

SELF AND PEER EVALUATIONS IN GROUP CLASS PROJECTS: A COMPARISON OF SEMANTIC DIFFERENTIAL AND CONSTANT SUM SCALES

Stuart Van Auken, Department of Finance and Marketing, California State University, Chico
Chico, California 95929-0051 (916) 898-5773

ABSTRACT

A comparison of the semantic differential and constant sum scales in the making of peer and self evaluations of group contributions revealed that both were equally effective in revealing social loafers. However, the constant sum scale was found to be superior in the identification of break-through performers. To address the typical truncation of response in the semantic differential scale, a new scale based on the meeting of group expectations was developed and discussed.

Introduction

With the increasing emphasis on skill development among business school students (e.g., analytical, written and oral, interpersonal, problem solving, critical thinking, integrative and planning), greater attention is being given to group projects and team assignments. Such assignments are quite compatible with modern management thinking and they indicate a concern over relevancy in business education and a desire to bolster collaborating and team-building skills among students. However advantageous that team assignments are, they do create a problem for instructors with regard to the evaluation of team member contributions. Typically, instructors use attribute dimensions presented in a semantic differential scale format to evaluate how a group member perceives other group members with respect to group contributions. Haas and Sciglimpaglia (1994) have also called for self evaluations which in turn are contrasted with the group's perception of a given group member. An analysis of these evaluations thus allows the instructor to more efficiently discriminate between group members as to individual team member contributions.

Given the prevalent use of the semantic differential scale in my evaluations of team member efforts, I have found that the most

positive scale position is used by team members to signify a meeting of expectations or a fulfillment of an individual's obligation to the group. Even an average or below average team will assign top-end scores to team members if team expectations have been met. Consistent with the work of Haas and Sciglimpaglia (1994), I have also found that semantic differential scales can readily reveal the presence of a social loafer (Harkins and Jackson 1985; Jackson and Williams 1975), or a nonconforming group member with respect to group expectations. However, I have also found that the truly superior group member is not typically recognized in the application of the semantic differential scale format. In this regard, group members assign this individual top-rated scores, yet they also give top evaluations to their fellow team members. Moreover, I have found that a truly superior group member will assign fellow group members a top-scale position as long as those group members meet group expectations. My experience thus indicates that the semantic differential scale is useful for revealing nonperformance, yet it falls short with respect to revealing a truly superior individual performer. This may not be surprising when it is considered that the use of the semantic differential scale does not force comparative judgments. In essence, team members are evaluated individually with respect to the designated criteria and anchoring to a truly superior performer may easily be ignored.

To help address the above indicated problems with the semantic differential scale, I decided to test an alternative approach for the measurement of individual team member performance. This alternative involves the use of a constant sum scale. In this scaling approach, one-hundred points are allocated among team members in terms of each of the following criteria: the extent, quality and overall contribution of a team members's efforts. For a five-member team, a perceived equal performance among group

members should produce an evaluation of twenty points for each team member on the attribute dimension in question. If a five-member team contains a social loafer and assuming equal performance among the remaining four group members, each of them could assign a weight of twenty-five to contributing members and a score of zero to the loafer. Clearly, such a scaling approach has the potential to not only reveal the loafer, but also the superior group performer, as it requires group members to think of relative or comparative performance. This study is thus concerned with a comparison of individually-based versus comparatively-based team member evaluation scales.

The Study

To meet the study's objective of scale comparisons, I informed my six, five-member student teams at the initiation of their project that they were to be evaluated on a number of key criteria and I informed them as to what the criteria were. At the end of the project, I gave each team member two peer rating approaches, which were alternately rotated to control for order bias. One of the approaches was the semantic differential scale advocated by Haas and Sciglimpaglia (1994), while the other was the a priori mentioned constant sum scale. For a presentation of these scales, see Figures 1 and 2, respectively. My purpose in using these two scaling approaches was to compare their results under the following conditions: (1) the revelation of a known social loafer; (2) the disclosure of a known superior performer; and a determination of how the scales would compare when group members generally met group expectations.

To expedite this end, I selected a marketing research project that required a break-through effort from a team or at least one team member. In this regard, the project contained a critical juncture, which if not addressed, would result in team failure. More precisely, the project involved explaining some aspect of consumer behavior (e.g., beer consumption) through the selection of ten life style statements that were neither redundant or totally unrelated to the dependant variable under study (Wells 1975). Additionally, a number of demographic variables were measured. The project's major purpose

was to determine if the life style responses co-varied with the dependant variable response as revealed through a multiple regression analysis. To produce this outcome, each team was required to select a dependant variable that was unique to that group; develop the life style statements; prepare a questionnaire; collect data from fellow students with a sample size exceeding thirty; code the data; enter the data on a file; use SPSS to run a multiple regression analysis; secure a printed result; interpret the results; and prepare a report that explained R^2 , F and t values, as well as beta coefficients and beta weights, along with the rationale for the study, why the life style statements were selected and what was learned. Finally, each team made a presentation to the class of their findings. In this assignment, the critical area involved getting the SPSS project to run in our laboratory's network system and interpreting the results. As might be expected, the project was quite challenging to the students and team visits at my office permitted me to assess team member performance. From these assessments, I observed one team that contained a social loafer and I observed another team that totally floundered with SPSS until one team member took control and personally ran the SPSS program and interpreted the results. In turn, I viewed this student as the break-through performer. The other teams worked as a group and surpassed the critical juncture.

Of the six teams, one contained the loafer, while one contained the break-through performer. It was these two teams that I singled out for comparison and contrast between the semantic differential and constant sum scales.

A Priori Known Social-Loafer

The results of peer and self-evaluations of the team that contained the social loafer appear in Table 1, and confirm the presence of this individual (Jim). As can be seen from the evaluations in Table 1, both David and Joe rated the social loafer low in both the semantic differential and constant sum scale evaluations. Clearly, both scales have targeted Jim for nonperformance. Claudia also identified Jim as being a below average group performer through her semantic differential scale evaluations, yet

rated him equal to the group through a constant sum scale evaluation. Jeff also rated Jim as being somewhat lower than the group through his semantic differential scale evaluations, yet he identified him as a social loafer in his constant sum scale evaluations. Not surprising, the social loafer evaluated himself as well as his teammates as being superlative contributors.

In this context, both measurement approaches reveal Jim as not meeting group expectations. The two approaches also reveal the high performance levels of the balance of the group members, with a slight slippage for Jeff, as revealed by two group members using the semantic differential scale with one of these two group members also revealing a slight slippage for Jeff through the constant sum scale. Joe is also perceived as slipping somewhat by one group member on the constant sum scale. All in all, the results suggest that a meeting of group expectations results in the assignment of high scores (7s) on the semantic differential scale and equal weightings to performing members on the constant sum scale. Also, the nine attribute dimensions in the semantic differential scale format permit greater insights into the "why" behind individual differences when contrasted to the limited attribute dimensionality of the constant sum scale approach. Of course, this could be remedied by measuring the nine attribute dimensions in a constant sum scale format. Overall, both measurement approaches appear to be equally effective in capturing the performances of a social loafer. Of course, a highly cohesive group could decide to protect the social loafer and such protection could be manifested regardless of the measurement scale approach utilized. This is also an issue that is bothersome to instructors as some social loafers are penalized while others are not. Students should therefore be made to realize that in the "real world" team members are reluctant to tolerate nonperforming group members.

A Priori: Known Break-Through Performer

The results of peer and self-evaluations of the team that contained the break-through performer (Grady) appear in Table 2. What is immediately noticeable about this group is the peer and self evaluation of this group member. In this regard,

he viewed the team as being equal contributors to the group assignment and did not signify himself as the break-through contributor. Chad also perceived a balanced group effort and merely gave Grady a score of 7 on the "did more than fair share" attribute, while assigning the value of 6 to himself and the remaining group members. However, Grady emerges as the break-through contributor in the constant sum scale evaluations of Steve, Vickie and Gina. Still, an evaluation of these member's semantic differential scale evaluations fails to reveal the break-through performance of Grady. Again, this appears to be due to a tendency to evaluate a meeting of group expectations with high-end scale evaluations (i.e., 7s and 6s). As a result, the high-performing group member may not be utilized as an anchor in semantic differential scale evaluations. In essence, each group member appears to be evaluated individually with respect to group expectations. However, the constant sum scale encourages comparative judgments and allows the break-through performer to be revealed. As a result, the latter scale appears to offer greater flexibility in the evaluation of team-member performance. Moreover, it can be applied to numerous attributes if insights into the "why" behind individual team-member performance are desired.

Helping to confirm the use of group expectations in team evaluations was the almost universal practice among the remaining four, five-member teams to evaluate both self and peers with top-end scale positions (7s) and equal weightings for the semantic differential and constant sum scales, respectively. Basically, these teams did not recognize the presence of either break-through performers or social loafers. Basically, group performance typically truncated toward the top-end of the semantic differential scale and equal team member weightings were assigned through the use of the constant sum scale.

New Measurement Scale

In an effort to develop a better spread among team member performance, a new scale is presented in Figure 3. This scale is anchored to a "meeting of expectations" as the central scale position and proceeds to reveal the extent of

supra normal performance and nonperformance among group members. The scale also carries a caveat which states that deviations from the central scale position should be employed only when justified by superior or inferior group member performance relative to that group. Otherwise, all team members would reflect a meeting of expectations. It is hoped that this scale can be utilized in self and peer team evaluations and the results compared with the known presence of break-through performers and social loafers. Comparisons with constant sum scale results should also prove to be fruitful. By developing a literature stream of findings, our team member performance evaluations may be further refined and improved.

Study Limitations

Although this exploratory study is not generalizable, it does reveal systematic patterns in both peer and self evaluations of team member performance. These patterns have been interpreted and they may be utilized to suggest problems with popular semantic differential measurement scale approaches. They may also be used to suggest scale improvements. Hopefully, the issues raised in this study can be confirmed in other studies, thus revealing convergent validation (Lykken 1968) and a sounder basis for scale selection.

Conclusions

A comparison of the semantic differential-based Hass and Sciglimpaglia (1993) peer and self evaluation measurement scale with the constant sum scale revealed that both scales were equally effective in revealing an a priori known social loafer. However, a one-hundred point constant sum scale was found to be superior in the identification of an a priori known break-through performer. Thus, in this limited study, the constant sum scale emerged as offering greater flexibility in team member evaluations.

In an effort to address the typical truncation toward the top-end scale position within the semantic differential scale, a new measurement scale was presented in which the central position is anchored to a meeting of group expectations. It is hoped that this new scale will be compared

with the constant sum scale and the semantic differential scale in an effort to build a better theory for evaluating team member performance in student groups. By so doing, team member evaluations may be further developed and enhanced.

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Note: Figures and tables may be attained by contacting the author.