

The Effect of Results on Table Tennis Games on Athletic Motivation

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Abstract

This study was investigated the relationship between the results of table tennis games and the changes in athletic motivation. The subjects were 19 male and 16 female Japanese table tennis players (from 13 to 22 years old) who participated in the competition to select the national junior team. The questionnaire used in this investigation to assess athletic motivation consisted of 146 items and was designed by the Japan Amateur Sports Association and called the Taikyo Sport Motivation Inventory (TSMI). The TSMI was administered to the subjects twice, before the beginning and one day before the end of competition. The changes in athletic motivation were considered from two aspects of results of games, such as outcome score and performance score. Data were analyzed using descriptive analysis and rank-order correlation. The results showed that male players who had a low outcome score had more athletic motivation than the players who had a high outcome and female players who had a low outcome score had less athletic motivation than the players who had a high outcome after the competition. And male players who had a high performance score had more athletic motivation, but there was less athletic motivation in male players who had a low performance score. In the performance score, there were no differences among female players. Results were discussed in relation to coaching, such as post competition debriefing. In advising players after competition, it suggested that coaches have to consider not only outcome but also performance.

Key words: table tennis players, athletic motivation, outcome score, performance score

Purpose

The athletic motivation has been a topic of prime importance to coaches. Research findings suggests that the results of a game is one of the factors that strongly influence the athletes after games. According to Martens (4), an important role of coaches is to encourage athletes to evaluate the results of games correctly. Then the feedback from the coaches after competition might considerably affect athletic motivation. There have been many studies on the success-failure attributions in competition (1,2,7,8,11) and

Table. Seven clusters and the contents of 17 subscales on TSML.

Cluster	Name of subscales	Examples of items in each subscales
1st.	Challenge to Higher Goals	56. When I have a goal, I am determined to achieve my goal to the very end.
	Will to Acquire Skills	2. When I am learning new skill, I continue my effort to the very end.
	Overcoming the Difficulty	58. When I am in a tight situation, I try to overcome the situation with all of my strength.
	Motivation for Practice	106. After my daily practice, I always remain behind to train by myself.
2nd.	Cool Judgment	7. During a crucial point of the game, I execute my strategic decisions very well.
	Mental Toughness	136. During a competitive situation, I have the motivation to win.
	Fighting Spirit	139. During a losing situation, I have the motivation to win.
3rd.	Value of Athletics	125. Competition is my life.
	Planning	89. When I set an important goal, I make a detailed plan on how to achieve that goal.
	Attribution for Effort	17. I often feel that effort is a more important factor than capacity or capability when I win or when I set a record.
	Intellectual Interest	67. I always read and study books and magazines pertaining to my major sports on my own time.
4th.	Will to Win	4. I think that the purpose of sports is to win, rather than to enjoy.
5th.	Coachability	45. My performance level is based on what the coach has instructed me to do.
	Inadequate Adjustment for Coach	18. I have a hostile attitude toward my coach.
6th.	Failure Anxiety	23. I sometimes get tense during a game because I feel that I might make mistakes.
	Tension Anxiety	6. If there is a lot of pressure on the game, there is a bigger chance for me to make more mistakes.
7th.	Looseness	123. I try to get enough rest when I am competing.

the relationship between the attributions and achievement motivation (3). However, few studies have endeavored to clarify athletic motivation concerning the results of games that could be observed by coaches.

The purpose of this study was to investigate the relationship between the results of table tennis games and athletic motivation. The result of this study might be of great use in connection with coaches' treatment of athletes after games.

Method

Subject The subjects were 19 male and 16 female Japanese table tennis players (from 13 to 22 years old) who participated in the competition held in September, 1988 to select the national junior team to participate in table tennis competitions in Europe.

Questionnaire The questionnaire used in this investigation to assess athletic motivation consisted of 146 items and was designed by the Japan Amateur Sports Association (5,6) and called the TSMI. The TSMI has 17 subscales which each contain 8 items, and one Lie scale has 10 items (cf. Table).

The TSMI was administered to the subjects twice, before the beginning and one day before the end of competition. Because the subjects played round robin tournaments, they performed about 14 games one day before the end of competition.

Data Analysis

Outcome Scores: The outcome score in this study was determined by the ratio of wins to losses, and calculated by the number of the winning games divided by the number of games entered the second time the TSMI was administered.

Performance Scores: The performance score in this study was determined by the difference between the result expected from the 1988's ranking of the Japan Table Tennis Federation and the actual results of the selection games. The performance score was calculated by the following procedure. The players were ranked again according to the ranking of the 1988 Japan Table Tennis Federation. Then if one player lost to a lower ranking player, the difference between the rankings of the two players was given to the subject as minus points. On the other hand, when a player won against a higher ranking player, the difference between the ranking was given as plus points. When a third ranking player lost to a fifth ranking one, the former lost 2 points and the latter gained 2 points. Except for these cases the performance score was given as 0. The scores were added to those of each subject in all games.

Changes in Athletic Motivation: The raw TSMI scores were converted into stanine scale (standard scores with nine categories). And the data before the beginning of the competition were called the pre-competition score and the data one day before the end of the competition were called the post-competition score. In the 17 subscales of TSMI, the pre-competition score was compared with post-competition score. The subscales were classified into the following three categories: (a) post-competition score higher than pre-competition score (change positively), (b) post-competition score lower than pre-competition score (change negatively), or (c) post-competition score equal to pre-competition score (no change), and the change in athletic motivation was determined by the frequency with which each player was in each of the three categories.

Results

Descriptive Analysis

Outcome Score: To characterize the relationship between the outcome score and the changes in athletic motivation, 2 two-by-three band graphs for male and female players are shown in Figure 1. The column factor refers to the change positively, negatively, or no change. The outcome scores have been divided into high and low values, using the value of 0.5 as the cutoff point. Inspection of the data in Figure 1 reveals that

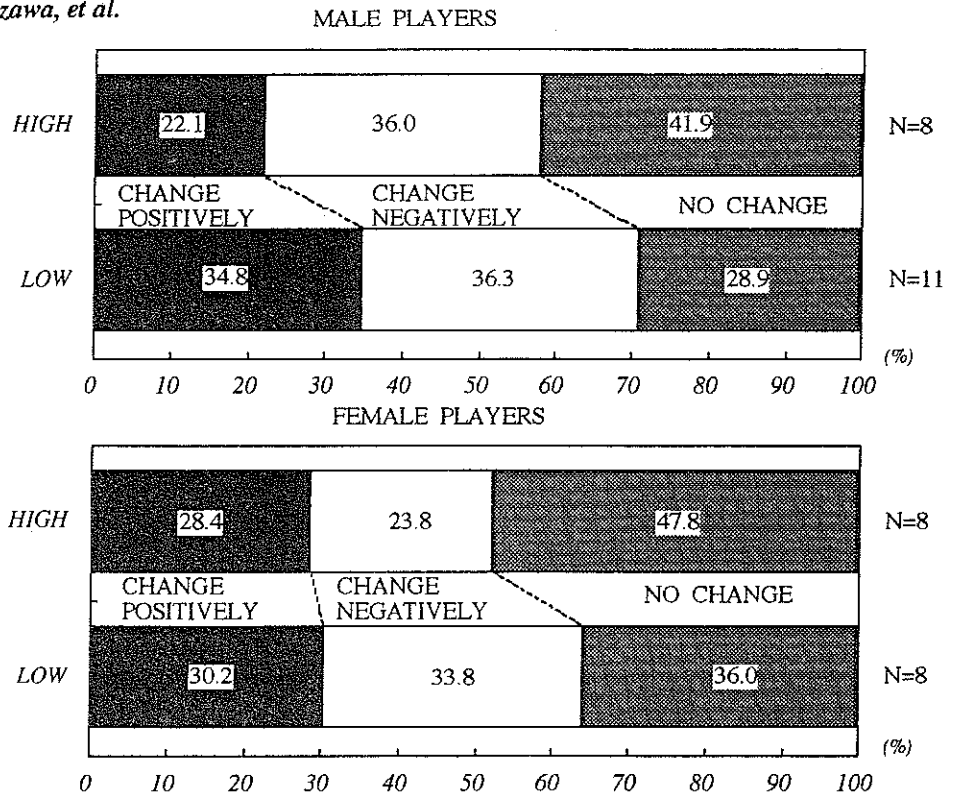


Figure 1. The percentage of changes in TSMI subscales by high and low outcome groups for male and female players.

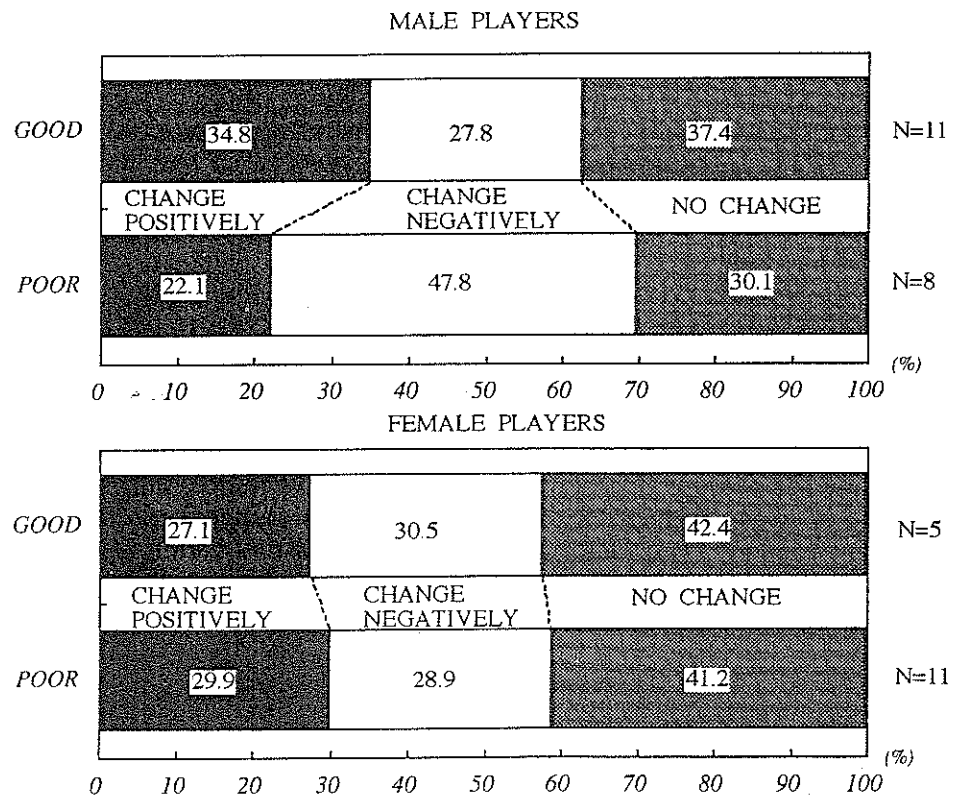


Figure 2. The percentage of changes in TSMI subscales by good and poor performance groups for male and female players.

the high outcome group had a smaller percentage on subscales 'change positively' than the low outcome group among males. However, among females the low outcome group had a bigger percentage on 'change negatively' than the high outcome group. The results indicated that in male the players who had a low outcome score showed more athletic motivation after the games than the players who had a high outcome. The female players who had a low outcome score showed less athletic motivation after the games.

Performance Score: To characterize the relationship between the performance score and the changes in athletic motivation, 2 two-by-three band graphs for male and female players are shown in Figure 2. The column factor refers to the change in athletic motivation. The performance scores have been divided into good and poor values, using the value 0 as cutoff point. As is shown in the male data in Figure 2, the good performance group had a bigger percentage on subscales changed positively than the poor performance group. The percentage of those changed negatively in the poor performance group was, however, bigger than that of the good performance group. The results indicated that the male players who had performed well showed more athletic motivation after the games. On the other hand, the athletic motivation of the male players who had performed poorly changed negatively. This result was different from that obtained from the outcome score. However, there was no difference between female players in the good and poor performance groups.

Correlative Analysis To examine the relationship between the outcome score and changes in athletic motivation, and the performance score and changes in athletic motivation, the rank-order correlation coefficients used in the Kendall's tau were calculated for male and female players. On the changes in athletic motivation, players were ranked according to the frequencies of subscales. There were no significant correlations between the outcome scores and changes in athletic motivation. However, there were significant correlations between the performance scores and the changes in athletic motivation for male players only (change positively: $\tau = 0.350$ $p < .05$, change negatively: $\tau = -0.360$ $p < .05$). This showed that the male players who performed better had changed positively on more subscales after the competition, and the male players who performed worse had changed negatively on more subscales. However, in female players no such differences were found in this study.

Discussion

This study considered the change in athletic motivation from two aspects of results of games (outcome score and performance score). The results indicated that male players who had a low outcome score had more athletic motivation and female players who had a low outcome score had less athletic motivation after the competition. And male players who had a high performance score had more athletic motivation, but there was less athletic motivation in male players who had a low performance score. In the performance score, there were no differences among female players.

Generally, it supposed that the athletic motivation should not increase after losing a game or after failure. But the results of this study showed the opposite pattern in the change in athletic motivation in male players. Therefore, it could not correctly evaluate the change in athletic motivation in male players after the competition based on the results of games (outcome scores). On the other hand, in female players it seemed that the change in athletic motivation was affected by their game results, that is, the players who had low outcome scores had less athletic motivation.

When the coaches advise the players after a competition, they need to consider not only the outcome but also performance. As to such advice, Martens (4) indicated the following four categories of postcompetition debriefing from causal attribution: 1) win and play well, 2) win but play poorly, 3) lose but play well, and 4) lose and play poorly. In this study refer to this category, it was supposed that in male players athletic motivation is affected by whether they play well or not, and in female players by whether they

lose or not.

Therefore, in advising players after competition, it suggested that coaches have to consider not outcome but performance in male players. On the other hand, in female players coaches have to consider not performance but outcome, with regard to athletic motivation.

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