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THE RELATIONSHIP AMONG SELF-ESTEEM, DEPRESSION, AND HEALTH ON ELDERLY TABLE TENNIS PARTICIPANTS

Abstract

Many developed countries are rapidly moving into an aging society. This is also true for Taiwan. That means people are living longer and more people aged over 65 years old. Age affects not only the body of a person but also his mind. Among the mental problems that afflict elderly, depression is becoming more common. Self-esteem is another mental construct that is related to mental health. In addition, health-related quality of life is critical for the elderly. Physical activity has been shown promoting mental health and quality of life. Since table tennis is popular among the elderly in Taiwan. It is interesting to examine the relationship among self-esteem, depression, and health-related quality of life on the table tennis participants. Fifty-four elderly table tennis participants completed the Self-Esteem Scale (SES), Center for Epidemiologic Studies Depression Scale (CES-D), and the MOS 36-item Short Form Health Survey (SF-36). Correlation analysis indicated that a). Self-esteem was negatively related to the depression ($r=-.339$), positively related to the mental component of the health-related quality of life($r=.383$). b). Depression was negatively related to the mental component of the health-related quality of life($r=-.613$) but positively related to the physical component of the health-related quality of life($r=-.613$). These results suggest enhance self-esteem to the elderly could be key to reduce depression and enhance health-related quality of life for the table tennis participants. Future study could explore how table tennis participation could affect self-esteem of the elderly.

Key words: *table tennis, self-esteem, depression, quality of life*

Introduction

The elderly population in Taiwan has grown rapidly during the last 10 years (Ministry of the Interior Population Administration, Department of population, 2007). The most concerning problem for the elderly population is their health situation. The physical and mental health of older adults is generally deteriorating in the aging process. Among mental health problems, depression and lowered self-esteem are the two critical mental health issues.

At least one-third of individual are expected to experience at least one bout of depression in their lifetime. Depression is a risk factor in older adults. Depression is a major cause and consequence of disabilities among aging population. Suicide rates are high in this population as well. The cost of depression accounted for 20 % of all health care cost, which include direct costs for treatment and indirect costs due to premature death, absenteeism from work, and reduced productivity (Greenberg, Stiglin, Finkelstein, & Berndt, 1993).

Self-esteem is one of the key indicators of good mental health and a significant correlate of life adjustment. A positive self-esteem can enhance mood and support healthy behavior, while negative self-esteem can lead to depressed mood and disadvantageous behavior. High self-esteem is associated with independence, leadership, adaptability, and resilience to stress (Wylie, 1989), while low self-esteem is associated with depression, anxiety, and phobias (Baumeister, 1993).

The beneficial effects of physical activity on the physical health of persons of all ages and especially of older adults are well documented. During the past 20 years substantial research on physical activity in older adults has documented beneficial effects on physical function, control of chronic disease symptoms, and health-related quality of life (HRQL). On the other hand, recent effort has been focused on examining whether physical activity has similar beneficial effect on persons' mind as well (Hung, 2002). That's because to enhance brain health and to keep a sound mind in a sound body has emerged as a major concern in the coming of aging society. In addition to numerous health benefits, frequent engagement in physical activity appears to moderate the decline of cognitive function typically associated with aging (Shi & Hung, 2006).

Why engaging in physical activity can moderate the decline of cognitive function typically associated with aging is a question researchers need to clarify. However, at least three mechanisms have been proposed (Shi & Hung, 2006). Physical activity can enhance cerebral blood flow, synthesis and release of neurotrophic factors, and synthesis and release of neurotransmitters. It is very likely that the combination of these three mechanisms results in an overall improvement of brain functioning of older adults. And the improvement of brain function leads to a soundly mental and emotional functioning of individuals. Many research support that physical activity can reduce anxiety and depression, increase positive emotion, and self-esteem (Landers & Arent, 2001).

Table tennis is a kind of physical activity that is popular for the older adults in Taiwan. The purpose of this study is to examine the relationship between self-esteem, depression and health of Taiwanese elderly table tennis participants.

Methods and procedure

Participants and procedures

Fifty-four table tennis participants (43 males, 11 female, with 50-84 years of age) were invited to this study. The survey was conducted in a local table tennis championship for the elderly. The participants were first contacted separately to obtain their permission to take part in this study. Upon completion of consent forms, participants were instructed to fill out the questionnaires that include the three psychological scales and one with demographic information.

Instruments

Chinese version of Medical Outcomes Study Short-Form Health Survey (SF-36), the test was developed to measure self-perception of physical health and mental health (Ware, 1993). It is a generic measure, as opposed to one that targets a specific age, disease, or treatment group. Accordingly, the SF-36 has proven useful in surveys of general and specific populations, comparing the relative burden of diseases, and in differentiating the health benefits produced by a wide range of different treatments.

It consists of 36 questions and includes eight domains of health: physical functioning (PF), role limitations due to physical health (RP), bodily pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitations due to emotional problems (RE), and mental health (MH). It yields scale scores for each of these eight health domains, and two summary measures of physical and mental health: the Physical Component Summary (PCS) and Mental Component Summary (MCS). SF-36 has been shown good construct validity and internal reliability.

Chinese version of Self-Esteem Scale (SES), the original scale was constructed by Rosenberg (1965) to measure people's general evaluation of themselves. SES has a Cronbach Alpha of 0.78.

Chinese version of Center for Epidemiologic Studies Depression Scale (CES-D), the original CES-D was constructed by Radloff (1977) to measure prevalence of depression. CES-D has Cronbach's Alpha of 0.79-0.89 in older population in Taiwan.

Results

Mean and standard deviation of the variables measured in the study is shown on Table 1. Results of correlation analysis among the three measurements are displayed at Table 2. Self-esteem is positively correlated to General Health, Vitality, and Mental Component

Summary. Depression is negatively correlated to Self-esteem, Vitality, Mental Health, and Mental Component Summary. Depression is positively correlated to Physical Component Summary.

Table 1. Descriptions of SES, CES-D, and SF-36 of elderly table tennis participants.

	SES	CES-D	PF	RP	BP	GH	VT	SF	RE	MH	PCS	MCS
M	29.93	6.96	51.86	47.11	54.83	58.58	58.28	54.59	48.31	58.97	48.06	59.76
SD	6.36	4.98	7.42	13.04	7.60	8.58	9.85	8.85	11.86	10.30	8.61	9.51

Table 2. Correlation among the SES, CES-D, and SF-36.

	1	2	3	4	5	6	7	8	9	10	11	12
1	1.00											
2	-.34*	1.00										
3	.20	-.11	1.00									
4	.04	.05	.05	1.00								
5	-.07	-.01	.24	-.04	1.00							
6	.32*	-.24	.23	-.14	.40**	1.00						
7	.50**	-.54**	.30*	-.02	.34*	.47**	1.00					
8	.21	-.25	.16	.13	.40**	.57**	.48**	1.00				
9	.04	.13	.13	.80**	-.10	-.12	-.06	.12	1.0			
10	.19	-.61**	.16	-.08	.32*	.40**	.55**	.38**	-.10	1.0		
11	-.05	.29*	.45**	.79**	.26	-.02	-.12	.15	.69**	-.30*	1.0	
12	.38**	-.61**	.12	-.14	.34*	.64**	.81**	.63**	-.09	.85**	-.33*	1.0

NOTE. SES=1, CES-D=2, Physical Functioning=3, Role Physical=4, Bodily Pain=5, General Health=6, Vitality=7, Social Functioning=8, Role Emotional.=9, Mental Health=10, Physical Component Summary=11, Mental Component Summary=12.

* $p < .05$, ** $p < .01$

Discussion

The purposes of this study are to examine the relationship among self-esteem, depression, and health of elderly table tennis participants in Taiwan. The results found that self-esteem is positively correlated to General Health, Vitality, and Mental Component Summary. Depression is negatively associated with Self-esteem, Vitality, Mental Health, and Mental Component Summary. These findings are consistent with past studies. Research has found that self-esteem is a key indicator of good mental health and a significant correlate of life adjustment. Persons with higher self-esteem look good upon themselves. Thus higher self-esteem is associated with independence, leadership, adaptability, and resilience to stress (Wylie, 1989). Individual with higher self-esteem is also less susceptible to mental health problems. Other the other hand, depression is a negative mental state. Depressed individuals not only have poor mental health but also have lower self-esteem and lack of motivation to change environment.

Lower self-esteem and higher prevalence of depression have been a major concern for older adults. The current study found higher self-esteem is associated with better health (e.g., lower depression and higher self-reported health components). It is important to enhance self-esteem in the elderly population. Past studies suggest engaging in regular physical activity (PA) is effective on increasing self-esteem. The positive effects on self-esteem from PA are likely due to psychosocial mechanisms such as induced improvement in perception of competence or appearance, improved sense of autonomy and control

over body, improved sense of self-acceptance, improved sense of well-being, and improved sense of belonging and significance through social contact in a group or the social setting (Buckworth & Dishman, 2002). However, neurophysiologic mechanisms such as enhanced cerebral blood flow, synthesis and release of neurotrophic factors and neurotransmitters through PA participation could play an important role as well. This is particularly true for the older adults since the decline of brain function lead to both compromised body and mental function of the elderly. The functional deterioration of body and mind in turn are reflected by a lower perception of them-self and their poor self-evaluation of health. Table tennis as a way of physical activity could be promoted among older population due to its participants – friendly features of activity itself. In addition, the activity of table tennis can be effective to stimulate both body and mind of the elderly participants that is particularly beneficial to promote self-esteem and health.

In conclusion, the study found self-esteem is positively associated with better health and depression is negatively associated with health in the elderly table tennis participants in Taiwan.

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