

Taiwanese Studies of the Social Psychology of Sports and Exercise in International Journals: A Quasi-Systematic Review

Introduction

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Purpose: To provide a general overview of Taiwanese scholars' publication history in sport and exercise psychology in international journals in the past 10 years. The aim was to encourage more young scholars to develop careers in this area. **Method:** Following the methodological suggestions by Cooper (2016) in research synthesis with some small modifications, we adopted a "quasi-systematic review" approach to collect, sort and analyze Taiwanese scholars' publications in the field of the social psychology of sport and exercise in the past decade. We only considered papers published in international journals and TSSCI journals. **Results:** The results of this review can be summarized in five points: (a) most Taiwanese scholars conducted their research in sport contexts; (b) most of the studies used undergraduates and adolescents as participants; (c) most scholars adopted quantitative methods to conduct their research, and the studies published in international journals had a higher proportion of longitudinal designs than those published in TSSCI journals; (d) 34 (17.71%) studies examined the issue of "interpersonal relationship in sport"; 51 (26.56%) studies investigated "leadership and group dynamics"; 74 (38.54%) investigated "motivation"; 107 (55.73%) investigated "social cognition in sport"; and 67 (34.90%) investigated the "influence of the environment"; and (e) among the studies published in international journals, 24 (28.57%) were ranked as Q1, 17 (20.24%) as Q2, 30 (35.71%) as Q3; and 13 (15.48%) as Q4. **Discussion and suggestion:** Future research may examine how social facilitation influences athletes and exercisers' behavior. Issues such as audience effect or home-court advantage are worth investigating. We also suggest that future studies may adopt cross-cultural or cross-ethnic designs. In addition, we suggest that future studies adopt multi-samples, multi-measures, and multi-timing data collection. Other research designs such as longitudinal interventions and qualitative-quantitative mixed design are recommended. Finally, we suggest that future studies use more diverse populations as research participants, especially older adults.

Keywords: *social cognition, social influence, sports and exercise psychology*

Extended Abstract

Sport and exercise psychology is the scientific study of human behavior in sports and exercise and the application of this knowledge to physical activities (Gill & Williams, 2008). Many researchers have focused on how the perceptions, behaviors, and emotions of sports participants (including students, athletes, and exercisers)

are affected by the actual, imagined, and implied presence of others. This sub-domain is called the social psychology of sport and exercise. Jowett and Lavalley (2007) classified the topics addressed in the social psychology of sports and exercise into five categories: (a) interpersonal relationships in sports; (b) leadership and team dynamics;

Table 1. Categories, topics, and subtopics of the social psychology of sports and exercise

Category	topic	subtopic
Interpersonal Relationship in Sport	Coach-athlete relationship, peer relationship	Trust, friendship in sport, gratitude
Leadership and Group Dynamics	Communication and interaction, cohesion, the impact of social integration, group culture	Transformational Leadership, paternalistic leadership, multidimensional model of leadership (MML), team cohesion, Mo-Chi, team conflict, group norms, coaching efficacy
Motivation	Theories and models of behavior, motivational climate	Achievement goal theory, theory of planned behavior (TPB), self-determination theory (SDT), passion, empowering and disempowering
Social Cognition in Sport	Perception of the self, interaction with society, perception of others	Physical self-concept, attitude, body image, collective efficacy, commitment, fear of failure, identity, self-efficacy, self-handicapping, self-presentation, social cognitive theory, social physique anxiety
Influence of the Environment	Behavior and reaction	Anxiety, social loafing, social support, culture, home-court advantage, social facilitation, parenting style, stress, gender

(c) motivation; (d) social cognition in sports, and (e) influence of the environment. The detailed categories, topics, and subtopics are shown in Table 1.

In recent years, Taiwanese scholars working in sport and exercise psychology have been very active in the international academic community. They have not only actively participated in various sports and exercise psychology activities at home and abroad, but also published their research in international journals. According to a report of the Ministry of Science and Technology of Taiwan (MOST) (Chen, 2018), among the seven sub-domains of sports science, sports and exercise psychology accounted for the largest proportion of articles published in international journals. There are several sub-fields in sports and exercise psychology (e.g., exercise psychology, motor learning and control, or applied sport psychology). This study adopted a quasi-systematic review to provide a general overview of Taiwanese scholars' publication history in sport and exercise psychology in international journals in the past 10 years. The aim was to encourage more young scholars to develop careers in this area.

Method

According to Cooper (2016), a research synthesis has

seven steps: (1) proposing the problem; (2) searching the literature; (3) collecting data; (4) evaluating the quality of the research; (5) analyzing and integrating the research results; (6) interpreting the results; and (7) writing the report. In recent years, the PRISMA-P protocol has become one of the most important criteria for evaluating research syntheses (Moher et al., 2015). However, as this study did not focus on a specific topic, we adopted a “quasi-systematic review” approach to collect, sort, and analyze Taiwanese scholars' publications in the field of the social psychology of sport and exercise in the past decade. We only considered papers published in international journals and TSSCI journals.

We searched six databases (SPORTDiscus, ScienceDirect, PsycINFO, MEDLINE, SocINDEX, and ERIC) using the following combination of keywords: “(sport OR exercise OR physical activity) AND (athlete* OR player*) OR coach* OR spectator* OR audience*) AND psychology AND Taiwan.” After restricting the search to international journals between 2009 and 2019, we found 658 records. To broaden our sample, we also searched all of the articles published in the 2009 to 2019 period in three Taiwanese Social Science Index (TSSCI) journals: Physical Education Journal, Sport & Exercise Research, and Bulletin of Sport and Exercise Psychology of Taiwan. This revealed an additional 885 records.

For the data analyses, we removed all of the duplicate records by checking the titles and abstracts. We also deleted studies that were unrelated to the social psychology of sports and exercise, for example, studies with antecedent and consequence variables that might be related to social psychology, but with a conceptual factor structure that was not directly related to the field. We also excluded studies that were not in either English or Chinese. In addition, to ensure the quality of our research data, the international journals' rankings were assessed using the SCImago Journal and Country Rank (SJR). The SJR is a journal evaluation index produced by the citation index database SCOPUS. It ranks each journal in SCOPUS, and the rankings of journals in various subject areas are presented in terms of quartiles, from the highest Q1 (top 25%) to the lowest Q4 (76% later). This study excluded studies that were published in unranked journals.

The final sample consisted of 192 studies (84 studies in international journals and 108 studies in Taiwanese journals) (Figure 1).

Results

Table 2 shows that the 84 international journal articles were in the following fields: 50 (59.52%) in competitive sports; 17 (20.24%) in exercise; 8 (9.52%) in physical education; 8 (9.52%) in sports audiences or consumers; and 1 (1.19%) in other fields. The 108 Taiwanese journal articles were in the following fields: 54 (50%) in competitive sports; 34 (31.48%) in exercise; 18 (16.67%) in physical education; 1 (0.93%) in sports audience or consumers; and 1 (0.93%) in other fields. Thus, competitive sports and fitness was the most popular field for Taiwanese scholars, accounting for about 80% of the articles in both international and Taiwanese journals.

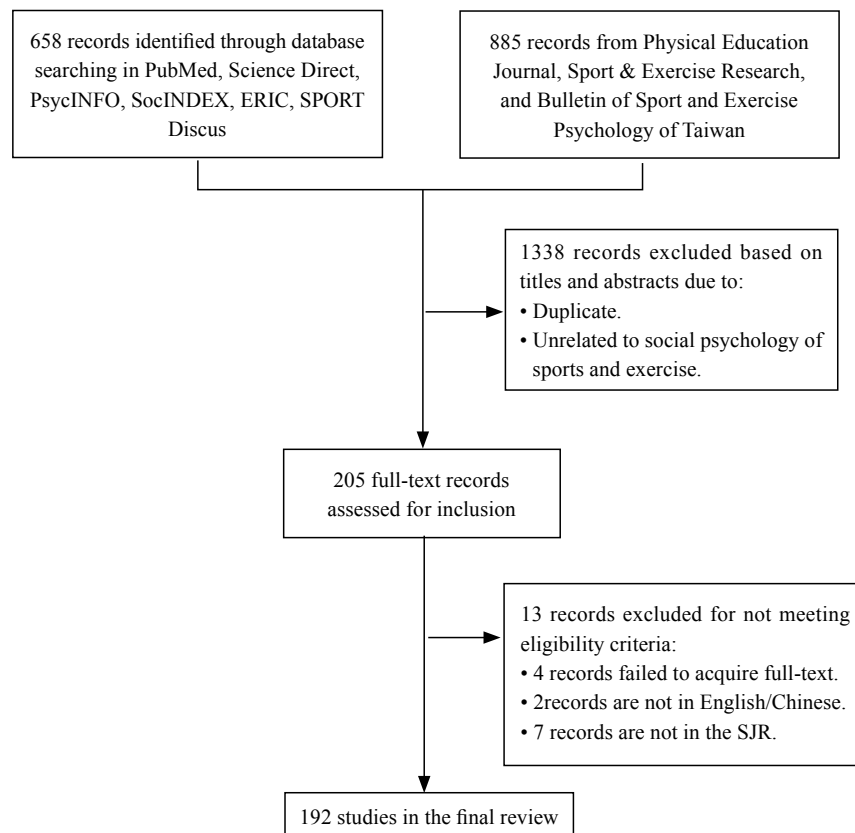


Figure 1. Process flow diagram for identification and inclusion of studies.

Table 2. Identification of Research Contexts

Classification	International journal	Taiwanese journal
Competitive sports	50 (59.52%)	54 (50%)
Exercise	17 (20.24%)	34 (31.48)
Physical education	8 (9.52%)	18 (16.67%)
Sports audience or consumers	8 (9.52%)	1 (0.93%)
Others	1 (1.19%)	1 (0.93%)
Total	84 (100%)	108 (100%)

Table 3. The age structure of the studies included

Age structure	International journal	Taiwanese journal
Elderly	4 (4.76%)	2 (1.85%)
Adults	18 (20.43%)	24 (22.22%)
Undergraduates	40 (47.62%)	44 (40.74%)
Adolescents	17 (20.24%)	36 (33.33%)
Children	4 (4.76%)	8 (7.41%)

Table 4. Study design comparison

Study design	International journal	Taiwanese journal
quantitative design	78 (92.86%)	92 (85.19%)
qualitative design	2 (2.38%)	13 (12.04%)
qualitative- quantitative mixed design	3 (3.57%)	1 (0.93%)
Review article	1 (1.19%)	2 (1.85%)
Psychometric	13 (15.48%)	17 (15.74%)
Theory conceptualization	1 (1.19%)	2 (1.85%)
Experimental intervention	1 (1.19%)	5 (4.63%)
Longitudinal design	14 (16.67%)	7 (6.48%)

Table 3 shows that in the international journals, 40 (47.62%) of the studies focused on university populations, 18 (20.43%) on adults, 17 (20.24%) on adolescents, 4 (4.76%) on the elderly, and 4 (4.76%) on children. Among the studies in the Taiwanese journals, 44 (40.74%) were on university populations, 36 (33.33%) on adolescents, 24 (22.22%) on adults, 8 (7.41%) on children, and 2 (1.85%) on the elderly. Thus, we found an overemphasis on university-aged participants in the field of the social psychology of sports and exercise in the past decade:

more than 40% of the studies in both international and Taiwanese journals focused on this group. Combined, the studies on university students and adolescents accounted for 67.86% and 74.07% of the studies in the international and Taiwanese journals, respectively, and there were very few studies of the elderly or children.

Table 4 shows that in the international journals, 78 (92.86%) of the studies used quantitative designs, 3 (3.57%) had qualitative/quantitative mixed designs, 2 (2.38%) were qualitative studies, and 1 (1.19%) was

a review article. In the Taiwanese journals sample, 92 (85.19%) had a quantitative design, 13 (12.04%) had a qualitative design, 2 (1.85%) were review articles, and 1 (0.93%) used a qualitative-quantitative mixed design. In the international journals sample, 13 (15.48%) of the studies involved psychometric measurements, 1 (1.19%) developed theoretical concepts, 1 (1.19%) was an experimental intervention, and 14 (16.67%) used a longitudinal design. In the Taiwanese journals sample, 17 (15.74%) studies involved psychometric measurements, 2 (1.85%) developed theoretical concepts, 5 (4.63%) were experimental interventions, and 7 (6.48%) used longitudinal designs.

Tables 5 and 6 present the classifications of the studies in international and Taiwanese journals, respectively. We analyzed the content of the papers, and then presented them according to the year of publication, category, and topic. If a study contained multiple topics,

they were all included in the count, thus a study could be counted multiple times.

Table 7 summarizes the number of studies published by Taiwanese scholars on the social psychology of sports and exercise in international journals from 2009 to 2018, including 24 (28.57%) in journals with Q1 rankings, 17 (20.24%) in journals with Q2 rankings, 30 (35.71%) in journals with Q3 rankings, and 13 (15.48%) in journals with Q4 rankings.

Concluding remarks

The results of this review can be summarized in five points: (a) most Taiwanese scholars conducted their research in sport contexts; (b) most of the studies used undergraduates and adolescents as participants; (c) most scholars adopted quantitative methods to conduct their research, and the studies published in international

Table 5. Comparisons of sub-areas in the social psychology of sport and exercise in international journals

Year	Interpersonal Relationship in Sport	Leadership and Group Dynamics	Motivation	Social Cognition in Sport	Influence of the Environment
2009	Coach-athlete relationship (1)		Achievement goal (2) Motivational climate (1) Passion (1)	Attitude (1) Fear of failure (2) Physical self-concept (1) Self-concept (1) Self-handicapping (2)	Anxiety (1) Parenting style (1)
2010	Peer relationship (1)		Achievement goal (2) Passion (1)	Attitude (1) Body image (2) Identity (1)	
2011			Achievement goal (1) Participation motivation (1) SDT (1) TPB (1)	Attitude (1) Identity (2)	Anxiety (2)
2012	Trust (1)		Achievement motivation(1)	Identity (2) Attitude (1)	Stress (1) Gender (1)
2013	Gratitude (1)	Paternalistic leadership(1) Team cohesion (1)	Achievement goal (1) SDT (1) TPB (1)	Attitude (1) Identity (1) Physical self-concept (2) Self-concept (1)	Anxiety (1) Social support (3) Sportsmanship (1)

(continue)

Table 5. Comparisons of sub-areas in the social psychology of sport and exercise in international journals (continue)

Year	Interpersonal Relationship in Sport	Leadership and Group Dynamics	Motivation	Social Cognition in Sport	Influence of the Environment
2014	Gratitude (2) Trust(1)	Group norms (2)	Motivational climate (1)	Attribution (1) Collective efficacy (1) Physical self-concept (1) Self-efficacy (1)	Sportsmanship (1)
2015	Gratitude (2) Peer relationship (1)	Leading behavior (1) Paternalistic leadership(1) Team cohesion (1)	Achievement goal (1) Learning motivation (1) Participation motivation (1)		Gender (1) Social support (1) Sportsmanship (1) Stress (1)
2016	Coach-athlete relationship (1) Gratitude (3) Team satisfaction (1)	Coaches' leadership behavior (1) Coaching efficacy (1)	Motivational climate (1) SDT (2)	Body image (1) Identity (2) Self-efficacy (1)	Parenting style (1) Sportsmanship (1) Stress (2) Anxiety (1) Social influence (2) Social support (3)
2017	Trust(1)	Coaching efficacy (1) Transformational leadership(1)	Motivational climate (1) SDT (1)	Attitude (1)	Stress (1)
2018	Team satisfaction(2)	Coaches' leadership behavior (2) Team cohesion (2)	Athletic mental energy (1) Motivational climate (1) SDT (1)	Attitude (2) Body image (3) Commitment (1) Identity (1) Physical self-concept (3) Self-concept (1) Self-presentation (1)	Culture (2) Social support (2) Stress (3)
Sum	Coach-athlete relationship (2) Gratitude (8) Peer relationship (2) Team satisfaction (3) Trust (3)	Coaches' leadership behavior (3) Coaching efficacy (2) Group norms (2) Leading behavior (1) Paternalistic leadership (2) Team cohesion (4) Transformational Leadership(1)	Achievement goal (7) Achievement motivation (1) Athletic mental energy (1) Learning motivation (1) Motivational climate (5) Participation motivation (2) Passion (2) SDT (6) TPB (2)	Attitude (8) Attribution (1) Body image (5) Collective efficacy (1) Commitment (1) Fear of failure (2) Identity (9) Physical self-concept (7) Self-concept (3) Self-efficacy (2) Self-handicapping (2) Self-presentation (1)	Anxiety (5) Culture (2) Gender (2) Parenting style (2) Social influence (2) Social support (9) Sportsmanship (4) Stress (8)
Total	18 (21.43%)	15 (17.86%)	27 (32.14%)	42 (50%)	34 (40.48%)

Table 6. Comparisons of sub-areas in the social psychology of sport and exercise in Taiwanese journals

Year	Interpersonal Relationship in Sport	Leadership and Group Dynamics	Motivation	Social Cognition in Sport	Influence of the Environment
2009	Team climate (1)	Coaches' leadership behavior (2) Group norms(1) Teachers' leadership style (1)	Achievement goal (2) Participation motivation (1) SDT(5) TPB (1)	Attitude (1) Collective efficacy (1) Commitment (1) Physical self-concept (1) Self-presentation (1)	Gender (1) Parenting style (1) Social support (1) Sportsmanship (1) Stress (1)
2010	Team climate (1)	Coaches' leadership behavior (2) Coaching efficacy (1) Team cohesion (1)	Participation motivation (1) Passion(1) SDT(3)	Body image (1) Commitment (2) Identity (2) Physical self-concept (2) Social physique anxiety (3)	Parenting style (1) Social influence (1) Social support (1) Sportsmanship (1)
2011	Peer relationship (1) Team climate (1)	Coaches' leadership behavior (2) Feedback (3) multidimensional model of leadership (1)	Achievement goal (2) Learning motivation(2) Motivational climate (1) Participation motivation (1) SDT(2)	Body image (1) Collective efficacy (1) Commitment (1) Self-concept (1) Self-efficacy (3) Social physique anxiety (2)	Gender (1) Social support (2)
2012	Coach-athlete relationship (1) Peer relationship (3)	Coaches' leadership behavior (1) Feedback (2) Team cohesion (1)	Achievement goal (1) Expectancy-value (1) Learning motivation (1) Passion(1) SDT (1)	Body image (1) Physical self-concept (5) Self-efficacy (1) Self-presentation (1) Social cognitive theory (1) Social physique anxiety (4)	Gender (2) Parenting style (1) Social support (1) Sportsmanship (1)
2013	Classroom climate (1) Coach-athlete relationship(2) Trust (1)	Coaches' leadership behavior (2) Multidimensional model of leadership (1) Teachers' leadership style (1) Team culture (1)	Achievement goal (1) Motivational climate (1) SDT(2)	Body image (2) Fear of failure (1) Identity (1) Self-concept (1) Self-handicapping (1)	Gender (1) Social support (2)
2014	Coach-athlete relationship(1)	Mo-chi (1)	Achievement goal (1) Motivational climate (1) Passion (1) SDT(4) TPB (1)	Body image (1) Self-efficacy (1) Self-handicapping (1) Social physique anxiety (1)	Stress (1)
2015	Coach-athlete relationship(1)	Coaches' leadership behavior (1) Paternalistic leadership (2) Team cohesion (1)	SDT(3) TPB (1)	Physical self-concept (1) Self-concept (1) Social physique anxiety (3)	Social support (1) Stress (2)
2016	Peer relationship(1)	Paternalistic leadership (1)	SDT(1)	Body image (1) Collective efficacy (1) Self-efficacy (1) Social cognitive theory (1)	Gender (1) Parenting style (1) Social support (2)

(continue)

Table 6. Comparisons of sub-areas in the social psychology of sport and exercise in Taiwanese journals (continue)

Year	Interpersonal Relationship in Sport	Leadership and Group Dynamics	Motivation	Social Cognition in Sport	Influence of the Environment
2017	Coach-athlete relationship(1) Trust(2)	Coaches' leadership behavior (2) Mo-chi (1) Team culture (2)	Achievement goal (1)	Fear of failure (1) Self-concept (1) Self-efficacy (1) Self-handicapping(2) Social cognitive theory (1)	Anxiety (2) Stress (1)
2018		Paternalistic leadership (1) Team cohesion(1)	Motivational climate (1) SDT(1)	Fear of failure (1) Identity (1) Physical self-concept (1) Social physique anxiety (1)	Social support (1) Sportsmanship (1)
Sum	Classroom climate (1) Coach-athlete relationship (6) Peer relationship (5) Team climate (3) Trust(3)	Coaches' leadership behavior (12) Coaching efficacy (1) Feedback (5) Group norms (1) Mo-chi (2) Multidimensional model of leadership (2) Paternalistic leadership (4) Teachers' leadership style (2) Team cohesion(4) Team culture (3)	Achievement goal (8) Expectancy-value (1) Learning motivation(3) Motivational climate (4) Participation motivation (3) Passion (3) SDT(22) TPB (3)	Attitude (1) Body image (7) Collective efficacy (3) Commitment (4) Fear of failure (3) Identity (4) Physical self-concept (10) Self-concept (4) Self-efficacy (7) Self-handicapping (4) Self-presentation(2) Social cognitive theory (3) Social physique anxiety (14)	Anxiety (2) Gender (6) Parenting style (4) Social influence (1) Social support (11) Sportsmanship (4) Stress (5)
Total	18(16.67%)	36 (33.33%)	47 (43.52%)	65 (60.19%)	33 (30.56%)

Table 7. Statistics of publication rankings

Year	Q1	Q2	Q3	Q4	Sum
2009	2	1	5	1	9
2010	0	3	0	2	5
2011	1	1	3	1	6
2012	0	1	1	2	4
2013	3	0	4	3	10
2014	0	1	5	1	7
2015	3	1	3	1	8
2016	8	5	1	0	14
2017	2	0	3	0	5
2018	5	4	5	2	16
Total	24	18	30	13	84

journals had a higher proportion of longitudinal designs than those published in TSSCI journals; (d) 34 (17.71%) studies examined the issue of “interpersonal relationships in sport”; 51 (26.56%) investigated “leadership and group dynamics”; 74 (38.54%) investigated “motivation”; 107 (55.73%) investigated “social cognition in sport”; and 67 (34.90%) investigated the “influence of the environment”; and (e) among the studies published in international journals, 24 (28.57%) were ranked as Q1, 17 (20.24%) as Q2, 30 (35.71%) as Q3, and 13 (15.48%) as Q4.

This study had some limitations. First, this study did not focus on a single topic, so it was not possible to fully follow the PRISMA protocols. The data were not presented in the normative way: participants, interventions, comparisons, and outcomes (PICO). Second, using the keyword “Taiwan” to search for publications by Taiwanese scholars only identified records that contained the name of a school or institution in Taiwan. Publications by Taiwanese scholars working or

studying abroad could have been missed. Third, when a study could potentially have multiple classifications, they were classified by the subjective judgment of the authors. Finally, to ensure research quality and limit the size of the sample, only peer-reviewed publications were included. Only international journals ranked as Q1-Q4 journals in the SJR were included, and only the three major TSSCI journals were included.

Future research may examine how social facilitation influences athletes and exercisers’ behavior. Issues such as audience effect or home-court advantage are worth investigating. We also suggest that future studies adopt cross-cultural or cross-ethnic designs. In addition, we suggest that future studies adopt multi-samples, multi-measures, and multi-timing data collection. Other research designs such as longitudinal interventions and qualitative/quantitative mixed design are recommended. Finally, we suggest that future studies use more diverse populations as research participants, especially older adults.

