behaviour accounted for more variance in physical activities interventions and behaviours than the Theory of Reasoned Action, which supported the inclusion of self-efficacy and past behaviours as important additions to the model (Hagger, Chatzisarantis, & Biddle, 2002). Other studies have noted however that the prediction of actual physical activities behaviour is typically weaker than the prediction of physical activity behavioural intentions (Blue, 1995; Godin, 1994b; Hausenblas, Carron, & Mack, 1997; Wankel, Mummery, Stephens & Craig, 1994). Biddle and Nigg (2000) have criticized the two models as unidirectional, focusing only in social psychological perceptions and not accounting for past behaviour.

While a large number of studies have focused on individual determinants (such as motivation or self-efficacy), less has been available in the physical activity literature regarding influences of the perceived social environment (such as social support), the perceived physical environment and perceived role of local or state policies (such as using government funds to build walking trails). Research on these determinants of physical activity is particularly needed in adults because there are a number of

demographic, physiological, social, and environmental and policy level factors that determine participation in leisure-time physical activities. Such factors have not been completely understood, and interactions between them have largely been ignored or unexamined (McMurdo, Argo, Crombie, et al., 2012).

Social determinants are measurable items related to a person's social environment, including social support from family and friends, and which have been found to be associated with participation in physical and may include things such as access to neighborhood parks. Policy determinants are measurable items related to policy-level factors that may influence participation in physical activity, including attitudes towards using government funds for improving access to physical activity facilities.

Brownsin, et al., 2001; Addy et al., 2004; Parks et al., 2003 have shown the perceived social and physical environments have been shown a relationship with physical activity. Social factors that have been associated with physical activity include areas in which many people were exercising, having friends who encouraged exercise, having at least one friend with whom to exercise and having trusting neighbors. The Physical environment provides cues and opportunities for physical activity (Giles-Corti & Donovan, 2002). Physical features of the environment that have been

associated with physical activity include access to locations and facilities where people can be active (such as parks, walking/ Jogging trails, playgrounds, sport fields, schools and worship facilities), better street lighting, having sidewalks available, and using a mall for walking (Brownson et al.,2001; Addy et al.,2004; Parks et al., 2003).

Policy determinants of physical activity have also been shown to be associated with physical activity. Believing that employers should provide time during the day for exercise, supporting that local schools require physical education, and supporting the use of government funds for building walking/jogging trails, swimming pools and biking paths have all been associated with greater odds of being physically active in a national sample of adults (Brownson et al., 2001). This support is consistent across gender and income groups.

2.6. Research Questions

Based on the literature following research questions are made;

RQ 1: Does gender shows any difference towards the amount of leisure-time physical activities?

RQ 2: How do psychological state, social support, environmental and views on government policies influence on leisure-time physical activities among Sri Lankans?

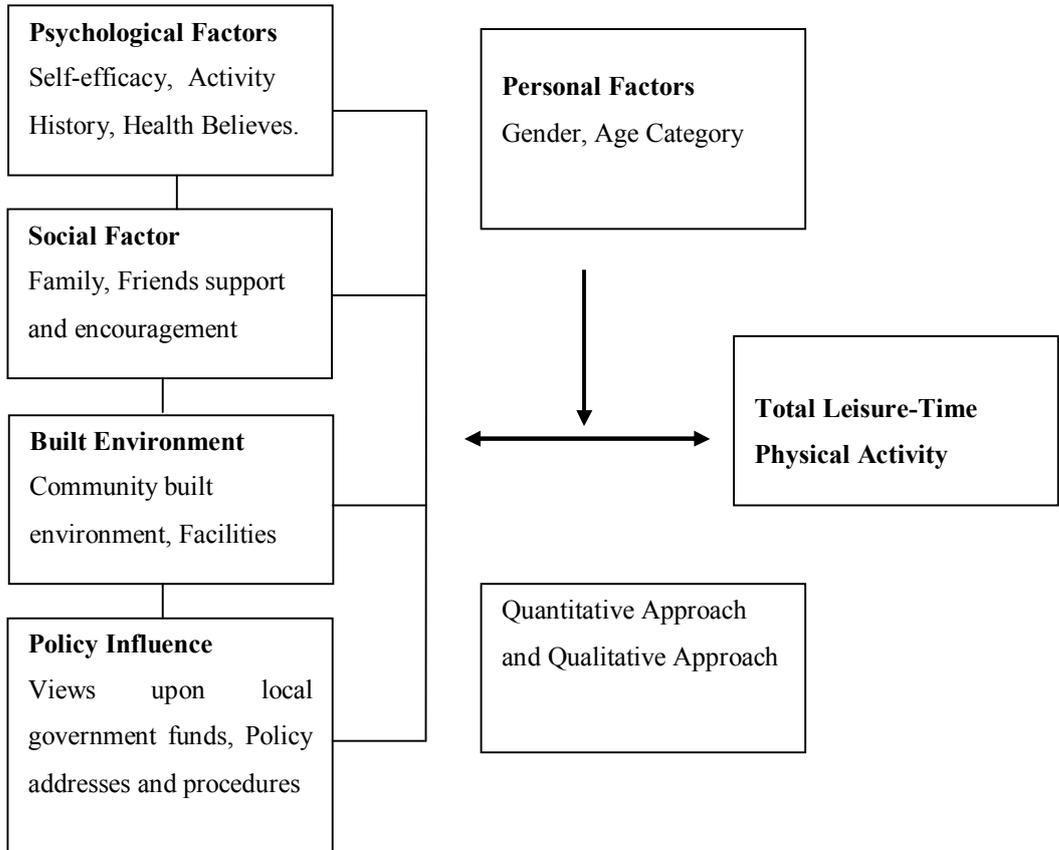
RQ 3: What recommendations can be made to enhance leisure-time physical activities among Sri Lankans?

Chapter 3. Method

This chapter covers detail discussion about the research methods. Formulation of hypotheses, Research approaches, Sampling, The source of data collection, administering the questionnaire, interview method, data processing and scaling, generalizability of the study, data presentation and analysis, conceptualization, validity checking and reliability checking. For the present study, researcher has chosen both quantitative and qualitative research method (mix method).

In a research, there are two research approaches which inductive research approach and deductive research approach. Using, inductive approach make find a new theory, concept or model, deductive approach can prove something by using previous theories or concepts. The researcher used deductive approach in this study.

Figure 4. Conceptual Frame Work



3.1. Quantitative Process

3.1.1. Sampling

For the present study on analysis psychological, social, environmental and policy influence on leisure physical activities among Sri Lankans, researcher has chosen mix method. Based on the survey findings and the panel discussion recommendations and future research avenues were stated. For the survey Sample consisted of 207 participants who live in

Western province, Sri Lanka. The data collection is based on the completion of survey questionnaire who were randomly selected. SPSS 23.0 was used to analyze the data.

3.1.2. Measures & Instruments

Demographic information included age, gender, education level, income category, employment status, and health status. The survey included a validated measure of physical activity behavior, the International Physical Activity Questionnaire short version (IPAQ), which assesses leisure-time physical activity behavior over the past seven. Extensive reliability and validity testing of the IPAQ has been conducted, including samples from 12 countries (Australia, Brazil, Canada, Finland, Guatemala, Netherlands, Japan, Portugal, South Africa, Sweden, United States-San Diego, United States-South Carolina, United Kingdom- Bristol, United Kingdom-Cambridge) (Craig, Marshall Sjoström, et al., 2003).

Questions were adjusted according to the appropriateness for the context and based on panel views and tested reliability of the questionnaire (See appendix 1).

Brownson and Colleagues (2004) developed a survey instrument using a combination of questions from the Behavioral Risk Factor Surveillance System (BRFSS), the National Health Interview Survey (NHIS), and other

surveys and which measures the perceived social, environmental and policy determinants of physical activity.

For this study based on this instrument it was measured social support such as family and friends support, environmental and policy influence and perceived health benefits. Consider about the context of Sri Lanka with the advance of the society people need more vigorous level and strengthen muscles fitness physical activities.

Barriers for physical activity questionnaire (BPAQ) is an instrument developed to identify barriers of participating with physical activities. Questionnaire was made by using above three instruments. Twenty personal interviews with members of the community were conducted to examine the survey instrument and ensure that it is comprehensible and less confusion for the participants.

3.2. Qualitative Process

3.2.1. Selection and Characteristics of the Expert Panel

To get the recommendation for the study specialists were contacted and presented the study proposal and also findings. The expert panel members firstly revised the discussion guide and sent their ideas to develop it. Through interviews; panel members were contacted and followed the

discussion guide which was prepared to get the recommendations for the study (see appendix 4).

Panel members were interviewed base on the areas of specialized such as Sport and Recreation Management, Economics and sustainable development, Architecture and Urban Planning, Facility Management, Strategic Marketing Management and Community Medicine and the recommendations were suggested to improve leisure-time physical activities among Sri Lankans based on the findings.

Chapter 4. Findings

4.1. Descriptive Statistics

A total of 207 respondents have been used for the study. Table no. 1 shows the characteristics of the sample of the study.

Table 2. Distribution of the sample

Factor	Frequency	Percentage
Gender		
Male	100	48.0
Female	107	52.0
Age Category		
15-19	23	11.2
20-24	22	10.7
25-29	34	16.5
30-34	32	15.5
35-39	15	6.8
40-44	9	4.4
45-49	19	9.2
50-54	6	2.9
55-59	14	6.8
60-64	33	16.0
Types of Diseases (NCD)		
Cardiovascular/ Ishaemic	49	23.8
Cancer	5	2.4
Diabetes	16	7.8
Chronic Respiratory	23	10.7
Not Relevant	114	55.3
Education Level		
Didn't attend at all	01	5.0
Grade 1-5	10	4.9
Grade 6-8	6	2.9
Grade 9-10	7	3.4
Ordinary Level	30	14.6
Advance Level	66	32.0
First Degree	60	29.1
Postgraduate	24	11.7

Other (ex.Diploma)	3	1.4
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4.2. Data Analysis

Table 3. Gender (T-test analysis)

Variable	N	Mean	Std. Deviation	F	Sig.	t	Sig. (2tailed)
TLPA							
Male	100	657.35	949.84	1.247	.287	2.956	0.04
Female	107	512.64	711.72				

Previous studies suggested that males are more active than females in leisure-time physical activities (Monteiro et al. 2003; Burton & Turrell 2000; Gomes et al. 2001; Martinez-Gonzales et al. 2001; Steptoe et al.2002). This study also reflects male participation in leisure-time physical activities is higher than female participations ($p < 0.05$).

4.3. Reliability Analysis

A reliability analysis for each dimension was conducted to confirm internal consistency of the variables. The results of Cronbach's alpha test, presented in the table no. 2 has shown that all dimensions for perceived psychological, social, environmental and policy influence on Leisure-Time Physical Activities were reliable.

Table 4. Reliability Test

Dimensions	Number of measured items	Cronchbach's alpha
Self-Efficacy	5	0.79
Policy Influence	3	0.82

Activity History	3	0.74
Social support	4	0.66
Health believes	3	0.63
Built Environment	4	0.65

Note: Alpha Cronbach's >0.6

Table 5. Summary of the Factor Analysis

component	Factors	No.of Items	% of variance	Cumulative %	α
1	Self-efficacy	5	21.55	21.55	0.79
2	Policy Influence	3	19.15	40.78	0.82
3	Activity History	3	8.33	49.04	0.74
4	Health Believes	3	5.92	61.00	0.63
5	Social Support	4	6.04	55.08	0.66
6	Built Environment	4	5.31	66.32	0.65

Note: KMO= 0.77 ; Overall scale (26 items) α : Alpha Cronbach's = 0.72

Initial communalities are estimates of the variance in each variable accounted for by all components or factors. Extraction communalities are estimates of the variance in each variable accounted for by the factors (or components) in the factor solution. If the value is below 0.6, it indicates variables that do not fit well with the factor solution, and should possibly be dropped from the analysis. Above table shows all the values above 0.6 therefore variables are fit well with the factor solution.

Table 6. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.768
Bartlett's Test of Sphericity Approx. Chi-Square	2193.575
df	325
Sig.	.000

KMO & Bartlett's Test of Sphericity is a measure of sampling adequacy that is recommended to check the case to variable ratio for the analysis being conducted. While the KMO ranges from 0 to 1, the world-over accepted index is over 0.6 by taking 0.768 value, sampling adequacy is higher than minimum index which indicates "sampling adequacy" is in an acceptable level and it has proven this questionnaire can be used for a population based survey.

Table 7. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.959	32.656	32.656	1.959	32.656	32.656	1.904	31.739	31.739
2	1.596	26.603	59.259	1.596	26.603	59.259	1.651	27.520	59.259
3	.776	12.926	72.186						
4	.639	10.650	82.836						
5	.576	9.596	92.432						
6	.454	7.568	100.000						

Table 7 shows which factors are most important to consider.

According to the Initial Eigen values and the percentage of variance Component 1 and Component 2 are most important two factors. It does

mean self-efficacy and policy factors play most important role.

4.4. Qualitative Process Evaluation (Recommendations by the Panel)

Priority according to the panel views which influence for leisure-time physical activities accordingly out of the following order.

Table 8. Panel Discussion

	Self- efficacy	Health Believes	Activity History	Social support	Built Environment	Policy Influence
Discussion 1	1	3	6	5	4	2
Discussion 2	1	3	6	5	4	2
Discussion 3	1	3	6	5	2	4
Discussion 4	2	3	6	4	3	2

Table 9. Panel Discussion –Summarizing

	Priority No.1	Priority No.2	Priority No.3	Priority No.4	Priority No.5	Priority No.6
Self-efficacy	3	1	0	0	0	0
Policy Influences	0	3	0	1	0	0
Health Believes	0	0	4	0	0	0
Built Environment	0	1	1	2	0	0
Social support	0	0	0	1	3	0
Activity History	0	0	0	0	0	4

According to the table no 9 self-efficacy factor has been taken first priority to enhance leisure time physical activities among Sri Lankan. Second priority goes to policy influence. Health benefits, Built environment, Social support and Activity history has taken priority no.3, 4, 5 and 6 respectively.

Panel Discussion No.01

Expertise Area: Sport and Recreation Management

Experience: Local and International

Build Self-efficacy through education system

Consider about the health challenge and the attention towards enhance leisure-time physical activities among Sri Lankan, there are several types of programs and initiatives have been currently implemented. Though several actions were taken , adding leisure-time physical activities into life style and more concern about the healthy active living still doesn't deep rooted in the society. For example a member of expert panel stated;

“Cause and effect come with culture and community. Society still does not aware about the value of leisure. Leisure comes through education. Education system needs to introduce leisure-time physical activities very strongly; primary, secondary, tertiary and also for the workplace too. My point of view building ‘human mentality’, and create a national physical activity guidelines’ should be seen as one element and that is something we should consider in a very bottom line”.

It was highlighted building self-efficacy highly important to create the culture. System as Cause thinking may enables to identify why people pay less attention for leisure time physical activities. According to the above statement starting with primary education with more focus on ‘child’, self-efficacy should be developed by engaging with leisure-time physical

activities and it should be a life time process. It was emphasized the need of “national physical activity guidelines’ for the country. Identify the desire for leisure-time physical activities and the constraints enable to see the gap need to be filled.

Panel Discussion No.02

Expertise Area: Economic and Sustainable Development

Experience: Local and International

Integrate interdisciplinary Subjects

Acknowledge and embrace physical education and recreational sport at all levels and affirm sport as an integral part of culture and economy deserving the same level of recognition, respect and encouragement. At the same time recognize that sport and recreational activities foster a healthy lifestyle and aids in the prevention and management of diseases.

“Strengthening community among groups and individuals that can be built on to increase and enhance sport and active recreation participation opportunities. Hence identifying the structural differences and similarities in urban, sub-urban and remote areas is something to concern more. It is important to motivate private institutes and organizations which provide various forms of assistance to promote leisure time physical activities by giving tax exemption or similar benefits. Moreover there should be a price for leisure. My belief is integrate interdisciplinary subjects may cause to remain the sustainability of the current and future initiatives to promote leisure-time physical activities”.

According to above view; recommended hierarchy of principles with an evidence-based especially; in a cost-efficient is a way to promote leisure-

time physical activities among Sri Lankans need to be thoroughly considered. By promoting leisure-time physical activities it may ensure active living of citizens and more likely to reduce unnecessary health charges by being preventive. Building infrastructure facilities, services other relevant areas which need to strengthen the community may lead to create job opportunities and other direct and indirect economic impact for the country.

Panel Discussion No.03

Expertise Area: Strategic Marketing Management

Experience: Local and International

Creating a brand message

Creating a wide public opinion is necessary to build an active nation.

According to the member of the panel whom specialized Strategic Marketing Management stated, “Positioning the importance” is most crucial part to enhance the level of engagement with leisure-time physical activities.

“Deliver messages by using media such as television, radio, newspaper columns and inserts, and trailers in movie theaters will be visually making an impact for peoples’ mind. Positioning a “brand message” is not an easy task. Bringing that message with a value proposition therefore need to be thoroughly examined. These campaigns differ from media campaigns in that they also include other on-the-ground components, such as support and self-help groups; physical activity counseling; risk factors screening and education at work sites. In addition to that it is a good strategy to improve community capacity by

developing strengthening social networks and by improving sense of cohesion and collective ability to bring about change”.

Panel Discussion No.04

Expertise Area: Architecture and Urban Planning, Facility Management

Experience: Local and International

Magnetism of the Built Environment

The built environment affects health in a number of ways. One of the main affects is to create a space to do exercise in peoples’ leisure time. The environment especially ‘what kind of space is available to do exercise’ is integral to encouraging physical activities. According to the panel member;

“Regarding on this matter, lack of places is one of the main reasons which I like to emphasize more. As we know space availability, safety and land use patterns may cause to remove or attract people to engage with physical activities. Creating a place in an esthetic way would be a good strategy to bring people to do exercise. Facilities and other requirements for space (Indoor, Outdoor) need different types of arrangements. My idea is; if there is an environment (facilities and design) which has created based on what people really need in this period is much more important to take under consideration. Different types of group attracts for different types of settings”.

It was emphasized built environment is one of the most Important factor which determine the level of leisure-time physical activities. Create

space in an attractive way is needed to be consider.

Chapter 5. Discussion

5.1. Discussion

Chapter 1 explored the introduction to the need of addressing improve the level of leisure- time physical activities among Sri Lankan population. The aims of this study were to examine perceived psychological, social, environmental and policy influence to engagement in leisure-time physical activities among Sri Lankans. Three research questions needed to be answered; 1) Does gender shows any difference towards the amount of leisure-time physical activities? 2) How do perceived psychological state, social support, exercise environment and views on government policies on their leisure-time physical activities? Which factor can be underlined 3) what recommendations can be made to enhance leisure-time physical activities among Sri Lankans?

Previous research finding suggests gender is statistically significant with leisure-time physical activities. Considering about how gender influence on leisure-time physical activities by proving Monteiro et al. 2003; Burton & Turrell 2000; Gomes et al. 2001; Martinez-Gonzales et al. 2001; Steptoe et al.2002) this study confirmed male are more involved with leisure time physical activities than females (RQ1). Similar to other studies it has confirmed a need to address about make more awareness among women.

For the second research question (RQ2), Self-efficacy and policy influence factors are highlighted and results shows as most important factors to be considered. Self-efficacy factor is sub-category of psychological factor. Hence self-efficacy and policy influence highly determine peoples' perception towards leisure-time physical activities. Rest of other factors health believes, built environment, social support and activity history took priority respectively.

Second part of this study based on panel discussion for getting recommendation for findings. There were four panel members were interviewed based on their expertise knowledge and the area of specialized; Sport and Recreation Management, Economics and sustainable development, Architecture and Designing and Strategic Marketing Management. According to the panel views build self-efficacy through education system, integrate interdisciplinary subjects, creating a brand message, magnetism of the built environment were main recommendations to enhance and promote leisure-time physical activities among Sri Lankans.

It was highlighted education system needs to introduce 'leisure-time physical activities' very strongly. Starting from primary level to tertiary level there is a need to include leisure time related physical activities for to students' life style. Then work place policies needed to be address people

well-being. And also when the environment builds it shouldn't be harmful to anyone. At the same time it is not enough to build facilities; environment has to be attractive to get people engage with leisure-time physical activities. 'Building up the culture' was emphasized and especially for women are needed to involve more with leisure-time physical activities as a prevalence of diseases.

5.2. Study Limitations and Strengths

There are limitations to this study, the first being the use of self-reports to assess psychological, social, environmental and policy influence on leisure-time physical activities. In the current study the participants were limited to western province in Sri Lanka. Sample consisted with 207 participants. Geographical, temporal and context limitations are important elements when interpreting the findings.

This study considered no confirmatory factor analysis to replicate. Therefore, to consider and overcome these limitations is strongly recommended in future studies.

Consider about the strengths of this study is the main strength was used mix method (Quantitative and Qualitative approach. Two approach were taken to data collection for the survey. One was online questionnaire and the other approach was distributing questionnaires manually. Therefore it minimized to be biased by addressing people who do not familiar with

electoral roll. Panel recommendations gave insight view to rethink about ‘a systematic change’ to increase the level of leisure-time physical activities among Sri Lankans.

5.3. Future Research Directions

To build up the culture, it is necessary to start ‘leisure time physical activities’ from the bottom line. Future studies should consider other demographic variables and use segmentation strategy to see how those variables affect towards leisure-time physical activities. It will be useful to explore such differences.

Future researchers could continually update and increase the number of studies regarding the success factors which help to increase the level of leisure-time physical activities. Moreover to enhance the level of leisure-time physical activities among women, increasing the number of studies for women is essential. It would be interesting to use this study methodology and compare the result with other countries and see how findings differ or resemble the reality in other contexts. Conduct this study in the same context over time to see the difference and those results may helpful to keep sustainability of initiatives which are going to take. The instrument can also apply to other contexts to test the results is another avenue to conduct future researches.

Chapter 6. Conclusion

As the global population ages, the multi-level determinants of health, function, and quality of life, combined with the prevalence of increasingly inactive lifestyles worldwide. A systems approach to physical activity promotion may benefit particularly from recognizing and targeting societal values and cultural perspectives that extend beyond health.

Understanding the influence of perceived psychological, social, environmental and policy variables on leisure-time physical activities represent a key research need to direct more policy attention to health promotion. Future interventions could attempt to increase leisure-time physical activity in this population by focusing on psychology factor and develop some policies to create a 'brand' for leisure-time physical activities will persuade to rethink about their well-being.

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APPENDIX A.

P.Y.H. Dilshani

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Dear Sir/ Madam,

Data Collection for a Research as a partially fulfillment of Master Degree in Global Sport Management

I being a Master Degree candidate, following Global Sport Management in Seoul National University (Republic of Korea), intended to undertake a research study titled “Perceived Psychological, Social, Environmental and Policy Influence on Leisure-Time Physical Activities among Sri Lankan”. This study is aimed to analyze the perception of social, environmental and policy support for engage with leisure-time physical activities among Sri Lankan adults and make a set of recommendation to improve level of doing leisure-time physical activities.

The purpose of this letter is to formally request your cooperation to fill my research survey. Strict confidentiality is guaranteed. There is no right or wrong answers as the importance of the issues involved can vary. The collected information will be treated only for academic purposes.

I shall be grateful for your valuable assistance and dedication made in this regard. Thank you

Yours Faithfully,

P.Y.H. Dilshani

APPENDIX B.

Data Collection for a Research titled ‘Perceived Psychological, Social, Environmental and Policy Influence on Leisure-Time Physical Activities among Sri Lankans’.

Please mark “x” against any one of the boxes given below which is appropriate to your situation.

(I shall assure you that the information provided by you will only be used of this study. I shall be grateful for your valuable assistance and dedication made in this regard. Thank you.)

1. Gender: Male Female
2. Age group: i. 15-19 ii. 24-29 iii. 30-34
iv. 35-39 v.40-44 vi. 45-49 vii. 50-54
viii.55-59 ix.60-64 x.64 above
3. Height: (cm)
4. Weight: (Kg)
5. Do you take any treatments following diseases
 - i. Cardiovascular/ Ischaemic
 - ii. Cancer
 - iii.Diabetes
 - iv.Respiratory

Domain	Strongly disagree	Disagree	Slightly disagree	Neither disagree	Slightly agree	Agree	Strongly agree
	1	2	3	4	5	6	7
14. You believe physical activity requires too much work/effort/energy							
15. You get tired or fatigue while being physically active							
16. You do not have an appropriate fitness level to be physically active							
17. You lack the motivation to be physically active							
18. You don't see a reason to be physically fit							
19. Doing Sports/ Physical Activities is a habit							
20. At school you did sport							
21. Since your childhood you engage with sport/ physical activities							
22. Your friends encourage or support you to be physically active							
23. Your friends do exercise and they are physically active							
24. Your family members do encourage or support you to be physically active/to do sports							
25. Your family think physical activity would be helpful to improve your health							

26. Your family's culture, beliefs or moral place physically active as a priority							
27. You have at least one relative who would commit to exercise with you							
28. There are enough jogging paths/ Walking street							
29. There are enough areas for resting in community to do exercise							
30. You feel local government funds are used to build facilities for exercise.							
31. You feel local government funds are used to maintain recreation centers and recreation parks.							
32. School sport facilities open to the public for exercises							
33. Zoning regulations have enough consideration about peoples' physical activeness							
34. There are community buildings and places open to the public for exercise and convenient to do exercises							

Please READ: I am going to ask you about the time you spent being physically active in last 7 days.

35. During the last 7 days, how many days did you do **vigorous** physical activities in your leisure time (Running, Aerobics with a vigorous effort)?

(Physical activities at least 10 minutes)

.....Days per week

.....Not sure

36. How much time did you spend doing vigorous physical activities on one of those days (1 day)

..... Minutes per day

..... Don't Know

Please READ : Now think about **Strength Training activities** that you did in the last 7 days. (Strength Training includes stretching exercises; Calf stretch, Side lunge, step stretch, hurdle stretch, pushups, sit ups)

37. During the last 7 days, on how many days did you do **Strength Training activities** (stretching exercises; Calf stretch, Side lunge, step stretch, hurdle stretch, pushups, sit ups)?

.....Days per week

.....Not sure

38. How much did you spend doing Strength Training Activities on one of those days?

..... Minutes per day

..... Don't Know

Please READ: Moderate physical activities make you breathe somewhat harder than normal and may include, bicycling at a regular pace, Physical activities with a moderate effort

39. During the last 7 days, on how many days did you do **Moderate Physical activities?**

..... Days per week

..... Not sure

40. How much time did you spend doing moderate physical activities on one of those days?

Minutes per week

Do not know/ Not sure

APPENDIX C.

International Physical Activity Questionnaire Scoring Protocol
(Short) Continuous score

Expressed as MET-min per week: MET level x minutes of activity/day x days per week

MET levels	MET-minutes/week for 30 min/ day, 5 days		
Walking=3.3 METs minutes/week	3.3*30.5=	495	MET-
Moderate Intensity= 4.0 METs minutes/week	4.0*30.5=	600	MET-
Vigorous Intensity = 8.0 METs minutes/week	8.0*30.5=	1200	MET-
minutes/week	Total=	2295	MET-

Total MET-minutes/week= walk (METs*min*days) +Mod (METs* min* days)+ Mod (METs *mint*days)+ vig (METs *mint days)

Categorical Score-three levels of physical activity are proposed

1. Low

- no activity in reported or
- Some activity reported but not enough to meet categories 2 or 3

2. Moderate

Either of the following 3 criteria

3 or more days of vigorous activity of at least 20 minutes per day or

- 5 or more days of moderate-intensity activity and/or walking of at least 30 minutes

- 5 or more days of any combination of walking, moderate-intensity or vigorous intensity activities achieving a minimum of at least 600 MET-minutes/week

3. High

Any one of the following 2 criteria

- Vigorous-intensity activity on at least 3 days and accumulating at least 1500 MET-minutes/week OR
- 5 or more days of any combination of walking, moderate or vigorous-intensity activities accumulating at least 3000 MET-minutes/week

APPENDIX D.

Invitation

10. 11. 2015

Dear Sir/ Madam,

I am Harini Dilshani from Seoul National University, Republic of Korea. As Masters level candidate I kindly invite you to be a member of the expert panel survey on my research study project. My research title is “Perceived psychological, social environmental and policy influence on leisure-time activities among Sri Lankans”. The objective of the research is to close the knowledge gaps in this academic area of study and support enhancing programmes on physical activities conducted in Sri Lanka and as prevalence for some health issues.

I have collected data from 207 number of study population and based on the data I am pleased have your opinion on the survey form enclosed here for easy submission. I am seeking your expertise knowledge and experience in this connection and be honored your participation in the final expert panel survey on my research project.

Sincerely yours,

Harini Dilshani

Dream Together Master Program

Division of Global Sport Management and Talent Development

Seoul National University

South Korea

APPENDIX E.

PANEL DISCUSSION GUIDE

Panel Code No:

Expertise Area:

Experiences: Overseas/ Local

Good Morning Sir/ Madam,

As I sent you my research proposal earlier, here I am coming with my research findings and please to have your expert opinion.

“Perceived Psychological, Social, Environmental and Policy Influence on Leisure-Time Activities among Sri Lankans”.

Let me briefly explain about my study and I would like to know your opinion regarding on that.

As we know physical activity is a cornerstone of a healthy life style and is cited as a key strategy for reducing the risk of chronic conditions and diseases including hypertension, coronary heart diseases, diabetes, cancer and obesity. It is identified one of main reasons in current health challenge in Sri Lanka is “insufficient physical activity.

Survey for my study conducted among 207 participants using random sampling method and analyzed by using existing instruments. Six factors (Self-efficacy, Activity history, Social support, Environmental, Policy influence, health believes are analyzed to see the significance for the leisure-time physical activities (dependent variable). Apart from those gender (demographic factor) considered to this study too see the relationship between leisure time physical activities.

So my study found that there is an influence on leisure-time physical activity made by self- efficacy, activity history, health believes, environmental and policy influence.

1. Can you tell me your priority according as your expertise which factors influence accordingly out of the following order if priority; (factors effect for leisure-time physical activities consider about the context of Sri Lanka)

Self-efficacy (self-confidence, beliefs)	
Activity history(Involvement of sport activities)	
Social Support (family/friends support	
Environmental (Built Environment)	
Policy influence (Local government policy, practices)	
Perceived health benefits (well-being)	

2. Regarding your answer for the first question kindly leave what are your recommendations to improve “Leisure-Time Physical Activities among Sri Lankans

국문초록

스리랑카인의 여가 시간 신체활동에
미치는 지각된 심리적, 사회적,
환경적 및 정책적 영향

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체육교육과

본 논문은 지각된 심리적, 사회적, 환경적 및 정책적 요인들이 여가시간의 신체활동에 어떠한 영향을 미치는지를 스리랑카의 상황에서 살펴보았다. 본 연구는 이를 통해 스리랑카에서 여가시간 신체활동에 영향을 미치는 요인을 파악하고 이를 향후 정착시키는데 도움을 주는 연구를 하고자 한다. 이를 위해 본 연구에서는 세 가지 연구 문제를 설정하였다. 첫째, 스리랑카의 인구통계학적 요인들은

여가시간 신체활동에 어떠한 영향을 미치는가, 둘째, 개인의 인지된 심리적 상태, 운동에 대한 사회적 지지, 개인에 대한 정부의 정책적 지원은 개인의 여가시간 신체활동에 어떠한 영향을 미치는가 이다. 마지막으로 개인의 여가시간 신체활동을 증진시키기 위한 방안은 무엇인가 이다.

연구문제를 해결하기 위하여 각각 네 단계의 연구 과정을 거쳐 연구가 진행되었다. 먼저 본 연구를 위해서 기존의 연구를 중심으로 하여 설문 문항을 작성하였다. 설문조사는 스리랑카 콜롬보 지구에 감파하 지역에 거주하는 207 명을 대상으로 실시하였으며 대상은 임의 추출로 구성되었다. 자료 수집은 구글을 활용한 온라인 설문조사와 선택된 사람들을 대상으로 한 대면 설문조사를 통해 이루어졌다. 자료 처리는 모두 SPSS 23.0을 활용하여 수행하였으며 가설 검증을 위하여 다중회귀분석, T-검정 및 분산분석을 실시하였다.

연구결과 인구통계학적인 요인 중에서는 성별, 수입 및 연령이 여가시간 신체활동에 유의한 영향을 미치는 것으로 나타났다. 성별은 남성의 경우 여성에 비해 높은 신체활동 시간을 나타내는 것으로 조사되었다. 연령은 증가할수록 여가시간에 신체활동 비율이 줄어드는 것을 발견할 수 있었다. 소득수준이 낮은 사람에 비해서 높은

소득수준을 기록할수록 여가시간에 신체활동을 하는 비중이 증가하는 것을 발견하였다.

주요어: 여가시간 신체활동, 자기효능감, 신체활동 역사, 사회적 지지, 환경적 지지, 정책적 영향

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