Self-evaluation in a simulated team¹

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S received feedback purported to represent his individual or team tracking performance relative to average ability. The "average ability" criterion was made lenient, moderate, or stringent. After the session, *S* estimated his individual ability. Under individual instructions, *S*'s estimate agreed with his feedback. Under team instructions, *S* accepted credit for good scores (lenient criterion) but blamed his "partner" for poor scores (stringent criterion).

When individual output in a cooperative team cannot be clearly separated from team output, each member may accept the credit for good team performance, but attribute the blame for poor team performance to his partners. This possibility was assessed under simulated team conditions.

Method

A compensatory tracking task was used in which *S* attempted to hold a moving cursor steady at zero by manipulating a control knob. The display contained a zero-centered scale with a 50-unit range on either side of zero, and the cursor was set to sweep across the scale according to a wave pattern generated from two low-frequency sinusoids. The performance measure was the integrated absolute value of tracking error (in arbitrary voltage units) which was scored automatically over the final 55 sec. of each 60-sec. trial. A feedback meter was mounted on the tracking unit and was identical to the tracking display except that the area to the left of zero was shaded red and labeled *poor*, and the right area was shaded green and designated *good*. The poor range was purported to represent below-average scores. *E* and *S* were in separate, sound-treated rooms, but *E* could speak to *S* over a voice-communication system.

Each *S* served alone for two 20-trial sessions, the intertrial interval being 30 sec. and the intersession interval being 24 hr. Feedback was provided 15 sec. after each trial. Verbal feedback of raw error scores was supplied to *S* on the first (practice) session; the feedback meter was employed on the second (experimental) session. Two variables were implemented on the experimental session: instructions (*individual* and *team*) and criterion difficulty (*lenient*, *moderate*, and *stringent*). Under individual instructions, *S* was told that the feedback meter would register his individual score relative to average ability. Under team instructions *S* was told: "Today you will become a member of a two-man team. . . . Actually, your partner has already completed the experiment and we are simply using a record of his scores. Nevertheless, your score averaged with his may be considered a true team score. . . . after each trial your team score will be computed and then compared to. . . the average subject. . . This comparison

will be accomplished by means of the feedback meter." Criterion difficulty was manipulated in terms of the raw score value purported to represent average ability. Using a linear regression equation, the criterion values were set independently for each *S* so that his median feedback score would be +35 (green region) for the lenient criterion, 0 for the moderate criterion, and -35 for the stringent condition. Thus, a 2 (instructions) by 3 (criterion difficulty) factorial design was used, and 66 male undergraduates were assigned to conditions randomly with the restriction that all six conditions be administered in every consecutive block of six *S*s. At the conclusion of the experiment the 11 *S*s per group were rank-ordered in terms of ability (Session 1 median), the five best being termed *good* trackers and the worst five being termed *poor* trackers. Hence, tracking ability was included as a third variable, yielding 12 groups of five *S*s each.

The primary data were obtained at the termination of *S*'s service, at which time he was given a dittoed reproduction of his feedback meter and was asked to indicate the score that he felt represented his *individual* ability. Under team instructions, *S* had a contrived partner to whom he could attribute the credit for good team scores (lenient criterion), or the blame for poor team scores (stringent criterion). Hence, team instructions were expected to foster a disparity between *S*'s feedback and his performance estimate. The individual instructions provided a control for disparities that might arise from asocial sources. It should be noted that the use of raw score feedback on Session 1 and the adjustment of criterion value to *S* ability on Session 2 insured against *S*'s having any concrete information concerning his actual level of ability.

Results

An analysis of variance of Session 2 median feedback scores revealed criterion difficulty as the only significant source of variance ($F = 114.32$, $df = 2/48$, $p < .001$). Consequently, feedback value was (as hoped) independent of instructions and tracking ability. The median feedback scores averaged +31.30, -10.00, and -37.00 for the lenient, moderate, and stringent criteria, respectively.

A self-evaluation score was derived by comparing *S*'s performance estimate with his Session 2 median feedback score. A positive self-evaluation means that *S*'s estimate exceeds his feedback, and a negative self-evaluation indicates just the reverse. Under team instructions, a positive self-evaluation suggests that *S* believes that he is a better performer than his partner, and a negative self-evaluation implies that *S* evaluates his contribution to the team to be less than that of his partner. The self-evaluation data are summarized in

Table 1. Mean Self-Evaluation for Each Condition

Instructions	Tracking Ability	Criterion Difficulty		
		Lenient	Moderate	Stringent
Team	Good	+2.60	+14.20	+45.80
	Poor	-8.00	+17.60	+22.80
Individual	Good	-1.60	+1.60	+12.20
	Poor	+3.00	+2.40	+6.40

Table 1. An analysis of variance exposed the following significant sources of variance: instructions ($F=17.30$, $df=1/48$, $p<.001$), criterion difficulty ($F=21.62$, $df=2/48$, $p<.001$), instructions by criterion difficulty ($F=8.77$, $df=2/48$, $p<.001$), and tracking ability by instructions by criterion difficulty ($F=3.78$, $df=2/48$, $p<.05$). Duncan's test ($p<.05$) disclosed that self-evaluations were invariant under individual instructions. Under team instructions, however, self-evaluations increased directly with criterion difficulty, the magnitude of this increase being slightly greater for good trackers than for poor trackers. Hence, team instructions fostered higher self-evaluations than individual instructions only under moderate and stringent criteria.

Discussion

Under individual instructions, therefore, S tended to accept his feedback as being a true representation of his ability. The slight inclination toward positive self-evaluation did not vary (significantly) with tracking ability or criterion difficulty, and probably arose from a tendency for S to base his performance estimate on his better feedback scores. Under team instructions, however, S's estimate tended to agree with his feedback only under the lenient criterion. Thus, S shared with his contrived partner the credit for successful team performance, but blamed his partner for mediocre or poor team performance. This was most pronounced for good trackers, but was also true for poor trackers.

Consequently, the control of self-evaluation by team feedback should be considered in variable analyses of

the formation of attitudes toward teammates (Lott & Lott, 1960). Favorable attitudes should be formed when the team performs well, unfavorable attitudes when the team performs poorly. In addition, self-evaluation may mediate the performance effects of team feedback (Burnstein & Wolff, 1964; Johnston & Nawrocki, 1967; Zajonc, 1962). For example, poor team scores should induce interpersonal friction and low morale (Berkowitz & Levy, 1956), and these factors may in turn reduce individual effort. In the present study, individual performance under team instructions was not affected by criterion difficulty (team feedback value). However, a single session probably did not afford sufficient time for an effect to emerge. In addition, the possible performance effect of criterion difficulty could easily have been obscured by a strong practice effect. In any case, self-evaluations seem to be rigidly governed by team feedback, and define a potentially important facet of interpersonal activity.

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Note

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