

Immediate Effects of Win-Loss on Perceptions of Cohesion in Intramural and Intercollegiate Volleyball Teams

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Abstract:

In two separate studies, members of 16 women's intramural volleyball teams ($n = 94$) and six women's intercollegiate volleyball teams ($n = 68$) completed pre-and postmatch questionnaires to determine the immediate effects of success-failure on perceptions of cohesion. A 2×2 (win-loss \times pre-post) MANOVA on seven cohesion items yielded significant win-loss and pre-post main effects, and a significant win-loss by pre-post interaction for intramural teams. Univariate analyses indicated that winners increased and losers decreased in cohesion ratings from pre- to postmatch on three variables: level of teamwork, cohesion, and sense of belonging. Multivariate analyses yielded no significant effects for intercollegiate teams, although a univariate interaction similar to that in intramural teams was found for the cohesion variable. The results suggest that perceptions of cohesion are influenced by the immediate effects of win-loss.

Article:

An area which sport psychologists and coaches are concerned with is perceptions of cohesion. One variable believed to influence cohesion is performance outcome. Season performance, in terms of win-loss, seems to have a consistent influence on cohesion (Bird, 1977; Landers & Lueschen, 1974; Martens & Peterson, 1971). Although researchers generally define performance outcome or success-failure in terms of season win-loss, the influence of a single contest win-loss in the development of cohesion has not been explored. Just as individual affect states are influenced by a single win or loss, it is conceivable that winning or losing a single competitive event effects a change in the immediate state of cohesiveness which accumulates over the season. This investigation examined the immediate effects of performance outcome on perceptions of cohesion in two separate studies.

In sport psychology research, the cohesion-performance relationship has been examined in two ways: the influence of cohesion on performance and, conversely, the influence of performance success on cohesion. Research on the influence of cohesion on performance outcome has yielded equivocal results. Martens and Peterson (1971) examined intramural basketball players and found that high cohesive intramural basketball teams won significantly more games than low cohesive teams, and several other researchers (Bird, 1977; Nixon, 1976; Widmeyer & Martens, 1978) have confirmed the positive cohesion-performance success relationship. Melnick and Chemers (1974), however, reported no relationship between preseason cohesion and performance outcome; significant negative relationships were also reported by Landers and Lueschen (1974), Lenk (1966), and McGrath (1962).

As several authors (Carron & Chelladurai, 1981; Gill, 1977a; Landers & Lueschen, 1974) have noted, the equivocal findings are partially explained by considering the nature of the group tasks. Positive cohesion-performance relationships are generally reported for interactive tasks and negative relationships for group tasks that require minimal interaction among members. On the other hand, studies examining the influence of performance success on cohesion have yielded consistently strong positive relationships. Much research has demonstrated that postseason cohesion is higher on successful teams than on unsuccessful ones (Landers & Crum, 1971; Nixon, 1976; Peterson & Martens, 1972). More direct tests of causality using cross-lagged panel designs indicated a positive relationship between performance and cohesion but concluded that cohesiveness

was not an important determinant of performance (Bakeman & Helmreich, 1975; Carron & Ball, 1977). Gill (1977a), in an extensive review of the cohesion literature, has concluded that generally performance success leads to greater cohesion, but there is little support for the idea that cohesive teams are more successful.

Studies of the performance outcome-cohesion relationship have generally defined performance outcome in terms of season performance or the accumulated total of wins and losses. No studies have examined the influence of a single win or loss on cohesion. Considerable research demonstrates that individual affect states are influenced by immediate performance outcome. Success leads to increased positive affect states such as satisfaction (Gill, 1977b), whereas failure results in greater state anxiety (Martens, 1977; Scanlan & Passer, 1978). It is possible that cohesion, which is essentially a group affect state, may also be susceptible to success/failure influences.

The present investigation examined the immediate effects of performance outcome on perceptions of cohesion in two separate studies. It was hypothesized that winning would enhance perceptions of cohesion while losing would detract from them.

Method

Subjects and Design

Participants in the first study included 94 women on 16 intramural volleyball teams at The University of Iowa. All teams who were competing during the fourth week of intramurals were sampled at a single match. The fourth week was the mid-season and was selected to avoid beginning- and end-of-season effects. Because the teams were competing against each other, the study resulted in the same number of winning and losing teams.

In the second study, the sample included six of eight women's intercollegiate volleyball teams participating in a tournament held in early October, approximately a third of the way into the competitive season. Although there were three winning and three losing teams, only two competed against each other. The other two teams at the tournament chose not to participate, resulting in a sample of 68 women athletes. Teams played only two games in pool play matches, resulting in ties for four teams. Teams were instructed to base their responses on the last game, but lack of clear performance outcomes may have influenced the data.

In both studies, teams were administered a questionnaire immediately before and after a single match. The design in both studies was a 2 x 2 (win-loss x pre-post) MANOVA on seven dependent variables.

Questionnaire

The questionnaire consisted of five of the questions from the Martens and Peterson (1971) Sports Cohesiveness Questionnaire. Their questionnaire employed multiple measures of cohesion and examined three aspects: individual-to-individual relationships, individual-to-group relationships, and evaluation of the group as a unit. Only those items directly assessing the group (evaluations of teamwork and closeknittedness) and attraction-to-group (sense of belonging, enjoyment, and value of membership) were used. Two questions designed by the investigators were also included. "How would you rate the cohesion of your team" was constructed as a direct measure, and "How would you rate the overall friendship levels within your team" requested individual-to-group ratings.

Each question consisted of a 9-point bipolar scale with one identified as high and nine as low. Identical cohesion questions were used pre- and postcompetition.

Procedures

In the intramural study, each team received a letter requesting cooperation when the team roster was submitted. Managers were subsequently contacted to confirm the teams' participation at a specified time. The intercollegiate coaches were contacted by mail to request their participation. Follow-up letters designated the time and place for administration of the questionnaires.

Prematch questionnaires were distributed to each intramural team on the playing court immediately before the commencement of the first game. Intercollegiate teams received their questionnaires approximately 1 hour before the match due to coaches' requests for uninterrupted warmups. The investigator read the directions to the participants and allowed time for questions. All subjects were instructed to complete the questionnaire according to how they felt at that particular time. For both studies, the teams were asked to remain following competition and the postmeasure was administered on the playing court. Subjects were again directed to answer according to how they felt at the particular time.

Results

Intramural Teams

For the intramural teams, the MANOVA results demonstrated significant main effects for win-loss, $F_{(7, 86)} = 5.33, p < .001$, and prepost, $F_{(7, 86)} = 5.73, p < .001$, and the hypothesized win-loss by pre-post interaction, $F_{(7, 86)} = 3.69, p < .01$. To assist in interpreting the multivariate effects, univariate Fs and discriminant analysis results were examined. Univariate win-loss main effects were found with the level of teamwork measure, $F_{(1, 92)} = 27.80, p < .001$, which had the largest standardized discriminant weight (.89), and the cohesion measure, $F_{(1, 92)} = 19.01, p < .001$, which also had a relatively high discriminant weight (.44). Members of successful teams rated level of teamwork higher ($M = 3.06$) than members of unsuccessful teams ($M = 4.91$), and the cohesion item showed significant differences between winners ($M = 2.72$) and losers ($M = 4.17$). Although win-loss main effects were significant in only two questions, all seven items were rated higher by winners than losers.

Univariate pre-post main effects were found with four variables, and those four variables also had the four largest discriminant weights. Responses to the closely knit item, $F_{(1, 92)} = 8.79, p < .01$, showed lower cohesion at the prematch ($M = 3.41$) than at the postmatch ($M = 3.08$). Value of membership increased significantly, $F_{(1, 92)} = 19.8, p < .001$, from before ($M = 3.63$) to after ($M = 3.08$) competition, as did sense of belonging, $F_{(1, 92)} = 4.79, p < .05$, with prematch ratings demonstrating less cohesion ($M = 3.04$) than postmatch ratings ($M = 2.72$). However, the friendship measure revealed a significant, $F_{(1, 92)} = 6.28, p < .01$, reversal in ratings, with postmeans ($M = 2.04$) decreasing from premeans ($M = 1.79$).

The multivariate interaction was the effect of primary interest in this study. The hypothesis that winners would increase in cohesion at the postmeasure while losers would decrease was evidenced in significant univariate interactions for level of teamwork, $F_{(1, 92)} = 39.34, p < .01$, cohesion, $F_{(1, 92)} = 5.92, p < .05$, and closely knit, $F_{(1, 92)} = 4.79, p < .05$. The teamwork item clearly contributed to the multivariate interaction, as the discriminant weight (.94) was much higher than all others; however, the pattern of the interaction, illustrated in Figure I, was similar for all three items. In all cases, winners rated themselves slightly more cohesive than losers at the prematch measure, but that difference increased substantially postmatch.

Table 1
Means and Standard Deviations for
Pre- and Postmatch Cohesion Ratings of
Winning and Losing Intramural Teams

Item	Win				Loss			
	Pre		Post		Pre		Post	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Closely knit	3.23	1.67	2.76	1.67	3.59	2.09	3.40	2.03
Value of membership	3.47	1.95	2.74	1.59	3.79	2.33	3.42	2.22
Contribution based on enjoyment	1.91	1.47	1.83	1.32	2.23	1.70	2.53	1.74
Sense of belonging	3.08	2.08	2.47	1.46	3.00	2.16	2.98	1.82
Level of teamwork	3.38	1.64	2.75	1.48	4.31	2.29	5.51	2.15
Cohesion	2.89	3.55	2.55	1.47	4.00	1.78	4.34	2.11
Friendship	1.66	1.05	1.82	1.28	1.91	1.32	2.21	1.46

Note. 1 indicates high cohesion, 9 indicates low cohesion.

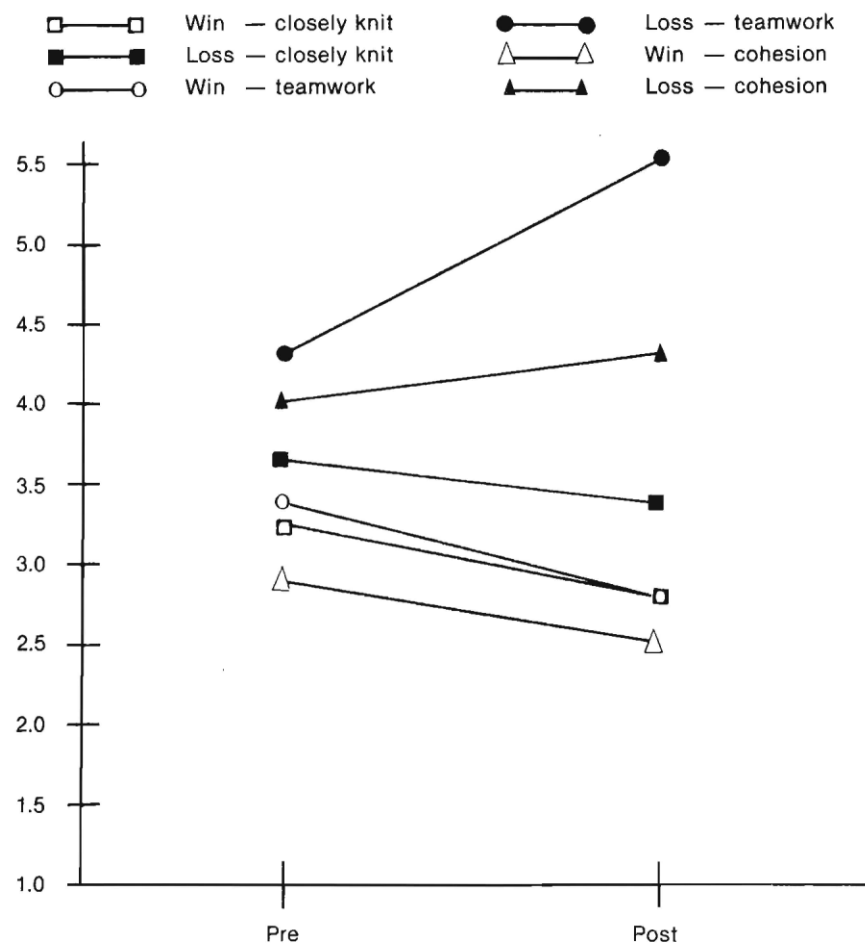


Figure 1—Pre- and postmatch ratings for winning and losing intramural teams.

Winners increased their ratings for all three variables from pre- to postmatch, whereas losers decreased in their teamwork and cohesion ratings and increased less than winners in their closely knit ratings.

Further univariate analyses with individuals nested in teams were performed to assess team effects. There was a team main effect on all seven variables, indicating that teams differed. However, all main effects and interactions previously noted remained significant with the team factor introduced.

Intercollegiate Teams

Multivariate analysis of the intercollegiate responses revealed no significant effects. Without a multivariate effect, univariate analysis would not normally be considered, but a significant, $F_{(1, 66)} = 5.65, p < .05$, univariate interaction on the cohesion item is noted because of its similarity to the interaction reported in the in-

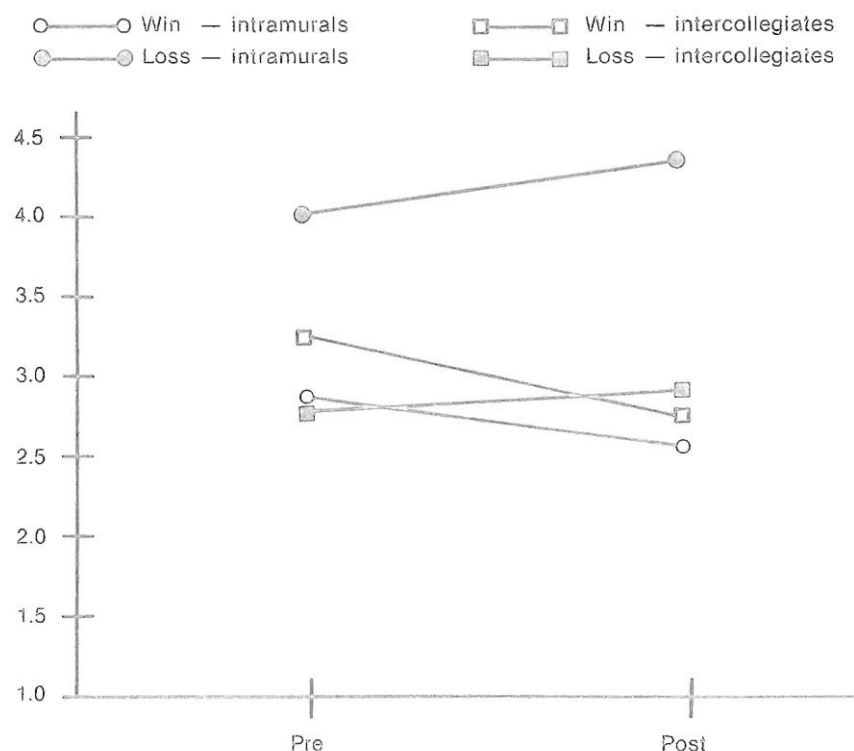


Figure 2—Pre- and postmatch ratings on the cohesion item for winning and losing intramural and intercollegiate teams.

tramural study (see Figure 2). Losers ($M = 2.81$) rated themselves as more cohesive than winners ($M = 2.73$) at the premeasure, but as in the intramural study, losers' cohesion ratings decreased ($M = 2.96$) and winners increased ($M = 2.80$) at the post-measure. No win-loss or prepost main effects were found with univariate analyses.

Further analyses with subjects nested in teams demonstrated the same interaction for the cohesion measure as well as team main effects for the closely knit, cohesion, and level of teamwork items. The only other effect was a team by pre-post interaction on the teamwork measure indicating that some teams changed more than others on that item.

Discussion

The findings from the intramural study confirmed the predictions and are in line with the research on the performance outcome-cohesion relationship (Bird, 1977; Peterson & Martens, 1972). The present findings indicate that cohesion perceptions are influenced by success or failure in a single contest.

The hypothesis that winners' perceptions of cohesion would be enhanced and losers' decreased was supported by a multivariate interaction and significant univariate interactions for three of the items. Teamwork ratings, the major contributor to the multivariate interaction, may reflect strategy and game play as well as cohesion and thus may be more susceptible to performance influences than other cohesion items. With the sense of belonging question, although there were no differences at the premeasure, winners did indicate an increase in cohesion, and losers a decrease at the postmeasure. The closely knit, value of membership, and enjoyment items, although not significant, were rated higher by winners than losers at the pre-measure (see Table 1). Ratings on the friendship item, however, remained consistent, with both winners and losers showing decreases in cohesion at the postmeasure.

The pre-post main effect reflects a general increase in cohesion that seems due to the tendency for winners to increase more than losers to decrease. Win-loss main effects were significant in only two items; however, all but the sense of belonging question were rated higher for winners than losers at both the pre- and postmeasures. It is possible that teams which won their matches may well have won more previous matches, resulting in a buildup in cohesion for successful teams and a deterioration in cohesion for unsuccessful teams.

Although the multivariate interaction for the intercollegiate teams was not significant, the cohesion measure did demonstrate a significant univariate interaction. The clear effects of win-loss on the cohesion rating in both studies suggests that asking the direct question may be an appropriate research tactic.

The lack of further commonalities between the two studies may be an indication of several items. Deliberately formed groups, such as intercollegiate teams, have task-specific goals, selected participation, and an extended length of time as a group. Spontaneously formed teams, which most intramural teams are, consist of players who participate voluntarily, meet occasionally, and have socially oriented goals, all contributing to less stability in structure (Donnelly, Carron, & Chelladurai, 1978). More stable teams (such as the intercollegiate teams) are more likely to have an established level of cohesion and thus are less susceptible to the influence of a single game win or loss.

A second consideration is the fact that four of the six intercollegiate teams won one game and lost one game. This rather ambiguous win or loss likely had a weaker influence on the players' responses than the clear win or loss experienced by the intramural teams. A replication in a situation with clear performance outcomes may provide more valid results for intercollegiate teams.

The differing patterns of findings with the different items suggest the need to consider other cohesion measures. Directly asking for a cohesion rating seemed effective, but further work is needed to clarify the construct of cohesion and develop psychometrically sound operational measures. In sum, immediate perceptions of cohesion were influenced by performance outcome. Traditionally, cohesion has been considered relatively stable, but the current study suggests a more changeable aspect. Researchers who are investigating long-term effects of performance on cohesion or who want a measure that reflects a stable perception should not take measures immediately following an event. The present results also indicate the need to examine short-term changes in cohesion, including changes through the course of a season. One factor to consider in the future is the stability of the observed immediate effects. Do perceptions of cohesion change an hour or day later? Will a series of wins or losses change perceptions of cohesion on a more permanent level? The findings and implications suggest the need for further research into the development and maintenance of perceptions of cohesion.

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