A study on Leisure Satisfaction and Quality of Life –Based on badminton participants

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ABSTRACT

This study aims to discuss the situation and the relations between Leisure Satisfaction and Quality of Life of badminton participants. Badminton participants in Kaohsiung City were selected as the research subjects. With convenience sampling, 400 questionnaires were distributed during Aug. 10th – Sep. 10th, 2010. Total 360 valid copies were retrieved, with the retrieval rate 90%. Furthermore, t test, One-way Analysis of Variance, and Canonical Correlation Analysis were utilized for statistics analyses. The research outcomes are stated as follows. 1. The badminton participants with different marital status presented distinct Quality of Life, in which married badminton participants showed better Quality of Life than single participants on Social Factors and Physiological Factors. 2. The badminton participants with various occupations appeared different Leisure Satisfaction, in which participants as civil servants revealed better Social Interaction and Physical and Mental Conditions than the ones in agriculture and industry. 3. The badminton participants with distinct family monthly incomes displayed different Leisure Satisfaction, in which participants with more than 6000-dollar family monthly income showed better Social Interaction and Physical and Mental Conditions than the ones with less than 20000-dollar family monthly income. 4. Leisure Satisfaction of the badminton participants would affect Quality of Life.

Keywords: Leisure Satisfaction, Quality of Life

INTRODUCTION

Research Background

In such an industrial era, people are facing increasing pressure because of the rapid change of social situation and economic pressure as well as the expansion of competition. The reduction of work and the increase of leisure time therefore become the expectations of human beings. With the implementation of two-day-off weekends, people have paid attention to leisure that recreational space, facilities, and types become diverse as well as leisure activities are provided with more options. In addition to the satisfaction with quantity, the quality of leisure has been enhanced to meet the requirements of people with distinct living styles. The promotion of leisure activities is considered as the participation being beneficial for individuals, communities, and the country. For this reason, Sports Affairs Council, Executive Yuan proposed the key policies for physical education as to promote sports atmosphere in the public, to implement the integration of sports and living, and to enhance the quality of life of the people. To provide the people with sufficient places for sports, the government has devoted to quality sports centers and sports volunteers in order to enhance the quality of recreational sports environment. Satisfaction is regarded as a multi-dimensional concept generated by the confirmation of expectation or positive incorrectness (Wendy, 1998). Hsieh (1998) discovered the effective effects of leisure satisfaction on leisure participation. Leisure Satisfaction therefore will be considered as the index for Leisure Participation. Badminton participants presented distinctly on age, occupation, individual preference, and physical fitness. To receive leisure satisfaction in activities, participants have to measure the differences between individual expectation on leisure and the actual performance. Leisure Satisfaction, as the degree of satisfaction of individuals at leisure experiences and contexts, is regarded as positive perception when individuals participating in leisure activities (Beard & Ragheb, 1980). Leisure Satisfaction is considered as the degree of satisfaction at expected demands when participating in leisure activities (Siegenthaler & O’Dell, 2000). The intention of receiving satisfaction from badminton is therefore the primary purpose of badminton participants. As a result, the discussion on the satisfaction of badminton participants is one of the research motives.
With the development of high technology, the living environment is tended to automation and network that about 60-85% population is suffering from sedentary lifestyle and insufficient physical activities which further increase the proportion of physical function degradation and psychological mental weakness. The quality of life and the meaning of life are therefore declined. Such situations have now become the global concern. With the improvement of economy and the increase of leisure time, the people have paid more attention to Quality of Life. Nonetheless, bad quality of life resulted from work stress and living pressure has caused several physical and psychological problems, such as obesity, melancholia, and chronic disease. Due to present progress of medical technology and reduction of birth rate, the population structure is now approaching the aging that the living styles with health and leisure have become popular (Huang, 2003). Department of Health, Executive Yuan announced that the top three cause of death of malignant tumors, heart disease, and cerebrovascular disease in 2007 were directly or indirectly related to insufficient exercise. Chen (1997) indicated that regular exercise was beneficial to enhancing heart and lung functions, reducing risk factors like heart disease, decreasing mortality rate, and promoting physical fitness and job efficiency. Tang (2005) regarded the effects of exercise on releasing pressure, promoting quality of sleep, enhancing immune system, having more positive and happier life, self-realization, and brain development. Consequently, appropriate exercise is important for Quality of Life. The discussion on the correlations between Leisure Satisfaction and Quality of Life of the badminton participants is regarded as another research motive.

Research purpose

Based on the above research motives, badminton participants in Kaohsiung City were selected as the research subjects to discuss the theoretical bases of Leisure Satisfaction and Quality of Life from literature analyses. Moreover, with observations to systematically collect data, the intension, the factors, the present situation, and the relations of the badminton participants were understood. The specific purposes of this study are listed as follows.

1. To discuss Quality of life of the badminton participants with different marital status in Kaohsiung City.
2. To discuss Leisure Satisfaction of the badminton participants with distinct occupations in Kaohsiung City.
3. To discuss Leisure Satisfaction of the badminton participants with various family monthly incomes in Kaohsiung City.
4. To discuss Leisure Satisfaction of the badminton participants in Kaohsiung City and the present situation of Quality of Life.

Terminology

(1) Leisure Satisfaction: Want (1997) indicated that satisfaction with recreational sports was the degree of satisfaction perceived by individual participation. Three factors were classified in this study. Social Interaction referred to the leisure satisfaction of the badminton participants at expanding knowledge, experiencing new things, understanding others, promoting the quality of relationship, and promoting friendliness. Quality of Environment referred to the leisure satisfaction of the badminton participants with clean, interesting, quality, and well-planned places for activities. Physical and Mental Conditions referred to the leisure satisfaction of the badminton participants with physical fitness challenge, enhancement, and recovery.

(2) Quality of Life: World Health Organization defined Quality of Life as the perception of individual subjective, expectation, standard, and concern in the cultural value system, including individual physiological health, psychological state, independence, social concern, personal belief, and environment (WHO,1998). In this study, four factors were concerned. Social Factors contained the improvement of social and interpersonal relationship of the badminton participants. Environmental Factors included the improvement of environment, such as residence, transportation, and sports facilities. Psychological Factors covered the improvement of life and living. Physiological Factors contained the improvement of strengths and physical conditions of the badminton participants.
RESEARCH METHOD

Research area and subjects

Having the badminton participants in Kaohsiung City as the research subjects, they were grouped into self-training and participating in informal competitions. With convenience sampling, the items of marital status, occupations, and average family monthly incomes were investigated. Total 400 questionnaires were distributed during Aug. 10th - Sep. 10th, 2010. Having deducted 40 invalid ones, 360 valid copies were retrieved, with the retrieval rate 90%.

Research method

(1) Compilation of questionnaire

Leisure Satisfaction Scale was revised from the leisure satisfaction scale proposed by Beard and Ragheb (1980). Three dimensions of Social Interaction, Quality of Environment, and Physical and Mental Conditions were contained in Leisure Satisfaction Scale. Quality of Life Scale was referred to the quality of life scale proposed by Kuo, Want, and Lin (2008). Five dimensions were classified, namely Social Factors, Environmental Factors, Physiological Factors, Psychological Factors, and Physiological Factors. With Likert's five-point scale, the options of Extremely agreed, Very agreed, Agreed, Slightly agreed, Not agreed were given the scores of 5-1, respectively. The higher average scores were obtained, the higher Leisure Satisfaction of the badminton participants appeared and the better Quality of Life was evaluated. The compilation process is described as below.

(2) Pretest

Having completed the scales, pretest questionnaires were distributed during July 1st - Aug. 1st, 2010. Within the 200 questionnaires, 20 invalid ones were deducted that 180 valid copies were retrieved, with the retrieval rate 92%. The pretest questionnaires were distributed through badminton forums, badminton teams, and badminton participant communities on the Internet. The researcher personally distributed the questionnaires to prevent the preset and the formal questionnaires from being repeatedly distributed.

(3) Item analysis

Item Analyses of Leisure Satisfaction Scale and Quality of Life Scale appeared that the CR value of each item achieved significance and the correlation larger than .30. All the items therefore were remained.

(4) Factor Analysis

The explained variance of the factors in Leisure Satisfaction Scale achieved 64.48% and that of Quality of Life Scale reached 65.27%, showing good validity of the scales.

(5) Reliability Analysis

Cronbach’s α of the sub-scales of Leisure Satisfaction was between .89~.91 and the reliability of the total scale appeared .94. Moreover, Cronbach’s α of the sub-scales of Quality of Life was between .83~0.94 and the reliability of the total scale presented .96. The internal consistency of the scales was favorable.

Data process

SPSS for Windows 16.0 was utilized for statistics analyses of the questionnaire. Furthermore, t test, Independent Samples One-way Analysis of Variance, and Canonical Correlations were applied to testing the discussed questions. The significance for various tests was set .05.

RESULTS AND DISCUSSIONS

Differences of Quality of Life of the badminton participants with different marital status

To discuss the differences of Quality of Life of the badminton participants with different marital status, Single and Married were divided. t test was further utilized for the analyses, Table 1.
Table 1: t test of the differences of Quality of Life of the badminton participants with different marital status

<table>
<thead>
<tr>
<th>Item</th>
<th>Single (n=183)</th>
<th>Married (n=177)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M(SD)</td>
<td>M(SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Factors</td>
<td>3.58(.64)</td>
<td>3.75(.65)</td>
<td>2.58*</td>
<td>.01</td>
</tr>
<tr>
<td>Environmental Factors</td>
<td>3.52(.76)</td>
<td>3.64(.73)</td>
<td>1.48</td>
<td>.14</td>
</tr>
<tr>
<td>Psychological Factors</td>
<td>3.45(.87)</td>
<td>3.67(.80)</td>
<td>2.49*</td>
<td>.01</td>
</tr>
<tr>
<td>Physiological Factors</td>
<td>3.67(.75)</td>
<td>3.78(.76)</td>
<td>1.41</td>
<td>.16</td>
</tr>
</tbody>
</table>

*p<.05

From Table 1, Quality of Life of the badminton participants with different marital status presented differences on Social Factors and Psychological Factors. Married participants showed higher Quality of Life than single ones on Social Factors and Psychological Factors. Lin (2002), Chiang (2006), and Yang (2010) did not found differences in marital status; i.e., Quality of Life of married or single participants was not affected. Chen (2005) studied the effects of marital status on Quality of Life that Quality of Life of married librarians was higher than it of single ones and senior married librarians appeared higher Quality of Life than single librarians because of the life experiences. Huang (2010) indicated that Quality of Life of single cyclists was higher that it of married ones. Lin (2011) discovered that Quality of Life of single joggers appeared higher on Psychological Factors than it of married ones. According to above research, marital status presented distinct effects on Quality of Life. In this case, marital status did not show common tendency with Quality of Life that Quality of Life might be affected by environmental factors.

Differences of Leisure Satisfaction of the badminton participants with distinct occupations

To discuss the differences of Leisure Satisfaction of the badminton participants with distinct occupations, occupations of students, civil servants, agriculture and industry, commerce, and others were classified. One-way Analysis of Variance was further applied to comparing the differences of Leisure Involvement of the badminton participants with distinct occupations.

Table 2: Variance Analysis of Leisure Satisfaction of the badminton participants with distinct occupations

<table>
<thead>
<tr>
<th>Background variables</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students (1)</td>
<td>85</td>
<td>3.72</td>
<td>.70</td>
<td>3.57</td>
<td>.85</td>
<td>3.85</td>
<td>.73</td>
</tr>
<tr>
<td>civil servants (2)</td>
<td>72</td>
<td>3.91</td>
<td>.66</td>
<td>3.76</td>
<td>.68</td>
<td>3.92</td>
<td>.70</td>
</tr>
<tr>
<td>Agriculture &amp; Industry (3)</td>
<td>48</td>
<td>3.38</td>
<td>.52</td>
<td>3.38</td>
<td>.73</td>
<td>3.48</td>
<td>.72</td>
</tr>
<tr>
<td>Commerce (4)</td>
<td>80</td>
<td>3.67</td>
<td>.64</td>
<td>3.61</td>
<td>.83</td>
<td>3.77</td>
<td>.81</td>
</tr>
<tr>
<td>Others (5)</td>
<td>75</td>
<td>3.70</td>
<td>.75</td>
<td>3.70</td>
<td>.84</td>
<td>3.85</td>
<td>.69</td>
</tr>
</tbody>
</table>

| f       | 4.49* | 1.70 | 3.01* |
| p       | .01   | .15  | .02   |
| Comparison | 2>3  | 2>3  |       |

*p<.05

From Table 2, the badminton participants with distinct occupations presented different Leisure Satisfaction on Social Interaction and Physical and Mental Conditions that the badminton participants as civil servants appeared higher Leisure Satisfaction on Social Interaction and Physical and Mental Conditions than the ones in agriculture and industry. In regard to the effects of occupations, Chen (2003), Yu (2005), Chuang (2006), and Chen (2009) did not find differences in Leisure Satisfaction, while Chiang (2002) and Su (2009) did. In this study, it was found that the badminton participants as civil servants presented higher Leisure Satisfaction than the ones in agriculture and industry, possibly because the badminton participants in agriculture and industry, who normally paid a lot of labor, had less chance for leisure activities, while the ones as civil servants generally consume less strength. In the case that the badminton participants in agriculture and industry consume a lot of strengths at work, Social Interaction was likely to be affected and further influenced Leisure Satisfaction.
Differences of Leisure Satisfaction of the badminton participants with different family monthly incomes

To discuss the differences of Leisure Satisfaction of the badminton participants with different family monthly incomes, family monthly income was divided into below 20000, 20001-40000, 40001-60000, and above 60001 NT dollars. One-way Analysis of Variance was further applied to analyzing Leisure Satisfaction of the badminton participants with different family monthly incomes, Table 3.

Table 3: Variance Analysis of Leisure Satisfaction of the badminton participants with different family monthly incomes

<table>
<thead>
<tr>
<th>Background variables</th>
<th>Social Interaction</th>
<th>Quality of Environment</th>
<th>Physical and Mental Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Below 20000 (1)</td>
<td>3.48</td>
<td>.82</td>
<td>3.46</td>
</tr>
<tr>
<td>20001-40000 (2)</td>
<td>3.65</td>
<td>.68</td>
<td>3.43</td>
</tr>
<tr>
<td>40001-60000 (3)</td>
<td>3.69</td>
<td>.59</td>
<td>3.65</td>
</tr>
<tr>
<td>Above 60001 (4)</td>
<td>3.88</td>
<td>.63</td>
<td>3.79</td>
</tr>
<tr>
<td>F</td>
<td>5.38*</td>
<td></td>
<td>4.38*</td>
</tr>
<tr>
<td>p</td>
<td>.01</td>
<td></td>
<td>.01</td>
</tr>
<tr>
<td>Comparison</td>
<td>4&gt;1</td>
<td></td>
<td>4&gt;2</td>
</tr>
</tbody>
</table>

*p<.05

From Table 3, Leisure Satisfaction of the badminton participants with different family monthly incomes showed differences on Social Interaction, Quality of Environment, and Physical and Mental Conditions. The participants with family monthly income above 60001 NT dollars appeared better Social Interaction and Physical and Mental Conditions than the ones with family monthly income below 20000 NT dollars; and, the participants with family monthly income above 60001 NT dollars showed better Quality of Environment than the ones with family monthly income within 20001-40000 NT dollars. Kao (2010) pointed out the effects of family incomes on Leisure Satisfaction of college staff. Liu, Yu, Hsu, and Li (2010) found that people with higher incomes presented higher Leisure Satisfaction. Chiu and Chen (2005) indicated that family monthly income did not affect Leisure Satisfaction of badminton participants. According to the above research, there was no consistency between family monthly income and Leisure Satisfaction that Leisure Satisfaction might be affected by service quality or other factors. In this study, the badminton participants with higher family monthly incomes appeared higher Leisure Satisfaction, showing that the rich ones were likely to participate in recreational sports and present satisfaction on sports.

Canonical Correlation Analysis of Leisure Satisfaction and Quality of Life of the badminton participants

This section aimed to discuss the correlations between Leisure Satisfaction (Social Interaction, Quality of Environment, Physical and Mental Conditions) and Quality of Life (Psychological Factors, Environmental Factors, Physiological Factors, and Social Factors) of the badminton participants.
(1) Canonical Correlation Analysis

Table 4 Canonical Correlation Analysis of Leisure Satisfaction and Quality of Life of the badminton participants

<table>
<thead>
<tr>
<th>X variable</th>
<th>Canonical Correlations</th>
<th>Y variable</th>
<th>Canonical Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leisure Involvement</td>
<td>( \chi_1 ) , ( \chi_2 )</td>
<td>Quality of Life</td>
<td>( \eta_1 ) , ( \eta_2 )</td>
</tr>
<tr>
<td>Social Interaction</td>
<td>.901 , .180</td>
<td>Social Factors</td>
<td>.963 , .089</td>
</tr>
<tr>
<td>Quality of Environment</td>
<td>.831 , -.528</td>
<td>Environmental Factors</td>
<td>.854 , -.399</td>
</tr>
<tr>
<td>Physical and Mental Conditions</td>
<td>.824 , .503</td>
<td>Physiological Factors</td>
<td>.657 , -.418</td>
</tr>
<tr>
<td>Abstrated variance</td>
<td>72.67 , 18.80</td>
<td>Abstrated variance</td>
<td>67.83 , 10.03</td>
</tr>
<tr>
<td>Percentage Overlap (%)</td>
<td>45.89 , .92</td>
<td>Percentage Overlap (%)</td>
<td>45.32 , .490</td>
</tr>
<tr>
<td>( \rho^2 )</td>
<td>.631</td>
<td>( \rho )</td>
<td>.795* , .221*</td>
</tr>
<tr>
<td>( \rho )</td>
<td>.795*</td>
<td></td>
<td>.221*</td>
</tr>
</tbody>
</table>

*p<.05

1. Canonical Correlation Analysis

Based on Table 4 and Fig. 1, X variables in Leisure Satisfaction contained X1=Social Interaction, X2=Quality of Environment, and X3=Physical and Mental Conditions, and Y variables in Quality of Life included Y1=Social Factors, Y2=Environmental Factors, Y3=Physiological Factors, and Y4=Psychological Factors. The canonical analysis results between X and Y showed that, within the two canonical factors (\( \chi_1 \), \( \chi_2 \)) in X and the two canonical factors (\( \eta_1 \), \( \eta_2 \)) in Y, Canonical Correlation of the first canonical factors, \( \chi_1 \) and \( \eta_1 \), appeared .795 (p<.05) and Canonical Correlation of the second canonical factors, \( \chi_2 \) and \( \eta_2 \), revealed .221 (p<.05).

2. Analysis of variance explained of canonical factors

From Table 4, two sets of canonical factors between Leisure Satisfaction and Quality of Life in the badminton participants presented significantly.

(1) The first canonical factors

The first canonical factor (\( \chi_1 \)) in X could explain 79.50% (\( \rho = .631 \)) total variance of the first canonical factor (\( \eta_1 \)) in Y; and, the first canonical factor (\( \eta_1 \)) in Y could explain 67.83% variance of Y. In this case X variables could explain 45.32% total variance of Y variables through the first canonical factors (\( \chi_1 \) and \( \eta_1 \)).

(2) The second canonical factors

The second canonical factor (\( \chi_2 \)) in X could explain 22.10% (\( \rho = .049 \)) total variance of the second canonical factor (\( \eta_2 \)) in Y; and, the second canonical correlation (\( \eta_2 \)) in Y could explain 19.03% variance of Y. X variables therefore could explain 49% total variance of Y variables through the second canonical factors (\( \chi_2 \) and \( \eta_2 \)).
3. **Structure coefficient of canonical factors (Load Analysis)**

According to the above statistics analyses, 79.5% explanation of the canonical correlations between Leisure Satisfaction and Quality of Life in the badminton participants was composed of the first canonical factors. The explanation of the second canonical factors was low that it was not taken into account.

From the above analyses, Leisure Satisfaction and Quality of Life of the badminton participants in Kaohsiung City were composed of two sets of canonical factors, in which 79.50% explanation was composed of the first canonical factors. The second canonical factors were too low that it was not taken into consideration.

Regarding the variables in Leisure Satisfaction (X), the coefficients of Social Interaction, Quality of Environment, and Physical and Mental Conditions in the first canonical factor (χ1) displayed .901, .831, and .824, respectively. In terms of Variables in Quality of Life (Y), the coefficients of Psychological Factors, Environmental Factors, Physiological Factors, and Social Factors in the first canonical factor (η1) appeared .963, .854, .657, and .791, respectively. From the coefficients in the first canonical correlations, Social Interaction, Quality of Environment, and Physical and Mental Conditions in X presented larger explanation than Psychological Factors, Environmental Factors, Physiological Factors, and Social Factors in Y.

The analyses showed that Leisure Satisfaction of the badminton participants was composed of two set of canonical factors. The total explained variance to Quality of Life was 45.81% (45.32%+0.490%), in which most explanation was composed of the first canonical factors. Chiu and Chen (2005) discovered the significantly positive correlations between Leisure Satisfaction and Life Satisfaction. Huang (2003) indicated the remarkable effects of Leisure Satisfaction on Quality of Life of elementary school teachers. Chang (2007) found the notably positive correlations between Leisure Satisfaction and Life Satisfaction. Kuo, Chien, and Kuo (2009) pointed out the effects of Satisfaction on Quality of Life of the members in a fitness club that the higher Leisure Satisfaction of the members was shown, the better Quality of Life would be perceived. The research outcomes presented the significant correlations between Leisure Satisfaction and Quality of Life of the badminton participants, showing that the higher Leisure Satisfaction of the badminton participants in Kaohsiung City, the better Quality of Life. As a result, the above analyses proved that Leisure Satisfaction of the badminton participants in Kaohsiung city should be enhanced before promoting Quality of Life.

**CONCLUSION AND SUGGESTION**

**Conclusion**

(1) The badminton participants with different marital status revealed differences on Social Factors and Psychological Factors in Quality of Life that married participants appeared higher Social Factors and Psychological Factors than single participants did.

(2) The badminton participants with distinct occupations showed different Social Interaction and Physical and Mental Conditions in Leisure Satisfaction that the participants as civil servants experienced higher Social Interaction and Physical and Mental Conditions than the ones in agriculture and industry.

(3) The badminton participants with various family monthly incomes presented different Social Interaction, Quality of Environment, and Physical and Mental Conditions in Leisure Satisfaction that economic situation would affect Leisure Satisfaction.

(4) There were correlations between Leisure Satisfaction and Quality of Life of the badminton participants that Leisure Satisfaction of the badminton participants should be enhanced before promoting Quality of Life.

**Suggestion**

(1) The research findings showed low Quality of Life of single badminton participants that qualitative interviews should be proceeded to understand the factors.

(2) The research discovered low Leisure Satisfaction of the badminton participants in agriculture and industry that sports recreation for the people in agriculture and industry should be strengthened when Sports Affairs Council, Executive Yuan creating the sports island.
(3) Economy would affect Leisure Satisfaction that grand funding should be planned for people with low income to participate in sports, when creating the sports island.

(4) There were correlations between Leisure Satisfaction and Quality of Life of the badminton participants that Sports Affairs council, Executive Yuan should develop national physical education to prevent the people from depending on drugs, which has resulted in billions of financial loss in health insurance.

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