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Assessment of Use Pattern, Needs, Preferences and Overall Satisfaction to Determine the Quality Aspect of a Neighbourhood Park



Nurhayati binti Abdul Malek

Department of Landscape Architecture, Kulliyyah of Architecture and Environmental Design,
International Islamic University Malaysia,
PO BOX 10, Kuala Lumpur, 50728, Malaysia
Phone: 03-6196 3134, E-mail: amnurhayati@iiu.edu.my

Introduction

This study analyzed variables indicated by past research and theories concerning the assessment of the quality green open spaces (QGOS), preferences (PR), needs (ND), use pattern (U) and overall satisfaction (OS) to be measured in hoped to achieve a criteria for a quality neighbourhood park (QNP). A total of 414 completed and valid surveys were achieved. This study used SPSS 16.0 statistical software for windows to organize and analyze all the data collected. The data were initially analyzed using Exploratory Factor Analysis (including Principal Component Analysis and Confirmatory Factor Analysis), finally a path model and a full fledge structural equation modeling (SEM) method were developed, testing the variables relationships as well as comparing the fittest model.

Path Analysis Model

The path analysis above explains several important findings in this study.

- It shows that QGOS is directly influenced by USE, NEEDS and PREF with 37% of variance explained.
- The standardized total effect of USE to QGOS is 0.274, NEEDS to QGOS is 0.253 while PREF to QGOS is 0.263 respectively.
- In the other hand, only USE and NEEDS have direct effect to OVRL_SATISFAC with 42% variance explained. The standardized total effects for both are 0.289 and 0.450 respectively.
- However, there were no direct or indirect effects from either USE or NEEDS through OVRL_SATISFAC to QGOS.
- With this, the path analysis model was confirmed to have a prominent goodness-of-fit value with RMSEA value (0.058), CFI (0.996), AGFI (0.965) and GFI (0.995) and all factor loadings were significant at 0.05 levels, this is considered to be a fit model for this study.

Fit Index	Value
Comparative Fit Index (CFI)	0.996
Goodness of Fit Index (GFI)	0.995
Root Mean Square Error of Approximation (RMSEA)	0.058
Standardized Root Mean Squared Residual (SRMR)	0.049
Chi-Square Test	$\chi^2 = 4.802$ df = 2 p < 0.091

Table 1: Fit indices of the final Path Analysis Model

	Estimate	S.E.	C.R.	P	Label
OVRL_SATISFAC <--- USE	.196	.029	6.656	***	
QGOS <--- USE	.299	.050	5.961	***	
QGOS <--- PREF	.468	.085	5.538	***	
OVRL_SATISFAC <--- NEEDS	.335	.032	10.372	***	
QGOS <--- NEEDS	.303	.065	4.652	***	

Table 2: Regression Weights for the Path Analysis Model

	PREF	NEEDS	USE
QGOS	.263	.253	.274
OVRL_SATISFAC	.000	.450	.289

Table 3: Standardized Total Effects for Path Analysis Model

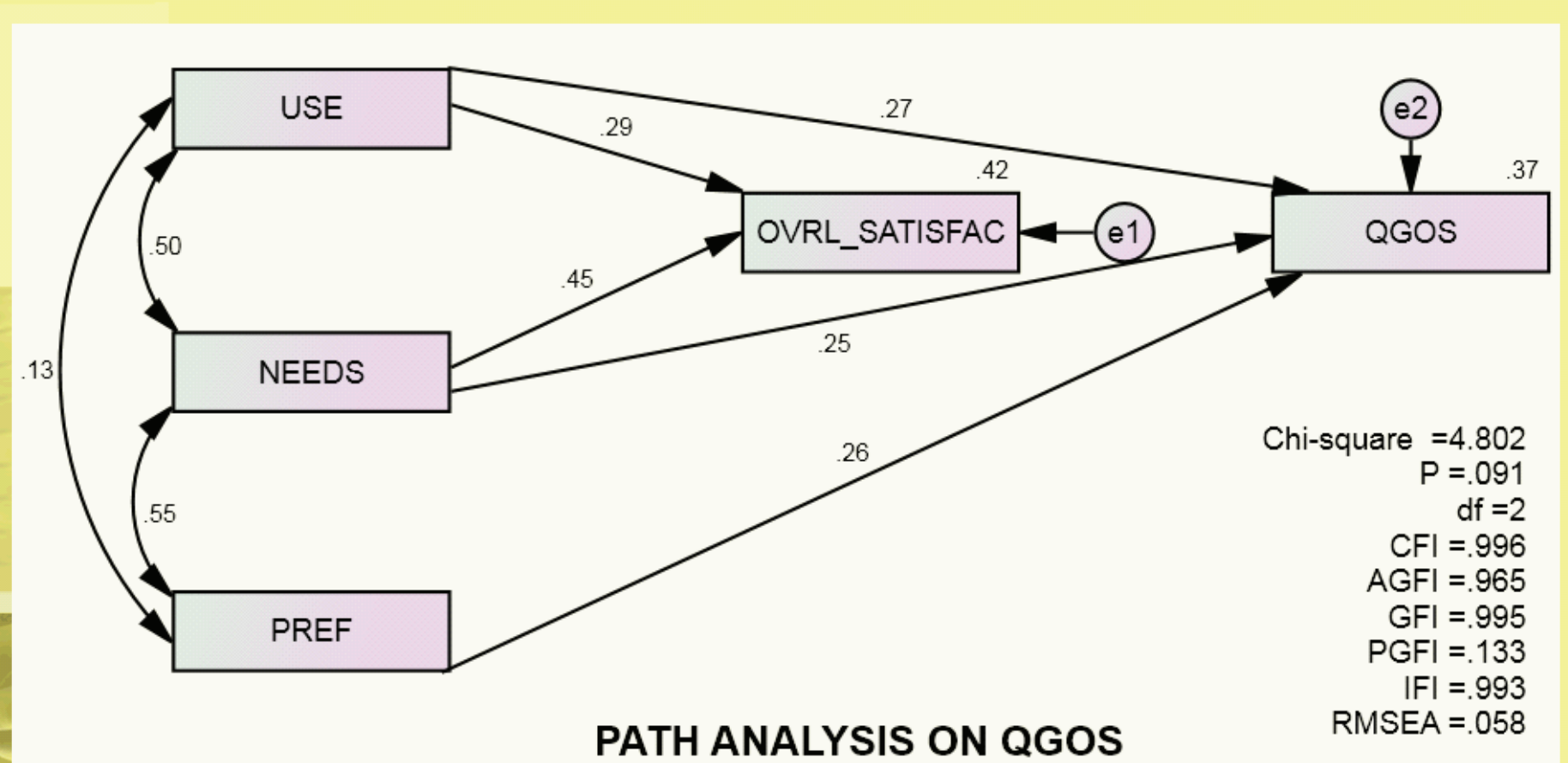


Figure 1: Path Analysis Model of the study

Reliability and validity assessment

In order to determined the internal consistency of all construct, Cronbach's alpha values was computed to each factor, here value of >.50 is regarded as evidence of convergent validity, while >.60 is considered to be acceptable and >.70 to be good (Nunnally and Bernstein, 1994; Steenkamp and Trijp, 1991; and Hildebrandt, 1987). For this study the Cronbach's alpha value for most of the construct was considered to be significant and above the cut-off-point of >.50, indicating the convergent validity of the quality green open spaces construct. However, some of the construct indicated that there were five out of eight values in the quality green open spaces construct adapted from Hillsdon et al. (2006) were below .50 indicating a slightly low Average Variance Extracted (AVE).

The Measurement Model

After running the CFA's, the model will now be measured and analysed according to its actual structural model. Hence, a full structural equation modelling was employed. The data were analysed using SPSS v.16 as well as AMOS 18. The initial structural model was developed incorporating five latent variables namely, quality green open spaces (QGOS), preferences (PR), needs (ND), use (U) and overall satisfaction (OS). The model measurement model is presented in figure below.

Fit Index	Value
Comparative Fit Index (CFI)	0.943
Goodness of Fit Index (GFI)	0.951
Adjusted Goodness of Fit Index (AGFI)	0.917
Incremental Fit Index (IFI)	0.909
Root Mean Square Error of Approximation (RMSEA)	0.060
Chi-Square Test	$\chi^2 = 153.066$ df = 62 p < 0.000

Table 4: Fit indices of the final Measurement Model

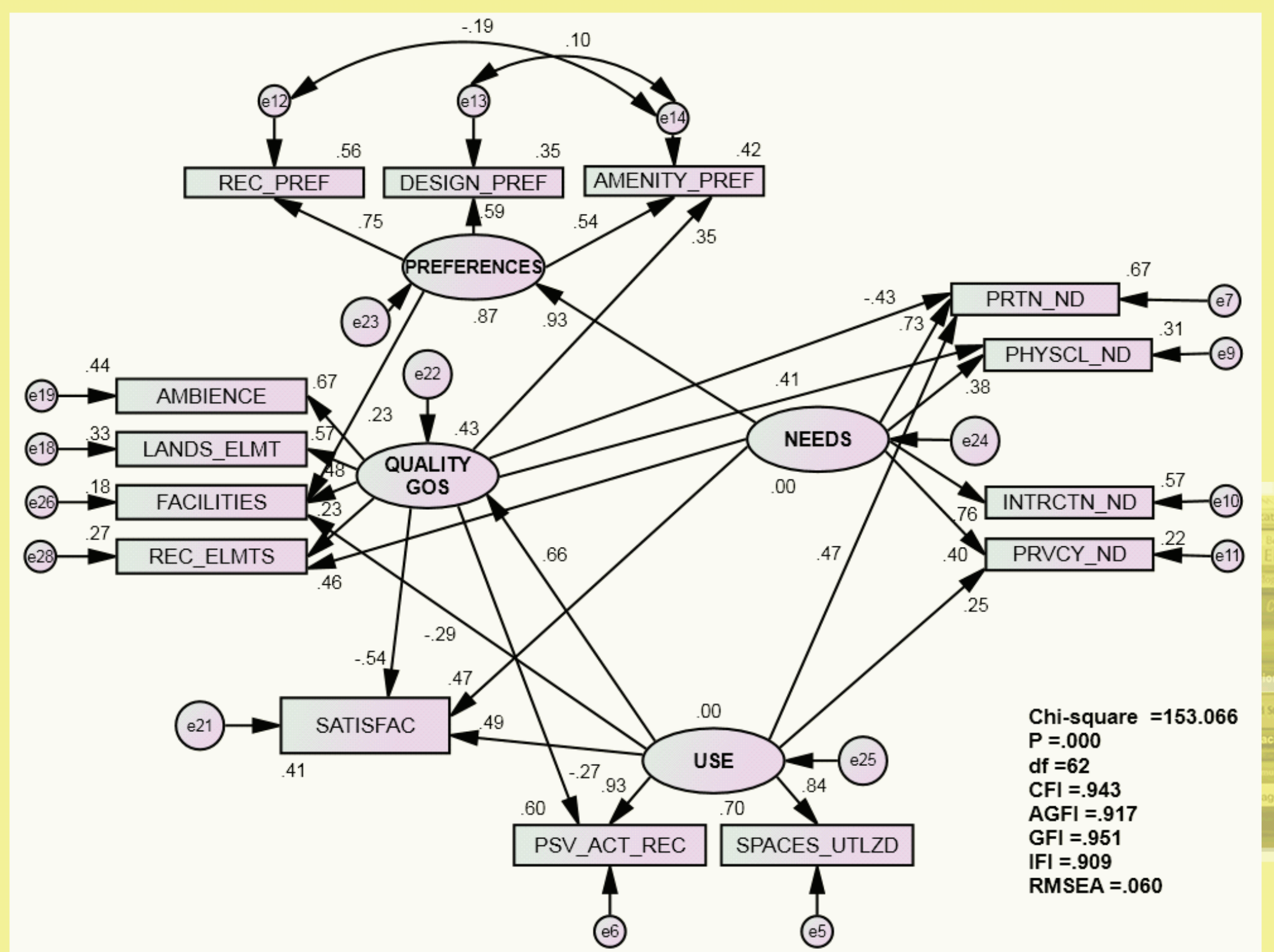


Figure 2: The Final Measurement Model