

49 Mental health: A cross-regional comparison between the East and West coast in Taiwan

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Previous research showed that different types of landscapes and environments resulted in different mental health perceptions. Studies suggested that natural environments such as natural resources and protected areas were associated with people's health and wellness. Presence of nearby nature has effects on human both physically and psychologically, and improves people's mental health. People who are frequently exposed to natural environments tend to have better perceptions of mental health.

Taiwan has an area of 36,197 km². The area is about one-tenth of that of Norway. The mountain ranges occupy central part of Taiwan. This results in distinctive differences in the urban and rural settings between the west and east coasts of Taiwan, as there are obviously more natural resources and protected areas such as national parks on the east coast. However, there is only a small number of studies focusing on the cross-regional comparison of health and well-being related variables such as mental health. The purpose of this study was to investigate the mental health differences between residents on the east coast and residents on the west coast in Taiwan.

An on-site questionnaire survey was conducted on visitors and covered 3 settings, namely, Huisun National Forest Recreation area on the west coast of Taiwan and Chinan National Forest Recreation Area and Liyu Lake National Scenic Area on the east coast of Taiwan. The surveys were conducted in 2013, 2016 and 2017. 936 questionnaires were distributed and 760 valid copies were responded with a response rate of 81.1%. The visitors were grouped into those from the east coast and those from the west coast based on the zip code provided in the questionnaires. The data collected were analyzed using factor analysis, reliability analysis, multivariate analysis of variance (MANOVA), and analysis of covariance (ANCOVA).

The results are presented below: (1) the 21 mental health items were factorized into 4 dimensions, namely, physical and psychological

fatigue, driving performance, attention fatigue and psychological comfort; (2) the 4 mental health dimensions' Cronbach's alpha reliability ranged from 0.73 and 0.91 with the physical and psychological fatigue dimension at the highest. The dimensions above provided acceptable validity and reliability for the purpose of the study; (3) the MANOVA with 4 mental health dimensions as dependent variable and visitor socioeconomics as independent variable revealed significant difference in gender, age, marriage status, occupation and residence, respectively. Visitors who were 41 years old or older, female, married, have a full-time job, retired, and lived in the east coast had better mental health; (4) when age and marriage variables were controlled for further analysis, the ANCOVA showed mental health differences remained cross-regionally. The east coast residents perceived lower rate in physical and psychological fatigue dimension of mental health (Table 1).

The findings were consistent to those of previous research, confirming the benefits of natural environments on mental health. The findings suggested that east coast residents in Taiwan have better mental health than those of west coast residents. Particularly, when the socioeconomic variables were controlled in comparison, the mental health differences remained cross-regionally. This study also provided management implications for mental health. We suggest that the authority should promote mental health benefits from natural environments, specific to residents of various socioeconomic backgrounds. For example, those who perceived less mental health such as younger age group can be placed as a priority. Additionally, since there were mental health differences between regions, the findings may serve as a basis for cross-regional tourism and recreation promotion such as long stay promotion on the east coast, as the east coast in Taiwan has obviously much more natural resources. The future research of this line is also provided.

Table 1. ANCOVA result on cross-regional mental health differences in physical and psychological fatigue dimension by controlling age and marriage

Controlled age	Mean	Standard Deviation	95% confidence interval	
			Bottom	Top
West coast	4.473	.027	4.420	4.527
East coast	4.285	.063	4.162	4.409
Controlled marriage	Mean	Standard Deviation	95% confidence interval	
			Bottom	Top
West coast	4.472	.027	4.419	4.525
East coast	4.293	.062	4.170	4.415