

## サッカーチームにおける選手の相互評価のための 一対比較法と順位法の比較

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### Comparison of the Method of Paired Comparison and the Rank Order Method to Assess Peers in a Soccer Team

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#### Abstract

Two methods, method of paired comparison and rank order method, were used to assess peers in a soccer team from various aspects using a personal computer. Main purpose is to identify characteristics of paired comparison method compared to rank order method. Ten regular players were assessed by 16 players of the same team including regular players. For the method of paired comparison, the number of choices concerning all pairs were totalized for each aspect and a rank order was calculated. For the rank order method, the judging players evaluated each regular player on a seven point scale and temporary rank order was established and shown on CRT. The subjects arranged the order and made a final order for each aspect. The rank order of each aspect was obtained with the sum of the ranks which each judging player gave. Rank order correlation coefficients of two orders by the two methods were calculated for each aspect (Table 1; top). The correlations were greater than 0.95 except for in one aspect, shooting, indicating that the two methods measured the same factors.

For further analysis, the choices of all pairs judged for each aspect were totalized for each judging player and the rank order was calculated. This rank was compared with the rank which each judging player gave by the rank order method (Table 1: bottom). The results indicated that the correlation was high within each subjects with few exceptions. Using the ranks, concordance coefficients were calculated for each aspect. For the rank order method, the rank each judging player gave was used to calculate the concordance coefficients. The values and variation of the values were similar between the two methods (Table 2). Change in the mean pair judging time from one aspect to the next aspect was similar to that of the arranging time (Table 3). This was due to the fact that seven - point - scaling was an absolute evaluation, and arranging and pair judging were relative evaluations.

These results indicate that both methods are useful. The rank order method requires less time to complete and the data are easily calculated. However, the rate of contradictory answers was not measured and the final order was open for subjects so that the order could be recorrected again after they had answered. Therefore, the paired comparison method was considered to be more suitable for team analysis. Using this data, the team condition was analyzed.

**Key Words :** team analysis, peer assessment, rank order method, paired comparison method