Effect of censure, ego involvement, and rivalry on letter-cancellation performance by Chinese and North Americans

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The study investigated the hypothesis that Chinese students would be motivated best through ego involvement and North Americans through social competitiveness. Nine Chinese, born in Hong Kong, and nine native North Americans, all English-speaking male undergraduates, performed a letter-cancellation task under each of three conditions: after an ego-involving comment, after a comment inspiring competition, and after no comment. An analysis of variance indicated a significant main effect of condition ($F = 3.59$, $df = 2,24$, $p < .05$) and a significant Condition by Race interaction ($F = 4.83$, $df = 2,24$, $p < .025$). Scheffé tests confirmed the hypothesis.

One of the most important areas of educational research concerns finding effective ways of eliciting the maximum intellectual effort from the individual student. In recent years, there has been continuing and sizeable emigration from China and Hong Kong to North America so that there is now a large body of Chinese students in our school systems. It seems reasonable to suggest that students with such a different cultural heritage would be best motivated by incentives other than those relevant for native North Americans. The present experiment investigated the relative effect on performance of Chinese and North American college undergraduates of verbal censure based on two different achievement standards: one's own performance and the performance of others. It was argued that the Chinese stress on "face," achievement, and scholarship would result in the Chinese responding more efficiently after an ego-involving statement indicating failure to do one's best. On the other hand, it was felt that the North American stress on competition and rivalry would result in better performance by the North Americans following a statement indicating failure to do as well as others.

Verbal comments have been shown to be one effective way to motivate students of college age. Only a few such studies have been concerned with ego involvement in the sense of competition with the self. Book & Norvel (1922), using 124 college students performing simple tasks, told the experimental group their scores and urged that they surpass these scores. No comment was made to the control group. Book and Norvell reported that the experimental group's scores improved much more quickly than did those of the control group. Still fewer experiments, using college students as Ss, have combined verbal censure with ego-involving comments. Gilchrist (1916) tested female college students' performance on the Courtis English test. One group, told that its performance had been inferior to what could be expected from a 12-year-old child, made no improvement on a second test. Another group, which was advised that it had done exceptionally well, improved 79% on the second test. Gates & Rissland (1923) conducted a similar experiment using female college students performing two simple tasks—a motor coordination test and a color-naming test. After the first trial for each test, one group was told that it had done so well that its score would be at the top of a distributed curve. Another group was informed that it had done so poorly that its scores would be at the bottom of a distribution curve. A third group received no comment. On the second coordination test, the praised group's performance surpassed that of the reproved group, and the control group showed no change. On the second color-naming test, however, the reproved group's performance excelled that of the praised group, and the control group's performance actually deteriorated. Recently, Gouinard (1970) used a between-Ss design to study the change in letter-cancellation test performance of female undergraduates following a praise, censure, or no-comment control condition. Her censure statement combined elements of appeals to the ego and social competitiveness in the individual, but primarily emphasized rivalry, since her Ss were told: "You don't seem to be doing very well. Most people do twice as well as you are doing." She reported that the net improvement of the censured group was superior to that of the praised group, which had been told: "You seem to be doing very well. Most people don't do half as well as you are doing."

The present experiment studied the performance of male Chinese and North American undergraduates on a letter-cancellation task like Gouinard's. A within-Ss design was used to control for individual differences. Accordingly, each S was tested under three conditions: ego involvement, rivalry, and a no-comment control. The comments used in the ego-involvement and rivalry conditions were adapted from parts of Gouinard's censure statement. The statement involving the ego was: "You aren't doing badly, but I have the impression *you* can do better"; the comment appealing to social competitiveness was: "While this is not bad, I feel you are not doing as well as the *others* who took the test."

SUBJECTS

The Ss were 18 English-speaking male undergraduates attending Sir George Williams University in Montreal. One group comprised nine students who had been born and educated in North America and whose first language was English; a second group comprised nine students whose first language was Chinese and who had been born in Hong Kong and had received their early education there.

STIMULI

The four different letter-cancellation tests each consisted of 12 double-spaced lines typed on standard bond. Each line contained 60 consonants and 15 vowels. Every letter of the English alphabet, with the exception of "Y," which was not used, appeared three times in a line. The order in which the letters were placed in a line was determined by means of a random numbers table with the restriction that the same letter could not be used consecutively.

PROCEDURE

Each S was tested individually, seated at a table, in a quiet room. The S was first told that he was participating in an experiment that would test speed and accuracy performance under the pressure of time. After a demonstration of the task, he was told that he would be given a series of 1-min tests and that he was to work as quickly and as accurately as he could. The tests were then administered. The only time that elapsed between tests was that required to put aside the completed test and place the next one in front of the S.

The letter-cancellation tests were always given in the same order. Each S, however, experienced the ego-involvement, rivalry, and control conditions in one of three orders determined by a complex Latin-square

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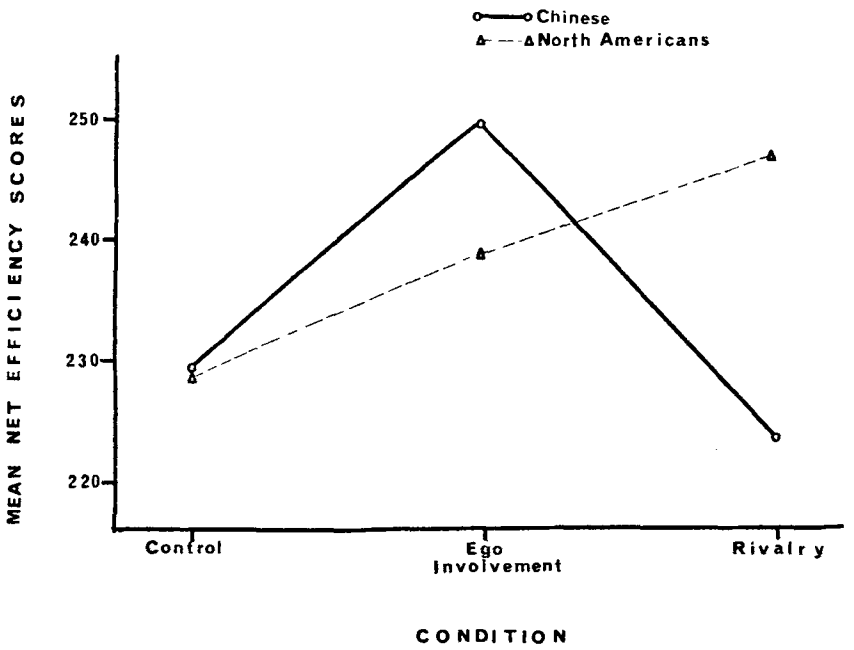

Fig. 1. Comparison of performance by Chinese and North Americans.

design. The same presentation order for conditions was therefore used for three North American and three Chinese Ss. After the S completed each test, the E scanned it critically in front of the S, made the appropriate comment, and put the test aside. In the ego-involvement condition, the comment was, "You aren't doing badly, but I have the impression *you* can do better," and in the rivalry condition, "While this is not bad, I feel you are not doing as well as the *others* who took the test." The underlined words were stressed. Under the control condition, the test was simply scanned and put aside without comment. At the end of the fourth test, as an ego-restoring measure, the S was told: "My annoying remarks were part of the experiment. I really don't know how well you did. Actually, you appeared to be doing better than most of the others."

Since the comment given at the end of each test could only affect performance on the one that followed, only performances on the second, third, and fourth tests were of interest. Accordingly, three net efficiency scores were calculated for each S using the Whipple (1914) formula: $e[(c-w)/(c+o)]$, where e = number of symbols examined, c = number of letters crossed, w = number of letters wrongly crossed, o = number of letters omitted.

RESULTS

The mean net efficiency scores, which are shown in Table 1, were subjected to an analysis of variance appropriate for a complex Latin-square design (Bruning & Kintz, pp. 92-105). Following significant main effects and interactions, Scheffé's multiple comparison procedure (Edwards, 1968, pp. 150-151), which accepts $p < .10$ as significant for preplanned comparisons, was used.

The analysis of variance showed a significant main effect of condition ($F = 3.59$, $df = 2,24$, $p < .05$), and more importantly, a Condition by Race interaction ($F = 4.83$, $df = 2,24$, $p < .025$), which is shown in Fig. 1. For the combined groups, only the performance under the ego-involvement condition was significantly superior to that under the control condition ($p < .005$). This main effect was largely attributable to the Chinese who performed better under the ego-involvement condition than under either the control ($p < .10$) or the rivalry condition ($p < .025$). While the score obtained by the North Americans under the ego-involvement condition was higher than under the control condition, the difference was not significant. Only their performance under the rivalry condition was significantly better than under the control condition ($p < .10$).

The analysis also showed that there was both a significant effect of presentation order ($F = 17.20$, $df = 2,24$, $p < .001$) and a significant Condition by Order by Race interaction ($F = 3.48$, $df = 2,24$, $p < .05$). The significant presentation order effect indicated that, in general, regardless of the treatment involved, the Ss' performance improved from the first condition to the one experienced second ($p < .01$) or third ($p < .001$). Performance under the last two conditions experienced, however, did not differ significantly. The mean net efficiency scores for the conditions presented first, second, and third were 219.32, 237.93, and 250.99, respectively. The significant Condition by Order by Race interaction essentially reflected the fact that, for both racial groups, the presentation order effect was most pronounced in the case of the condition which had the strongest motivating effect, i.e., for the Chinese, the ego-involvement condition, and for the North Americans, the rivalry condition.

DISCUSSION

The main effect of condition obtained in the present experiment confirmed that verbal censure is an effective method of motivating young adults of college age. More importantly, however, the significant Condition by Race interaction indicated, as had been hypothesized, that the critical factor is the type of verbal censure involved. The fact that the best performance achieved by the Chinese was under the condition using performance by the self as the standard supported the prediction that the Chinese, because of their concept of "face," would be motivated most effectively by an appeal to the self-esteem. The North Americans' highest score under the condition using others as a standard was in accordance with the prediction that the North Americans would be motivated best by rivalry with others. The results indicate that verbal censure, in order to be effective, must be adapted to the individual student

Table 1
Comparison of Mean Net Efficiency Scores Under the Three Conditions

	Condition		
Group	Control	Ego-Involvement	Rivalry
Chinese	229.81	248.57	223.40
North American	229.02	239.11	246.57
Combined	229.41	243.84	235.00

with a regard for his cultural background. In view of the diverse racial and ethnic composition of many classes in North American colleges, it would seem worthwhile to suggest that research that is focused on discovering the appropriate verbal censure technique to motivate students belonging to other sizeable distinct cultural groups be undertaken.

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