

The Effects of Family Socio-economic Status, Parental Rearing Attitude toward Exercise, and Exercise Participation on Subjective Well-being among Elementary School Teachers

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ABSTRACT The purpose of this study is to examine the impact of family's social-economic status, parents' rearing attitude of exercise, and exercise participation on subjective well-being among elementary school teachers. The research subjects consist of 696 elementary teachers from Taiwan. According to the study results, family-of-origin socio-economic status has a significant negative impact on father's and mother's rearing attitude toward exercise. However, socio-economic status is significantly and positively related to exercise participation. Unlike the fact that father's rearing attitude toward exercise has a significantly positive impact on exercise participation, mother's attitude shows no impact on subjects' exercise participation. Exercise participation of elementary school teachers is reported to have a significant positive impact on their subjective well-being.

INTRODUCTION

For years subjective well-being researchers have attempted to understand how people evaluate their lives by examining cognitive judgments and emotional reactions. Cognitive judgments evaluates what a person considers a good life, while emotional reactions identifies positive affect and negative affect (Diener et al. 1999). According to Shih (1995), measurement of happiness depends on individual's subjective awareness and perception of life events. Diener (1984), on the other hand, believed that well-being is a subjective experience and the assessment of life,

and can mean life satisfaction which can be explored by quantitative approach.

Kyriacou (2001) indicated that teaching in today's society is one of the most stressful jobs and yet it still plays a major role in education due to its unique and professional characteristics. Today, teachers work in a stressful environment and often feel anxious and frustrated (Chiu and Tung 2010). Yu et al. (2010) studied high school, junior high school, and elementary school teachers, and found that subjective well-being mediated working hours and depression among high school teachers. Their study results indicated that subjective well-being significantly reduced stress and depression for three groups of teachers. Furthermore, Chiu and Tung (2010) reported that teachers experiencing high levels of well-being were more likely to be enthusiastic and energetic about teaching. This paper, as a result, intends to explore the well-being of elementary school teachers.

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Research evidence has shown that families with high socio-economic status often have more success in preparing their children for a better learning environment due to the fact that they typically have access to a wide range of educational resources. By contrast, families with low socio-economic status have limited access to resources to promote and support children's development, and their children usually have problem with learning (Lee and Yu 2005; Chen and Hwang 2011; Kuruvilla et al. 2016). Several empirical studies indicated that socio-economic status either directly or indirectly is linked to children's academic achievement (Lee and Yu 2005; Wu 2007; Lin and Wu 2007). Chen (2000) stated that parental attitude and family's socio-economic status have some level of influence on how children interact with the community. Consequently this study aims to examine the family's socio-economic status of elementary school teachers.

Chen (2008) believed that difference in thoughts, behavior and value between generations is inevitable as the society progresses. According to Feng et al. (2013), freedom of speech, reconstructing of media policy, and computer and network popularity expedite such change, causing a huge gap between generations. Transiting from patriarchal society to democratic society is an immense change, and at the same time parental rearing attitudes have been gradually shaped by community and culture (Shu et al. 1999). Lin et al. (2012) studied parents whose children were in the kindergarten in Hualien County/City in Taiwan, and intended to explore if parenting styles were affected by socialization and intergenerational transmission. Research findings indicated that experience of being disciplined in early childhood and their parents' parenting value were affecting their current parenting styles. Kelder et al. (1994) had a similar perspective and found that introduction of physical activity in early years is associated with exercise participation in adolescence, indicating that parenting styles of current generation have been influenced by socialization and intergenerational transmission. This present study, therefore, uses self-reported data on exercise participation of previous generation collected from elementary school teachers, and examines how exercise participation of previous generation affects that of current generation and their well-being. Subjects of this study were asked to

recall how their attitude toward physical activity in their childhood was affected by their parental attitude. Based on two dimensions of demand-ingness and responsiveness suggested by Mac-coby and Martin (1983), this present study developed a parental rearing attitude toward exercise scale.

Literature (Chen 2012; McGuire et al. 2016; Keller-Varady et al. 2016) suggested that physical exercise not only improves cardiovascular endurance, muscle strength, and bone density, but also boosts positive motions and well-being. It stops negative thinking, reduces anxiety, and prevents psychological problems. Similarly, previous research suggested that lack of physical activity links to increased BMI and is significantly correlated with chronic diseases (Forshee et al. 2004). Simply put, regular physical activity.

Early research has reported that family has a tremendous influence on children's development. Kenyon and McPherson (1973) examined the process of socialization of Olympic athletes, and stated that research participants became involved in physical exercise in early years because of family encouragement and support (Chen et al. 2011). Obviously, parental socio-economic status and rearing attitude have profound impacts on children's belief, attitude and behavior (Liao and Lee 2005).

Babkes and Weiss (1999) studied children aged from 9 to 11 and their parents, and study results indicated that children's perception of competency was associated with their perception of parents' behavior and belief. In other words, parents have the most influence on children's physical development and exercise participation (Bois et al. 2005; Fredricks and Eccles 2004). Individuals who become more involved with sports are more likely to enjoy peer support, exercise participation, life satisfaction, health behavior and well-being, as compared with those who are less involved (Chou and Wang 2011). "Enjoy physical exercise, live healthy life" is a life goal that anyone should pursue (Shieh et al. 2010).

In addition, Wang's (2005) empirical study showed that participation and involvement in sports of adults over 40 somewhat predict their perception of life satisfaction. High life satisfaction results in high subjective well-being. Shek (1997) stated that high well-being increases the level of psychological well-being, which in return, reduces problem behavior. Based on previ-

ous research and literature evidence, this current study attempts to explore the relations between family socio-economic status, parental rearing attitude of exercise, exercise participation and subjective well-being among elementary school teachers.

Literature Review and Conceptual Framework Development

Family of Origin Socio-economic Status and Parental Child-rearing Attitudes

Previous studies on social status and parenting styles reported that work environment shapes individuals' value and personality that determine their parenting styles (Lin et al. 2012). Parents with higher education have higher perception of their own parenting styles and are more open to positive child-rearing practices and parenting methods (Campbell and Gilmore 2007). Yang (2009) reported that parents with higher education are more concerned about children being independent and responsible, and are more likely to express their approval and admiration to their children. Similarly, Lin and Chu (2013) revealed that parent's socio-economic status and parenting styles are predictors of academic achievement of high school students in English classes. Study findings thus suggested the higher parents' socio-economic status, the better students' academic performance. Therefore, this study proposed the following hypotheses.

H1: Family of origin socio-economic status affects father's rearing attitude towards exercise.

H2: Family of origin socio-economic status affects mother's rearing attitude toward exercise.

Family of Origin Socio-economic Status and Exercise Participation

Chen (2015) and Liang (2011) reported a significant positive correlation between family's socio-economic status and regular exercise. Kaushik (2016) indicated that higher educational and economic status which influence active ageing. Huang et al. (2005) examined factors predicting exercise participation among community residents aged over 20 in Tainan City, Taiwan, and the findings suggested a significant positive correlation between socio-economic status and exercise participation. However, Lin et al. (2012) found no impact of parent's educa-

tion and monthly salary on children's exercise participation.

Steele et al. (2010) included 1,568 children aged 9 to 10 in their cross-sectional research, and discovered that children were able to do vigorous physical activity and achieved the same goal even if they came from different socio-economic background. By contrast, Tandon et al. (2012) study included 715 children aged 6 to 11, and reported that family with lower socio-economic status tended to live a sedentary lifestyle and children were less likely to become involved in physical activity. Wicker et al. (2009) indicated factors that influence exercise participation are numerous. Other than workout environment, demographic characteristics such as gender, education and income all have influences on individual's decision to exercise. A hypothesis is thus developed based on previous findings.

H3: Family of origin socio-economic status affects exercise participation.

Parental Rearing Attitude and Exercise Participation

Among all the factors that influence children's participation in exercise, parental influence is the most important one (Bois et al. 2005; Fredricks and Eccles 2004). According to Darling and Steinberg (1993), parenting styles have influence on children's behavior, and in fact reveals parents expectation which has profound long-term impact on children's development. Parents are also providers for social support in the family and their support and compliment engage children in physical activity (Beets et al. 2006). In short, parental rearing attitudes toward exercise and social support are predictors of children's engagement in physical activity (Andersen and Wold 1992; Beets et al. 2006; Beets et al. 2007). Eccles et al. (1998) constructed the model of parent socialization, in which they systematically examined three parenting methods: parents are role model, are interpreter of experience, and provider of experience. They concluded the role of parents defined children's belief, behavior, and engagement in sport (Eccles et al. 1998; Fredricks and Eccles 2004). As the result, the following hypotheses are developed.

H4: Father's rearing attitude toward exercise affects children's exercise participation.

H5: Mother's rearing attitude toward exercise affects children's exercise participation.

Exercise Participation and Subjective Well-being

Martinez-Gonzalez (2003) indicated that continuous participation in physical exercise benefits individual's body, mind, and well-being. Valerand et al. (2006) studied athletes and discovered that passion in sport is positively related with individual's positive emotions, subjective well-being, energy, and leisure satisfaction. In addition, Chen and Chi (2009) investigated the relationship between exercise stages, psychological needs and subjective well-being, and their study findings reported a significant positive relation between exercise stage and subjective well-being. Doing exercise no doubt helps relax mind and rejuvenates body. Adequate exercise temporarily takes individual's mind off of the work and shift attention away from a problem (Tsai 2008). Exercise also helps reduce anxiety and improve mood (Hung 2003). Enough exercise increases lung capacity, prevents chronic diseases, preserves bone density, and breaks out of the cycle of negative thoughts (Tu 2008). Thus the following hypothesis was proposed.

H6: Exercise participation affects subjective well-being.

METHODOLOGY

Data Collection

Study subjects were public elementary school teachers in Taiwan during 2014 academic year. Schools in Northern, Central, Southern, and Eastern districts of Taiwan received 200 questionnaires, respectively. A total of 800 questionnaires were sent out, and 696 were collected for data analysis, with the returning rate of eighty-seven percent.

Measurements

Background Variables

Demographic data included gender, age, and years of teaching experience.

Family of Origin Socio-economic Status

Family of origin socio-economic status in this study was measured as a combination of two dimensions: parental education and occu-

pation. The assessment of socio-economic status was based on the Occupational and Socio-economic Scores for Taiwan constructed by Lin (2000) and Hwang (1998). Socio-economic status included fathers and mothers. Each education level and occupation was given a representative number. The representative number for education was multiplied by its weight of 4, while the number for occupation was multiplied by its weight of 7. Two numbers were added together, and the sum was a number that represented the socio-economic status for research analysis. The socio-economic status was classified into five major categories: high SES, middle-high SES, middle SES, middle-low SES, and low SES (Lin 2000). Small number indicated a high SES.

Parental Rearing Attitude toward Exercise Scale

The scale used in this present study was modified from parental rearing attitude scale introduced by Wang (1993) and Liu (2004). The scale included two dimensions of demandingness and responsiveness. Responsiveness was comprised of 10 questions and the five-point Likert scale marked 1 to 5, with 1 being never and 5 being always, was applied in the study. Considering that parents may have different child-rearing attitudes, the scale tested their attitude separately. In father's rear-attitude toward exercise, Cronbach α was .88 for responsiveness, .91 for demandingness, and .92 as a whole, indicating the reliability of the scale is considered acceptable. In mother's rearing-attitudes toward exercise, Cronbach α was .88 for responsiveness, .89 for demandingness, and .92 as a whole, also suggesting the reliability of the scale is considered acceptable.

Exercise Participation Scale

Subjects were asked to recall their exercise participation for past seven days. The results were calculated using a formula introduced by Fox (1999): exercise participation = exercise frequency*(intensity + duration).

Subjective Well-being Scale

The subjective well-being scale used in this present study was modified from the satisfaction with life scale first introduced by Diener

(1984). The scale assessed individuals' level of satisfaction. The scale included 5 questions, and a 7-point Likert scale was used, with 1 being strongly disagree and 7 being strongly agree. The scale had an internal consistency reliability coefficient of .87 and a test-retest reliability coefficient of .86, suggesting the scale was considered acceptable.

Data Processing

Descriptive information was processed using SPSS 20.0. Warp PLS 5.0 was used to investigate how family-of-origin socio-economic status, parental rear-attitude toward exercise, and exercise participation affected subjective well-being of elementary school teachers.

RESULTS

Demographic Analysis Results

Subjects were 191 (34.3%) male and 345 (65.7%) female elementary school teachers. Data shows that 116 (16.7%) subjects were under 30 years old, 275 subjects were between 31 and 45 (39.5%), 187 (26.9%) subjects were between 46 and 50, and 118 (17%) subjects were over 51 years old. Moreover, 110 (15.8%) subjects reported themselves as having less than five years of teaching experience, 228 (32.8%) subjects had 6-10 years, 232 (33.3%) subjects had 11-20 years, and 126 (18.1%) had more than 21 years of experience.

Models Hypotheses Test

The research hypotheses were tested and the results (Fig. 1) were as following:

H1: Family-of-origin socio-economic status of elementary school teachers had a significant impact on father's rearing attitude toward exercise ($\beta_1 = -.43, p < .05$). Study results showed that lower socio-economic status resulted in higher father's rearing attitude toward exercise.

H2: Family-of-origin socio-economic status of elementary school teachers had a significant impact on mother's rearing attitude toward exercise ($\beta_2 = -.47, p < .05$). Research findings indicated that lower socio-economic status resulted in higher mother's rearing attitude toward exercise.

H3: Family-of-origin socio-economic status of elementary school teachers had no significant impact on exercise participation ($\beta_3 = .07, p > .05$). Results reported that socio-economic status did not affect exercise participation.

H4: Rearing attitude toward exercise of fathers of elementary school teachers had a significant impact on exercise participation ($\beta_4 = .16, p < .05$). Study findings revealed that teachers who had higher perception of rearing attitude toward exercise were more likely to participate in exercise.

H5: Rearing attitude toward exercise of mothers of elementary school teachers had no significant impact on exercise participation ($\beta_5 = .04, p > .05$). Results reported that mothers' rearing attitude toward exercise did not affect exercise participation.

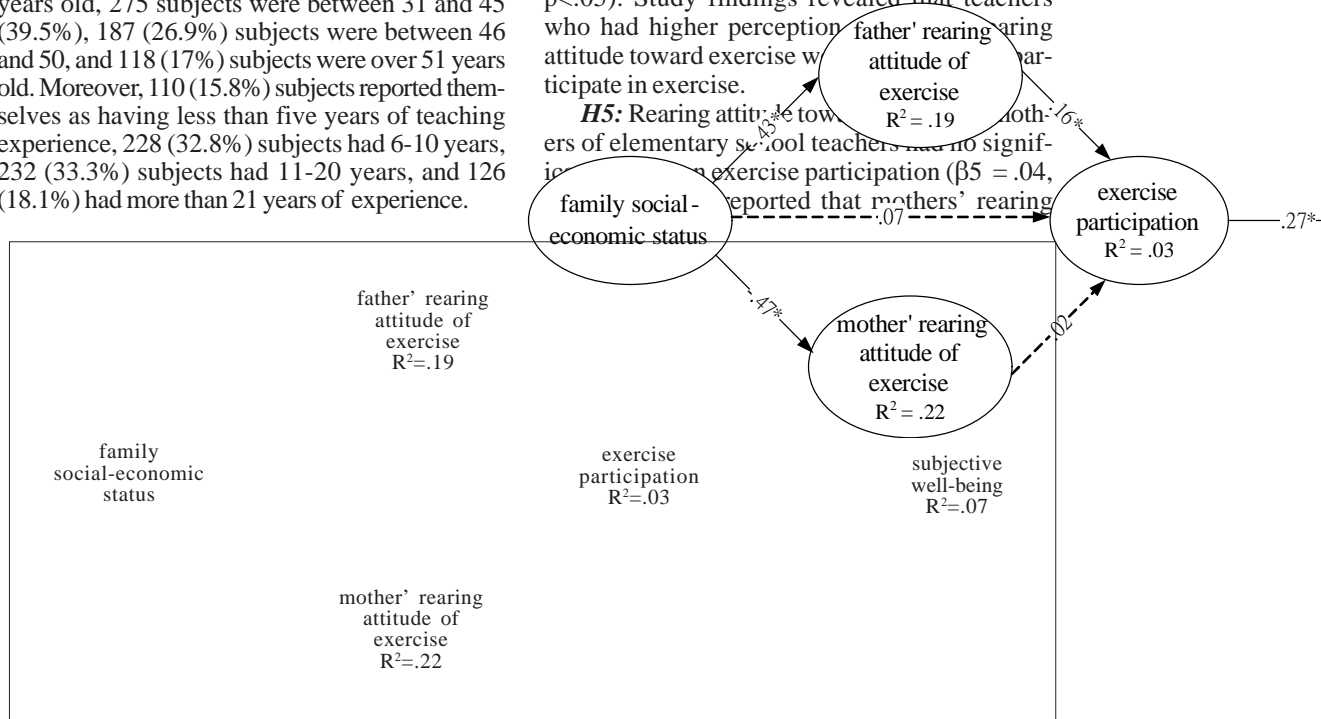


Fig. 1. Standardized parameter estimation of overall model
 Source: Author

attitude toward exercise did not affect exercise participation.

H6: Exercise participation of elementary school teachers had a significant impact on subjective well-being ($\beta_6 = .27, p < .05$). Findings suggested that teachers with higher perception of exercise participation tend to have higher subjective well-being.

Explanatory Power

Explanatory power refers to the ability to generate testable predictions of the research model. It is the percentage of the variance of the endogenous explained by all exogenous. High value indicates a better predictability. As shown in Table 1, family-of-origin socio-economic status explained nineteen percent of the overall variance of father's rearing attitude toward exercise, and twenty-two percent of the overall variance of mother's rearing attitude toward exercise. Family-of-origin socio-economic status and fathers and mothers rearing attitude toward exercise explained three percent of the overall variance of exercise participation of elementary school teachers. Exercise participation explained seven percent of the overall variance of teachers' subjective well-being.

DISCUSSION

Research findings reported a negative relation between family-of-origin socio-economic status and father's rearing attitude toward exercise. The fact that parental attitude toward exer-

cise is not supportive can perhaps date back to ancient Chinese culture where most of people were encouraged to be civil service employees through imperial examination system. Even until now a lot of people still hold onto the belief that academic achievement guarantees a good job (Lee 2003). In fact sports history of China is less than 100 years, and there was no sports industry between 1950 and 1980. Since careers in sports are not glamorous and stable and even promise nothing, family with high socio-economic status prevents children from participating exercise and encourages them to become doctors and lawyers.

In addition, study results showed no impact of family-of-origin socio-economic status on exercise participation. Chen (2000) stated that parental rearing attitude and socio-economic background have control over children's access to learning resources. Because family with high socio-economic status does not consider sport as worthy of investment, they strongly discourage exercise participation. However, although children with low socio-economic status enjoy physical activity, they may have to give up for some reasons. They either have no money to purchase equipment or need to help their family to get through financial difficulties. Based on previous study results, it is concluded that family-of-origin socio-economic status had no impact on exercise participation.

Furthermore, research findings reported that father's rearing attitude toward exercise had a significant impact on elementary school teachers' exercise participation. On the contrary, mother's rearing attitude toward exercise had no sig-

Table 1: Path coefficients

<i>Hypotheses</i>	<i>Direction</i>	\hat{A}	<i>P values</i>	<i>Results</i>
H1: Family social-economic status → father's rearing attitude of exercise	Positive	-.43 (β_1)	$P < .01$	Supported
H2: Family social-economic status → mother's rearing attitude of exercise	Positive	-.47 (β_2)	$P < .01$	Supported
H3: Family social-economic status → exercise participation	Positive	.07 (β_3)	$P = .08$	Unsupported
H4: Father's rearing attitude of exercise → exercise participation	Positive	.16 (β_4)	$P < .01$	Supported
H5: Mother's rearing attitude of exercise → exercise participation	Positive	.04 (β_5)	$P = .26$	Unsupported
H6: Exercise participation → subjective well-being	Positive	.27 (β_9)	$P < .01$	Supported

nificant impact on teachers' exercise participation. These findings are basically consistent with Woolger and Power (1993) that parents are important others who have considerable influences on children's choice of sports and exercise participation. According to Babkes and Weiss (1999), 9-11 year old soccer players' perception of their own competence was associated with their perception of parental influence. The more they perceived parental influence and belief about exercise, the better their athletic performance. That is to say, children's interpretation of parental behaviors affects their exercise participation and athletic performance (Chang and Chi 2011).

Elementary school teachers' exercise participation positively affected their subjective well-being. Study results are consistent with previous research which concluded that regular exercise reduces stress at work and improves life satisfaction (Pong et al. 2013). Literature evidence also showed that exercise participation is positively related to well-being among middle-aged and senior individuals (Chang 2009; Chang et al. 2004; Chen 2012). There is no doubt that high subjective well-being helps reduce accumulated stress, anxiety and frustration, and school teachers with high subjective well-being teach class with confidence, positivity, and optimism (Chiu and Tung 2010). To create an enjoyable class environment for children, encouraging teachers to regularly participate in physical activity to strengthen their subjective well-being is always a smart move.

Low explanatory power is a major concern in this current study. Evidence showed that parental support and assistance positively affect children's exercise participation and how children make exercise a habit (Norman and Bente 1992); and parental influences add positive significant value to children's consistent participation in physical activity (Wang et al. 2015). However, low explanatory power indicated that there should be some factors, other than socio-economic status and parental rearing attitude toward exercise, that affect subjects' participation in exercise. Through different life stages and socialization process, influences such as culture, faith, family structure, achievement, social support and so on, that once affect individual's decision can drop gradually (Chang 2009; Chen et al. 2011).

CONCLUSION

This paper therefore suggested that future studies incorporate other factors that can have

potential impacts on parental rearing attitude toward exercise, teachers' exercise participation, and their subjective well-being.

REFERENCES

- Anderssen N, Wold B 1992. Parental and peer influences on leisure-time physical activity in young adolescents. *Research Quarterly for Exercise and Sport*, 63(4): 341-348.
- Babkes ML, Weiss MR 1999. Parental influence on children's cognitive and affective responses to competitive soccer participation. *Pediatric Exercise Science*, 11: 44-62.
- Beets MW, Vogel R, Chapman S, Pitetti KH, Cardinal BJ 2007. Parent's social support for children's outdoor physical activity: Do weekdays and weekends matter? *Sex Roles*, 56(1): 125-131.
- Beets MW, Vogel R, Forlaw L, Pitetti KH, Cardinal BJ 2006. Social support and youth physical activity: The role of provider and type. *American Journal of Health Behavior*, 30(3): 278-289.
- Bois JE, Sarrazin PG, Brustad RJ, Trouilloud DO, Cury F 2005. Elementary school children's perceived competence and physical activity involvement: The influence of parents' role modelling behaviors and perceptions of their child's competence. *Psychology of Sport & Exercise*, 6(4): 381-397.
- Campbell J, Gilmore L 2007. Intergenerational continuities and discontinuities in parenting styles. *Australian Journal of Psychology*, 59(3): 140-150.
- Chang CH, Chi LK 2011. The relationship between parent's sports socializing and children's sport club participation behavior. *Quarterly of Chinese Physical Education*, 25(1): 82-90.
- Chang CM 2009. The relationship among participation in leisure sports, flow experience, life satisfaction and the degree of depression for the elderly in Chiayi City. *Physical Education Journal*, 42(3): 113-130.
- Chang CM, Hsu CH, Lee YH 2004. A study on the relationship between the leisure satisfaction and life satisfaction of the middle aged and elderly in practicing Tai-Chi Chuan as recreation sport. *Bio and Leisure Industry Research*, 2(1): 17-25.
- Chen CC 2000. Causality relations between family socio-economic status level and students' academic achievements level. *Communication Sociology of Education*, 26: 20-23.
- Chen M, Wu Y, Narimatsu H, Li X, Wang C, Luo J 2015. Socio-economic status and physical activity in Chinese adults: A report from a community-based survey in Jiaying, China. *Plos One*, 10(7): 1-12.
- Chen CW, Chi LK 2009. The relationship of exercise stages, psychological needs and subjective well-being among college students. *Physical Education Journal*, 42(1): 25-37.
- Chen CW, Hwang YJ 2011. A re-exploration of stratification and efficacy in cram schooling: An extension of the Wisconsin Model. *Bulletin of Educational Research*, 57(1): 101-135.
- Chen QR 2008. A pilot study of the adolescent subculture in Taiwan. *Secondary Education*, 59(2): 38-51.

- Chen WI 2012. The relationship between exercise behavior and subjective well-being. *NCYU Journal of Physical Education, Health & Recreation*, 11(3): 139-143.
- Chen YH, Chang CM, Yang MH 2011. A study on the impact of sports socializing on sports participation behavior of junior-high school students. *NCYU Journal of Physical Education, Health & Recreation*, 10(2): 60-68.
- Chiu HC, Tung HY 2010. A study on the contents of teachers' well-being. *School Administration*, 67: 168-180.
- Chou CC, Wang JM 2011. The effects of exercise social support for and exercise enjoyment on well-being for middle aged exerciser. *Taiwan Journal of Sports Scholarly Research*, 50: 21-36.
- Darling N, Steinberg L 1993. Parenting style as context: An integrative model. *Psychological Bulletin*, 113(3): 487-496.
- Diener E 1984. Subjective well-being. *Psychological Bulletin*, 95: 542-575.
- Diener E, Suh E, Lucas R, Smith H 1999. Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125(2): 276-302.
- Eccles JS, Wigfield A, Schiefele U 1998. Motivation to succeed. In: W Damon (Series Ed.), N Eisenberg (Vol. Ed.): *Handbook of Child Psychology*: New York: Wiley, pp. 1017-1094.
- Feng JY, Chiang TL, Tien ML 2013. Development of a parenting scale in Taiwan. *Journal of Early Childhood Education & Care*, 11: 1-20.
- Forshee RA, Anderson PA, Storey ML 2004. The role of beverage consumption, physical activity, sedentary behavior, and demographics on body mass index of adolescents. *International Journal of Food Sciences and Nutrition*, 55(6): 463-478.
- Fox KR 1999. The influence of physical activity on mental well-being. *Public Health Nutrition*, 2(3): 411-418.
- Fredricks JA, Eccles JS 2004. Parental influences on youth involvement in sports. In: MR Weiss (Ed.): *Developmental Sport and Exercise Psychology: A Lifespan Perspective*. Morgantown, WV: Fitness Information Technology, pp. 145-164.
- Hung SS 2003. Exercise, emotion feeling and mental health. *Sports Research Review*, 72: 156-161.
- Hwang YJ 1998. The construction and assessment of the "new occupational prestige and socio-economic scores for Taiwan". *Survey Research*, 5: 5-32.
- Kaushik A 2016. Socio-cultural determinants of active ageing: A comparative study of two locations. *Indian Journal of Gerontology*, 30(1): 1-25.
- Kelder SH, Perry CL, Klepp KI, Lytle LL 1994. Longitudinal tracking of adolescent smoking, physical activity, and food choice behaviors. *American Journal of Public Health*, 84(7): 1121-1126.
- Keller-Varady K, Hasan A, Schneider-Axmann T, Hillmer-Vogel U, Adom̄ent BT, Wobrock T 2016. Feasibility and effectiveness of aerobic exercise training interventions in schizophrenia. *European Psychiatry*, 33: S41-S42.
- Kenyon GS, McPherson BD 1973. Becoming involved in physical activity and sport: A process of socialization. In: GL Rarick (Ed.): *Physical Activity: Human Growth and Development*. New York: Academic Press, pp. 303-332.
- Kuruville S, Bustreo F, Kuo T, Mishra CK, Taylor K, Fogstad H 2016. The global strategy for women's, children's and adolescents' health (2016-2030): A roadmap based on evidence and country experience. *Bulletin of the World Health Organization*, 94: 398-400.
- Kyriacou C 2001. Teacher stress: Directions for future research. *Educational Review*, 53(1): 27-35.
- Lee DR, Yu MN 2005. The verification of a structural equation model on SES, siblings, household education resources and educational achievement: Using the empirical data of the 2001 TEPS. *Taiwan Journal of Sociology of Education*, 5(2): 1-48.
- Lee HC 2003. Review essay: The historical significance and interpretation of the Chinese examination system, on Benjamin Elman's book, a cultural history of civil examinations in late imperial China. *Historical Inquiry*, 32: 237-267.
- Liang YC 2011. The human resources of Taiwan University and college physical education teachers and sports facilities a follow-up study (2004-2008 years). *Sports Research Review*, 107: 29-36.
- Liao CM, Lee YL 2005. Parents' perceptions of influences on children's participate dance activities. *Sports Research Review*, 76: 73-77.
- Lin CY, Chiu HY, Yeh CC 2012. Impact of socio-economic backgrounds, experience of being disciplined in early childhood, and parenting value on parenting styles of preschool children's parents. *Chinese Journal of Guidance and Counseling*, 32: 123-149.
- Lin CY, Wu YY 2007. Impact of family and school factors on students' academic achievement: An analysis of hierarchical linear modeling. *Bulletin of Educational Research*, 52(4): 107-144.
- Lin HC, Huang KK, Tseng ML, Chen YH 2012. Effects of background variables, family social economic status on exercise behavior to elementary school senior students. *NCYU Journal of Physical Education, Health & Recreation*, 11(1): 184-191.
- Lin SC 2000. *Sociology of Education*. Taiwan: Chu-Liu Book Company.
- Lin WH, Chu YW 2013. A study on the relationship between family background and English academic. *Journal of National Taichung University: Humanities & Arts*, 27(1): 93-110.
- Liu SY 2004. *A Study on the Survey and Interview of Parenting Style and Adolescents' Behavior Disturbance*. Master's Thesis, Unpublished. Taiwan: National Cheng Kung University.
- Maccoby EE, Martin JA 1983. Socialization in the context of the family: Parent-child interaction. In: P Mussen (Ed.): *Handbook of Child Psychology*. Vol. 4. New York: Wiley.
- Martinez-Gonzalez MA 2003. Physical activity and psychological well-being. *Journal of Epidemiology and Community Health*, 57: 232.
- McGuire A, Seib C, Anderson D 2016. Factors predicting barriers to exercise in midlife Australian women. *Maturitas*, 87: 61-66.
- Norman A, Bente W 1992. Parental and peer influences on leisure-time physical activity in young adolescents. *Research Quarterly for Exercise and Sport*, 63(4): 341-348.
- Pong RS, Tsai SF, Chen YR, Wang G 2013. An investigation into the effect of the degree of exercise participation on job stress and physical self-description

- and social physique anxiety of elementary school teachers in Miao Li County. *The 13th International Conference: Trends Recreation and Sports Management Proceedings*, pp. 358-378.
- Shek D 1997. The relation of parent-adolescent conflict to adolescent psychological well-being, school adjustment, and problem behavior. *Social Behavior and Personality*, 25: 277-290.
- Shieh SC, Tsai CH, Mou CF 2010. Prospective of plan for sports and LOHAS. *National Universiade Sport Conference Conferences Proceedings*, 99: 295-304.
- Shih JB 1995. *Investigation of the Source of Happiness and Related Factors*. Master's Thesis, Unpublished. Taiwan: Kaohsiung Medical University.
- Shu BC, Lo WL, Lung FW 1999. The reliability and validity of a Chinese version of the parental bonding instrument. *Nursing Research*, 7(5): 479-489.
- Steele RM, Van Sluijs EM, Sharp SJ, Landsbaugh JR, Ekelund U, Griffin SJ 2010. An investigation of patterns of children's sedentary and vigorous physical activity throughout the week. *International Journal of Behavioural Nutrition and Physical Activity*, 7(1): 88.
- Tandon PS, Zhou C, Sallis JF, Cain KL, Frank LD, Saelens BE 2012. Home environment relationships with children's physical activity, sedentary time, and screen time by socio-economic status. *International Journal of Behavioural Nutrition and Physical Activity*, 9: 88.
- Tsai SL 2008. Construction of adolescent multi-domain self-efficacy scale in Taiwan. *Bulletin of Educational Psychology*, 39: 105-126.
- Tu TY 2008. Effects of sports participation on academic performance and emotional intelligence. *Sports Research Review*, 95: 82-87.
- Vallerand RJ, Rousseau FL, Grouzet FME, Dumais A, Grenier S, Blanchard CB 2006. Passion in sport: A look at determinants and affective experiences. *Journal of Sport & Exercise Psychology*, 28: 454-478.
- Venkatesh V, Thong J, Xu X 2012. Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1): 157-178.
- Wang CP 2005. The relationships of goal orientation, perceived ability and intrinsic motivation in swimmers. *National Universiade Sport Conference Conferences Proceedings*, 94: 296-304.
- Wang JH 1993. *A Study of Family Structure? Parent Rearing and Children Behavior*. Doctoral Dissertation, Unpublished. Taiwan: National Chengchi University.
- Wang MS, Huang RR, Chang CM 2015. The influence of intergenerational on physical activity participation. *Journal of Huei-Ming Special Education*, 2: 145-153.
- Wicker P, Breuer C, Pawlowski T 2009. Promoting sport for all to age-specific target groups: The impact of sport infrastructure. *European Sport Management Quarterly*, 9(2): 103-118.
- Woolger C, Power TG 1993. Parent and sport socialization: Views from the achievement literature. *Journal of Sport Behavior*, 16(3): 171-189.
- Wu YI 2007. Effects of school and non-school factors on aboriginal and non-aboriginal elementary students' academic achievement in Taitung, Taiwan. *Taiwan Journal of Sociology of Education*, 7(1): 29-67.
- Yang HK 2009. The influence of parents' socio-economic status on parental values and behavior: A test of the Kohn's theory on parents of junior high school students in Taitung. *Journal of University of Taipei: Education*, 40(2): 145-179.
- Yang YC, Huang YH, Lee TH, Chen HC, Chang CJ 2005. Factors predicting the exercise participation in community-dwelling population. *Taiwan Family Medicine Research*, 3(4): 125-136.
- Yu MN, Syu JJ, Chen PL 2010. The relationship between working hours and depression of elementary and secondary school teachers: Perspective of subjective well-being. *Bulletin of Educational Psychology*, 42(2): 229-251.

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