

INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ENVIRONMENT & GEOGRAPHY



How does the Neighborhood Park Effectively Reduce Stress? A Preliminary Finding

Syaidatul Azzreen Ishak, Hazreena Hussein, Ang Kean Hua, Owi Wei Ping

To Link this Article: <http://dx.doi.org/10.46886/IJAREG/v5-i1/4214>

DOI: 10.46886/IJAREG/v5-i1/4214

Received: 29 March 2018, Revised: 26 May 2018, Accepted: 21 June 2018

Published Online: 27 June 2018

In-Text Citation: (Ishak, Hussein, Hua, & Ping, 2018)

To Cite this Article: Ishak, S. A., Hussein, H., Hua, A. K., & Ping, O. W. (2018). How does the Neighborhood Park Effectively Reduce Stress? A Preliminary Finding. *International Journal of Academic Research in Environment and Geography*, 5(1), 40–48.

Copyright: © 2018 The Author(s)

Published by Knowledge Words Publications (www.kwpublications.com)

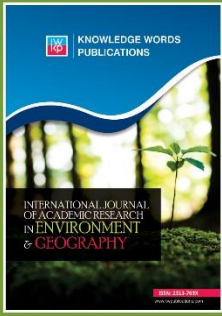
This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at: <http://creativecommons.org/licences/by/4.0/legalcode>

Vol. 5, No. 1 (2018) Pg. 40 - 48

<https://kwpublications.com/journals/journaldetail/IJAREG>

JOURNAL HOMEPAGE

Full Terms & Conditions of access and use can be found at
<https://kwpublications.com/pages/detail/publication-ethics>



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ENVIRONMENT & GEOGRAPHY



How does the Neighborhood Park Effectively Reduce Stress? A Preliminary Finding

Syaidatul Azzreen Ishak¹, Hazreena Hussein¹, Ang Kean Hua²,
Owi Wei Ping³

¹Department of Architecture, Faculty of Built Environment, University of Malaya, 50603 Kuala Lumpur, Malaysia, ²Department of Environmental Sciences, Faculty of Environmental Studies, Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia, ³Department of Mathematics, Faculty of Science and Mathematics, Universiti Pendidikan Sultan Idris, 35900 Tanjung Malim, Perak, Malaysia.
Email: rappum8@gmail.com

Abstract

Stress lead to illness, physical and emotional exhaustion, which could reduce the quality of health. This study investigated Neighborhood Park in reducing the stress in Kuala Lumpur city. Semi-structured interviews with psychiatrist expert were conducted to gather information of stress factor to influence the health. Through domain analysis, the Neighborhood Park model is emerged from the data and further validated using quantitative survey study is conducted. The finding established grounded model for Neighborhood Park in reducing the stress factor.

Keywords: Quality of Health, Grounded Model, Semi-Structured Interviews, Quantitative Survey.

Introduction

Stress is a syndrome of illness to healthy. Specifically, stress could possible to cause heart disease, weight problems, sleep problems, digestive and memorizing issues, just to name a few (Kudielka and Wüst, 2010; Grippo and Johnson, 2009; Oei et al, 2006). Generally, stress can be defined as the nonspecific response of the body to any demand (Selye, 1936). According to Franken (1994), stress is also viewed as the body's reaction, both neurologically and physiologically, to adapt a new condition. Therefore, stress can be associated with family problems (such as death of a close family member, divorce, and marriage failure), healthy problems (such as paralyzed from accident, long term injury, illness), job loss, financial problems, and so on. In Malaysia, this phenomenon is no exception especially involve with the marriage family and jobless with financial issues (Chong et al, 2013; Ahsan et al, 2009; Ismail et al, 2009). So, excessive or prolonged stress is able to cause illness, physical and emotional exhaustion, therefore, this matter should be taken more concerned.

Various studies suggest indoor activities (such as yoga, praying, watching movie, etc.) and outdoor activities (such as exercise, hanging out with friends, shopping, etc.) have ability to cope and reduce the stress factors (Al-Dubai et al, 2011; Redhwan et al, 2009). Simultaneously, many studies suggested green space or living in the lush amount of green environment will have benefits to mental health, particularly in reducing the levels of stress (Tyrväinen et al., 2014; Ulrich et al., 1991; Van den Berg et al., 2010). Based on CAGE Space by Heriot-Watt University, stated about nine out of ten people use green spaces value the benefits for their health and wellbeing. According to a study by Maas et al. (2006) in Netherlands has found the relationship of abundant green space in a neighbourhood with the residents. They tend to enjoy and live in a better health. Besides that, Thompson et al (2014) study shows there are significantly interrelated on lowering stress with physical activity in green space for mental wellbeing also as resulted to overall health. In fact, Thompson et. al. (2012), the high level of green space in residential neighborhood area can be perceived lower stress in urban population. This is because nature gives positive sensory experiences to physical and emotional wellbeing, also assist in social interactions of the community (Adevi and Mårtensson, 2013).

To address the effective in reducing stress, this study investigates Neighborhood Park as the main theme to restore the mental health. Specifically, the objective of this study is to develop a model of Neighborhood Park in reducing the stress.

Materials and Methods

Establishing Grounded Model of Neighborhood Park in Reducing Stress

This study uses two methods to establish grounded model of Neighborhood Park in reducing stress, where the first are involve face-to-face interview with a small group of psychiatrist expert, and the second are further validated on the model with a quantitative survey study involve with 50 respondents.

According to Creswell (2005), particular design new grounded theory model should have the able to be adapted, implemented, and reassessed according to researcher's need. Therefore, the interpretative research method is applied by involving with the data collection from variety of sources of a small number of participants in detail and in depth (Chua, 2016). The creation of a model is fully and directly emerges from the data, but not from the researcher (Conrad, 1995). The interview data were interpreted to generate a model or theory regarding to the phenomenon that is grounded from the originated data (Strauss and Corbin, 1990).

Participants and Survey Questionnaire

Sampling method used to establish grounded theory research is to select respondents that have potential to provide information to generate a theory or model in the corpus data. Psychiatrist expert (n=5) were selected as main respondents because they were directly involve with the patients that experienced in stress problems. Meanwhile, quantitative survey data is collected from 50 respondents at Taman Aman, Petaling Jaya.

The survey questionnaire used in this study consists of two sections that correspond to the demographic details and six main variables in the Neighborhood Park model generated from the

emerging data of interview. There were total of 30 items. The items used categorical scale of measurement ranging from 1 to 5 of Likert approach, which indicate '1' as strongly disagree and '5' as strong agree.

Analysis for Interview Data

From the domain analysis, six core themes are emerged from the data, namely *stress, failure, inability and no confident, park, facility, and Neighborhood Park reduce stress*. In other words, Neighborhood Park is considered main theme and tracing its relationship to other themes. Since the factors of inability and no confident, as well as failure to cause stress, therefore, majority psychiatrist expert are positively agreed that relaxing and exercising in the park would reduce the cause to health problems such as depression, sleep problems, digestive problems, heart disease, weight problems, etc. Besides that, facilities and services provided in the park will increase the possibility of respondents to visit and opportunity for family gathering is enhanced.

Analysis for Quantitative Survey Data

Quantitative survey data of 50 respondents were collected from Taman Aman, Petaling Jaya. Majority participants are male (n=30, 60%), followed by female (n=20, 40%). Among them are ages 21 to 30 with 25 (50%), followed by 31 to 40 with 13 (26%), and above 41 with 12 (24%). Most of the respondents are student (n=32, 64%), continue by employed (n=12, 24%), and others (n=6, 12%). Lastly, majority participants taking part in survey questionnaire are Chinese with 27 respondents (54%), followed by Indian with 10 respondents (20%), Malay with 9 respondents (18%), and others with 4 respondents (8%).

Results

In testing the validity and reliability of the model, PLS-SEM analysis was performed in two stages. Firstly, the validity (construct validity and discriminant validity) and reliability (composite reliability and Cronbach's alpha internal consistency reliability) of the variables (for the six themes) were examined to ensure that the items are valid and reliable to represent the concepts of the six variables in the model. Finally the relationships among the variables were identified and reported.

Validity and Reliability of the Variables

In PLS-SEM analysis, the six variables are latent variables that are reflectively represented by their indicator. The convergent validity of a variable is achieved when the loadings of the items for each variable are (i) each individual loadings items is greater than 0.5, and (ii) the average variance extracted (AVE) for variable are greater than 0.5 (Hair et al, 2016). The outputs of the validity and reliability analysis of the six variables are show in Table 1. The results indicate that six variables achieved their construct validity. Simultaneously, the variables were reliable because the reliability of each variable is achieved when both Cronbach's alpha and composite reliabilities are greater than 0.7 (Hair et al, 2016).

The discriminant validity of a construct is achieved when inter-correlations among the variables in the model is smaller than 0.90. In other words, the variables are independent to one another and no overlapping is occurred. Multi-collinearity can cause overlapping among the variable in

model. This situation happen is due to the extremely strong inter-correlations (where $r \geq 0.9$) between variables in model (Bryne, 2010). Table 2 shows the inter-correlation coefficient among all variables is less than 0.9, and is free from multi-collinearity problems, and this proved that discriminant validity of variable for the model is achieved.

The Final Model

Smart PLS is used in PLS-SEM analysis to establish the relationship among the variables in the model. Smart PLS software have the ability to multiple equations of the correlational and causal relationships in a model; which benefits the researchers to accurately and effectively model and analyze inter-relationships among latent variables that have multiple indicators (Hair et al, 2016).

The final model can be interpret in Figure 1 of the Neighborhood Park effectively reduce stress variable with other five core factors. The stress factor is influenced by failure and inability and no confident, which directly to influence the park before end up in Neighborhood Park factor. The Table 3 shows the factors contribute 82.9% of Neighborhood Park effectively reduce stress ($R^2=0.829$).

Table 3 indicate stress is significantly influenced by inability and no confident ($\beta=0.305$, $p<0.001$), but no correlation with failure factor ($\beta=0.044$, $p>0.1$); followed by park factor that being influenced by stress ($\beta=-0.575$, $p<0.001$) and facility ($\beta=0.229$, $p<0.001$); and Neighborhood Park factor is influenced by park ($\beta=0.305$, $p<0.001$).

Discussion

Four criteria from the study can be used in defining the model of Neighborhood Park effectively reduce stress. First, inability and no confident factor could occur due to negative self-talk, marriage separation or divorce, death of a spouse, relationship difficulties, as well as injury or illness, which directly affected the stress factors to appear in the individual-patient. The stress factors will increasing when financial problems, jobless, and major life changes is exist personally. Therefore, this study of establish model confirmed the positive opinion of park can reduce stress problems through exercise, relaxing the mind, spending time with family, opportunity for friends gathering, and so on. Hence, it is importance to enhance the facilities and services provided in the park for the visitor to enjoy and appreciate the opportunity to relax and release the stress. The facilities is referred to toilet, car park and bicycle rack, trees as shelter, and clear information on safety purposes; while services that required to maintain is the cleanliness, nature view with water feature, variety activities, and good lighting in the park. Lastly, the Neighborhood Park factor highlighted the children's playground, sensory garden, and food stall become priority in ensuring the park to become an important attraction places in the future.

Conclusion

This study generates a model for the Neighborhood Park effectively reduces stress in Kuala Lumpur. Researchers can use this information to identify unanswered issues or questions in the literature and define future research directions concerning the Neighborhood Park. The study helps educators better understand the effectively of Neighborhood Park in reduce the stress and the factors that are related to.

The strength of this study is the suggestion an approach to further validating the grounded model to improve the generated model. However, the finding of the study are limited to the characteristics of visitors in the park as well as stress experienced respondents, and further research in Neighborhood Park effectively reduces stress required to be conducted in several locations and field studies to provide greater picture on the Neighborhood Park.

References

- Adevi, A. A., & Mårtensson, F. (2013). Stress rehabilitation through garden therapy: The garden as a place in the recovery from stress. *Elsevier Urban Forestry & Urban Greening* 12 (2013) 230– 237
- Ahsan, N., Abdullah, Z., Fie, D. G., & Alam, S. S. (2009). A study of job stress on job satisfaction among university staff in Malaysia: Empirical study. *European journal of social sciences*, 8(1), 121-131.
- Al-Dubai, S. A. R., Al-Naggar, R. A., AlShagga, M. A., & Rampal, K. G. (2011). Stress and coping strategies of students in a medical faculty in Malaysia. *The Malaysian journal of medical sciences: MJMS*, 18(3), 57.
- Bryne, B. M. (2010). *Structural equation modeling with SMART PLS: basic concepts, applications, and programming (2nd ed.)*. N.Y.: Routledge, Taylor and Francis Group.
- CABE Space. (2010). Community green: using local spaces to tackle inequality and improve health. Commission for Architecture and the Built Environment
- Chong, S. T., Mohamad, M. S., & Er, A. C. (2013). The mental health development in Malaysia: History, current issue and future development. *Asian Social Science*, 9(6), 1.
- Chua, Y. P. (2016). *Mastering research methods (2nd ed.)*. Shah Alam: McGraw-Hill Education.
- Conrad, C. F. (1995). A grounded theory of academic change. In B.G. Glaser (Ed.), *Grounded theory 198401994* (pp. 699-718). Mill Valley, CA: Sociology Press.
- Creswell, J. W. (2005). *Educational research: planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson.
- Franken, R. E. (1994). *Human Motivation (3rd ed.)*. Belmont, CA: Brooks/Cole Publishing Company.
- Grippo, A. J., & Johnson, A. K. (2009). Stress, depression and cardiovascular dysregulation: a review of neurobiological mechanisms and the integration of research from preclinical disease models. *Stress*, 12(1), 1-21.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2016). *A Primer on Partial Least Square Structural Equation Modeling (PLS-SEM) (2nd ed.)*. Thousand Oaks: Sage.
- Ismail, A., Yao, A., & Yunus, N. K. Y. (2009). Relationship Between Occupational Stress and Job Satisfaction: An Empirical Study in Malaysia. *Romanian Economic Journal*, 12(34).
- Kudielka, B. M., & Wüst, S. (2010). Human models in acute and chronic stress: assessing determinants of individual hypothalamus–pituitary–adrenal axis activity and reactivity. *Stress*, 13(1), 1-14.
- Maas, J., Verheij, R. A., Groenewegen, P. P., De Vries, S., Spreeuwenberg, P. (2006). Green space, urbanity, and health: how strong is the relation? *Journal of Epidemiology and Community Health*. 2006: 60: 587–592.
- Oei, N. Y., Everaerd, W. T., Elzinga, B. M., van Well, S., & Bermond, B. (2006). Psychosocial

- stress impairs working memory at high loads: an association with cortisol levels and memory retrieval. *Stress*, 9(3), 133-141.
- Redhwan, A. A. N., Sami, A. R., Karim, A., Chan, R., & Zaleha, M. (2009). Stress and coping strategies among management and science university students: A qualitative study. *The International Medical Journal of Malaysia*, 8(2).
- Selye, H. (1936). A syndrome produced by diverse nocuous agents. *Nature*, 138(3479), 32.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park: SAGE.
- Thompson, C. W., Aspinall, P., Roe, J. (2014). Access to Green Space in Disadvantaged Urban Communities: Evidence of salutogenic effects based on biomarker and self-report measures of wellbeing. *Procedia - Social and Behavioral Sciences* 153 (2014) 10 – 22
- Thompson, C. W., Roe, J., Aspinall, P., Mitchell, R., Clowd, A., Miller, D. (2012). More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns. Volume 105, Issue 3, 15 April 2012, Pages 221–229.
- Tyrväinen, L., Ojala, A., Korpela, K., Lanki, T., Tsunetsugu, Y., & Kagawa, T. (2014). The influence of urban green environments on stress relief measures: A field experiment. *Journal of Environmental Psychology*. 38;1-9.
- Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*. 11; 201-230.
- Van den Berg, A., Maas, J., Verheij, R. A., & Groenewegen. (2010). Green space as a buffer between stressful events and health. *Social Science & Medicine*; 70(8), 1203-1210.

Table 1: Validity and Reliability of Variables in Model

Latent Variables	Indicator	Convergent Validity		Reliability		R Square	Redundancy
		Loading	AVE	Composite Reliability	Cronbach's Alpha		
FAC	D4	0.824					
	D5	0.705	0.6833	0.8071	0.7599	-	-
	D10	0.758					
FAI	B2	0.615					
	B5	0.941	0.6427	0.8204	0.7938	-	-
	B8	0.707					
INC	B4	0.882					
	B6	0.763	0.6227	0.8666	0.7045	-	-
	B7	0.716					
NPERS	E1	0.859					
	E6	0.890	0.6352	0.9360	0.8256	0.8290	0.0547
	E8	0.713					
PAR	C1	0.810					
	C2	0.974	0.6702	0.8341	0.7052	0.7723	0.0539
	C3	0.788					
STR	D4	0.724					
	D5	0.705	0.6241	0.8654	0.7373	0.7093	0.0860
	D10	0.758					

*FAC=Facilities; FAI=Failure; INC=Inability and No Confident;
NPERS=Neighborhood Park Effectively Reduce Stress; PAR=Park; STR=Stress

Table 2: Inter-correlation among the Variables in Model

Latent Variables Correlation	1	2	3	4	5	6
FAC	1.0000					
FAI	0.0904	1.0000				
INC	-	0.5251	1.0000			
NPERS	0.0119	-	-	1.0000		
PAR	0.2350	0.1947	0.1880	-	1.0000	
STR	0.4237	0.3199	0.3203	0.3048	-	1.0000
	-	0.2045	0.3284	-	-	0.3384
				0.4601	0.6525	

*FAC=Facilities; FAI=Failure; INC=Inability and No Confident;
NPERS=Neighborhood Park Effectively Reduce Stress; PAR=Park; STR=Stress

Table 3: T-statistic and Standardized Regression Weight (β) of the Relationship Among Variables in Model

Hypothesis	Relationships (IV -> DV)	T- Statistics value	Standardized Regression Weight (β)	Supported
H1	INC -> STR	6.135****	0.305	Supported
H2	FAI -> STR	0.979	0.044	Not Supported
H3	STR -> PAR	13.987****	-0.575	Supported
H4	FAC -> PAR	5.219****	0.229	Supported
H5	PAR -> NPERS	7.086****	0.305	Supported

*Significant at $p < 0.1$; **Significant at $p < 0.5$; ***Significant at $p < 0.01$; ****Significant at $p < 0.001$

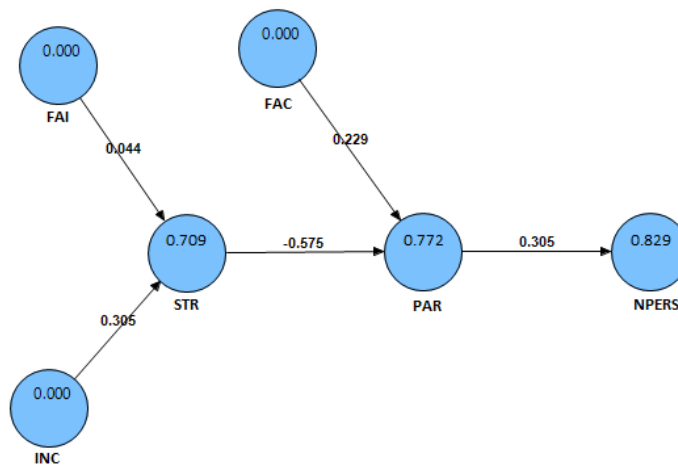


Figure 1: The Model of Neighborhood Park Effectively Reduce Stress