The investigators assume that in a social power relationship, where one person has the power to reward or punish another for the latter's behavior, the social inferior will tend to conceal from a superior information he possesses or attitudes he holds which, if shared, might cause the superior to censure the inferior. To test this hypothesis, two pilot studies were conducted at Brigham Young University in the summer of 1972, and a more extensive study was run in the spring of 1973. The object was to present the class instructor in a social power position in the experimental condition, and in a non-power position in the control condition. Students were made to infer that their responses would affect their standing with the instructor and thus their grade. The data compiled do not support the authors' hypothesis that in a communications situation a message receiver will be less candid and more anxiety-ridden in feeding back information to a sender who exerts social power. (EE)
SOCIAL POWER AS A BARRIER TO
COMMUNICATIONS FEEDBACK

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International Communications Association
Montreal, Quebec
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SOCIAL POWER AS A BARRIER TO COMMUNICATIONS FEEDBACK

By Edwin O. Haroldsen\(^1\) and Kreg Kirkham\(^2\)

Introduction

It is a well established principle of group dynamics, social psychology and communications processes generally that feedback in interpersonal communication is essential for growth and solidarity in interpersonal relations. This principle applies whether one is referring to individual stability, harmonious marital relationships, or harmonious subordinate-superior relationships in any one of thousands of situations bringing people into contact with each other.

Of particular interest to the present researchers is the idea of "barriers" to communications feedback, a concept that has been suggested but apparently not researched.

Popular folklore would lead one to believe that individual A only tells individual B about item X what individual A thinks B should know. Among themes of popular folklore: "Only tell your wife what you want her to know!" "What he doesn't know won't hurt him!" "Don't tell your boss too much!" "Make your teacher think you know the subject under discussion!" or "Make your professor think you enjoy his class!"

This study is concerned with communications feedback in super-inferior social relationships—more specifically the quality of communications feedback.

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\(^2\)Mr. Kirkham is a graduate student in sociology, Brigham Young University.
from the inferior to the superior as related to the superior's ability to reward
or punish the inferior for the latter's behavior.

Literature Review

A review of the literature discloses that considerable research has been
done on the effect of feedback in communications situations, research employing
feedback as an independent variable. But little if any research has been di-
rected to identifying independent variables that affect the quantity and/or
quality of feedback considered as a dependent variable.1

Leavitt and Mueller, for example, orally described various geometrical forms
to subjects and asked the subjects to reproduce these forms. As hypothesized,
accuracy scores were directly related to the magnitude of feedback; scores of
subjects in the free feedback condition were highest, those in the zero feedback
condition were lowest, those in the intermediate feedback condition were in be-
tween the high and low scores.2

Summarizing feedback studies, Gardiner3 concludes:

1. There is strong evidence that negative audience response

1For example, Sirotnik and Hruby conclude that feedback cannot be conceptu-
alized as a dependent or independent variable. They report losing "the struggle
to conceptualize feedback as anything other than a process and not as a variable
per se." See Kenneth A. Sirotnik and Mary L. Hruby, "Use and Implications of
the Feedback Process in Research Design," from symposium, "Feeding Back Informa-
tion Collected from School Staffs," American Educational Research Association,
New York City, Feb. 1971, indexed by Educational Resources Information Service
(ERIC) as ED 057 079 TM 000 922.

2Harold J. Leavitt and Ronald A. H. Mueller, "Some Effects of Feedback on

3James C. Gardiner, "A Synthesis of Experimental Studies of Speech Commu-
2. Studies investigating the effects of feedback on speech

.. material deleted due to copyright restrictions...

Borman does talk about "barriers to feedback" and identifies one barrier as social status differences.¹ He cites the familiar children's story, "The

Emperor's Clothes," as a good example of the unwillingness of subordinates to tell their leader the realities of a situation. He adds: "Leaders of organizations are too often left, like the Emperor, naked and ineffective when faced with the facts because their subordinates felt it necessary to inhibit free and honest feedback."

However, Borman cites no research data to back up his assertion that status differences affect feedback.

Faules investigated the idea that the more effective a communicator is the more he will be able to elicit and interpret feedback. He concluded that communicator ability may make a difference when the communicator attempts to interpret the reactions of others, that some communicators are more accurate than others in their predictions of attitude. However, the hypothesized relationship between communicator effectiveness and effectiveness accuracy of prediction fell short of statistical significance.¹

Gardiner, however, does conclude after his review of feedback research that a "variety of intriguing independent variables are waiting to be tested for possible interaction effects with feedback." (Emphasis added.)

He lists a "few of these variables" as: (a) the source's ego involvement with the topic, (b) the source's familiarity with the audience, (c) the amount of effort involved in preparing the message, (d) the credibility of the audience, (e) the personality of the source, including such variables as self-esteem, need-affiliation, need-influence, need-achievement, dogmatism, etc., (f) delayed vs. immediate feedback response, (g) personal- vs. message- vs. topic-oriented response, (h) sex, and (i) degree of communication skill possessed by the source. He says nothing about investigating feedback as a dependent variable.

Apparently no one has experimentally manipulated social power as an independent variable and related it to feedback as a dependent variable. Yet, one can readily recollect situations in which the quantity and quality of his responses to statements of one who held social power over him appeared to be markedly influenced by that power relationship. For example, the job interview or the confrontation between police officer and motorist stopped on an alleged traffic violation.

A tremendously significant aspect of human behavior is ego need—the need to present one’s self in the best possible light before other people. Goffman, for example, assumes “that when an individual appears before others he will have many motives for trying to control the impression they receive of the situation.”

Norman B. F. Maier, William Read and John Hooven of the University of Michigan interviewed 35 pairs of superiors and subordinates in a study of boss–subordinate communication. They held "feedback" sessions in each company with superiors and with subordinates. They found, for example, that the more upwardly mobile and ambitious the subordinate, the less agreement between him and his boss on job obstacles and the problems. The researchers concluded that one explanation might be that these ambitious subordinates tell their bosses as little as possible about their job problems, fearing it might prejudice their chances for employment.

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Theoretical

The present investigators assume that in a social power relationship—that is, where one person has the power to reward or punish another for the latter's behavior—the social inferior will tend to conceal from the superior information he possesses or attitudes he holds which, if shared with the superior, might cause the superior to censure the inferior.

This presumed concealment may be related to a perceived need to avoid offending the superior by withholding information or concealing attitudes that would present the superior in an unfavorable light. It may be related also to the perceived need to withhold information or conceal attitudes which would present the inferior in an unfavorable light, as for example, presenting the inferior as unintelligent.

The concept "anxiety" also is assumed to be involved in feedback under a social power condition. A common thread in several definitions of anxiety is the idea of an emotional response to a threatening situation, though as Gould and Kolb1 note, interpretation of the term anxiety varies according to the theoretical perspective and the method of research.

Definitions variously conceptualize the situation or condition that produces anxiety. Harriman,2 for example, sees anxiety as fear of "external danger," while Gould and Kolb note that a "real or a symbolic condition of threat" precedes anxiety.

Certainly people react emotionally to physical as well as to symbolic dangers or threats. But in this investigation we are concerned with social relationships, not physical dangers. And one can readily recognize the poten--

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potential for threat to ego in social power situations such as a Ph.D. candidate questioned by his faculty committee during his final "orals," a criminal suspect grilled by police, or a job seeker interviewed by the man who makes the hiring decision.

As noted earlier, an important aspect of human behavior is the need to present one's self in the best possible light before other people, to protect his ego. But in a social power situation, the inferior often has great opportunity to stumble, to trip on his tongue or otherwise act so as to lower the esteem with which his superior holds him. Thus social power relationships appear a potentially rich source of both anxiety and concealment.

Gould and Kolb define anxiety as "a reaction of apprehension ranging from uneasiness to complete panic preceded by a real or symbolic condition of threat which the subject perceives diffusely and to which he reacts with an intensity that tends to be disproportionate.

One can well imagine that a social inferior finding himself in an ego-threatening situation such as the Ph.D. candidate cited earlier would have just such a reaction.

Or viewed from the perspective of cognitive dissonance theory, the social power relationship may be a rich source of dissonant and thus tension-producing situations. Take the case of a student with a great need for an "A" in a class taught by an instructor he feels is inept, unreasonable, unfair and unscholarly. Asked by the instructor, "What do you think of my class?" the student would likely feel threatened and anxious, for an honest revelation of his feelings would be dissonant to the student's urgent need to present himself favorably to assure himself of an "A" grade. Thus to safeguard his "A" he likely would conceal his true feelings, would likely speak less than candidly.
Thus, it was hypothesized that in a communications situation:

a. Feedback from message receiver to message sender will be less candid where the sender has social power over the receiver than where such is not the case.

b. There will be more anxiety exhibited by the message receiver where the sender has social power over the receiver than where such is not the case.

Methodology

To test these hypotheses two pilot studies were conducted at Brigham Young University, a large private western university, in the summer of 1972. Another, more extensive study, was run in the spring of 1973.

The first pilot study involved two different communications courses, each taught by a single instructor. In this, the subjects in each class were randomly divided and assigned to control and experimental conditions.

The second pilot study involved two back-to-back sections of an American history class taught by a single instructor. One section was randomly selected as the experimental condition, the other as the control condition.

In both studies the same basic procedure was followed:

A message judged to be difficult to comprehend was presented to the students by tape recording.

In the experimental condition the instructor announced to the class:

"Today I want to present some important material which is pertinent to this class. The voice you'll hear, of course, is mine: I want to determine how well this material is getting across to students.

"Throughout the tape presentation, the tape will stop every half minute or so for you to mark an answer sheet. When the tape stops the first time,
for example, you'll be given 10 seconds to mark line 1 of the answer sheet. You'll indicate by checking the appropriate square how well you understood what you just heard on the tape. Then the tape will go again for another half minute or so and stop again. You'll be asked to check on line 2 how well you understood the second tape segment you heard. And so on through the entire 10-minute tape.

"Please be sure to write your name and student number on the answer sheet in the space provided. Later I'll summarize the results and present them to the class. However, only I will see the sheets with your individual answers."

In the control condition the instructor announced to the class:

"Today I want to present some important material which is pertinent to this class. The voice you'll hear will be that of a Utah State University professor who teaches a class identical to this at USU. He wants to determine how well this material is getting across to students. Incidentally, like your class instructor, he is an active member of the LDS Church."

The instructor then instructed the students about the taped message and how to mark their answer sheets, as in the experimental condition. Then he added:

"Please be sure to write your name and student number on the answer sheet in the space provided. Later, the professor at the USU will summarize the results. Only he will see the sheets with your individual answers."

The object in the introductions was to present the class instructor in a social power position in the experimental condition, in a non-power position in the control condition. Thus the voice on the tape in the experimental condition was that of the actual class instructor. It was stressed that the
instructor would see individual student responses. Thus students could assume that their responses could affect their standing with the instructor and thus their grade.

In the control condition, an adult male whose voice was thought to be unrecognizable to the students recorded the message on the tape. The introduction of him was designed to present him as carrying prestige equal to that of the class instructor. It was stressed that only this professor would see students' individual responses. Thus students could assume that their responses would not affect their standing with the actual instructor or their grades.

On the answer sheet students checked the appropriate column indicating how much they understood each segment of the material on the tape—"understood all," "understood most," "understood half," "understood little," or "understood none."

Students also completed a standard Spielberger-Gorush-Lushene STAI Form X-I (a 20-statement self-evaluation of their anxiety state at the time they participated in the study).

Mean anxiety scores were higher for one experimental group, but nearly identical for the other.

In both classes involved in the first pilot study, students in the experimental group said they comprehended more than did students in the control group.
### PILOT STUDY NO. 1

**How Much Students Said They Comprehended**

<table>
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<tbody>
<tr>
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<tr>
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**Students' "State" Anxiety Level**

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</tr>
<tr>
<td>Communications 201</td>
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</tr>
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</table>

Because of the small sample size and other methodological problems, no statistical analysis was made of these findings.
PILOT STUDY NO. 2

HOW MUCH STUDENTS SAID THEY COMPREHENDED*

<table>
<thead>
<tr>
<th></th>
<th>Experimental Group</th>
<th>Control Group</th>
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<tr>
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<td>27</td>
<td>25.7</td>
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</table>

*In coding the questionnaires, polarity was inadvertently reversed: The response "understood all" was coded as 1, "understood none" coded as 5, etc. Thus a high score means low comprehension and vice versa.

STUDENTS' "STATE" ANXIETY LEVEL

<table>
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<th></th>
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<tr>
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<tr>
<td>27</td>
<td>36.4</td>
<td>19</td>
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</table>

Differences in means between the experimental and control groups were tested by analysis of variance and found to be statistically insignificant, both for stated comprehension scores and anxiety scores.

These results led the investigators to question the research design, specifically to question if they actually were introducing social power into the experimental condition.

Thus in January, 1973, the same design as above was employed in another class, a communications class. Immediately after the students completed the questionnaires they were asked in an open ended discussion session to comment...
on what had been going through their mind as the test period progressed. Although
the purpose of the study was not revealed at that point, comments quickly indi-
cated that it had been a puzzling experience for the student.

As one student commented:

"The first thing I want to know is what is it for . . . now, more than ever,
what in the world do they want my name and all this data for when they don't even
let me know what it is for?"

This exploratory session, which was designed to elicit comments and strengthen
the methodology rather than to gather data, led to the third study.

The third or principal study, conducted in March and April, 1973, employed
an attitude scale to measure students' candidness in evaluating their instructor's
performance. To suggest to the students that they were in a bona fide classroom
activity each instructor gave a 10-minute lecture and administered a short, ob-
jective quiz at the beginning of each experimental class session.

The subjects involved in this study were students in two large back-to-back
sections of an introductory course in communications, taught by one instructor,
and two back-to-back sections of a social psychology course taught by another
instructor. All sections met during the same three-hour time block, the two
communications classes in the same lecture hall, the two social psychology classes
in the same classroom.

For both classes, one section was assigned to the experimental condition,
the matching section to the control condition.

The first phase of the study was conducted March 20, a follow-up or second
phase on April 10.

In Phase I, in both experimental and control sections, the instructor entered
the classroom and announced:
"For some time I have wanted to check on how well I am teaching my students to spot things which may be barriers to learning. Today I would like to ask you to help me find out.

"I am going to present a short lecture. Then immediately afterwards I am going to give you a short objective quiz. Then I'll have you fill out two short questionnaires.

"I am sure you may have questions or comments about what we are doing. I will be happy to answer them. But I'll ask you to hold your questions and comments until everyone has finished filling out the forms."

The instructor then lectured for approximately 10 minutes and then distributed a short objective test.

After collecting the test papers, he announced to the class:

"Before you begin filling out the forms, BE SURE TO FILL IN THE BLANKS FOR YOUR NAME AND STUDENT NUMBER. I need this information because I want to study your individual responses. I need to know how EACH ONE OF YOU filled in these forms."

In the control condition, the instructor substituted the following instruction for the instruction given (immediately above) in the experimental condition:

"Before you begin filling out the forms, I want to make an important announcement. DO NOT PUT YOUR NAME OR ANY OTHER IDENTIFYING INFORMATION ON THESE FORMS. I AM INTERESTED ONLY IN THE TOTAL RESULTS, NOT IN YOUR INDIVIDUAL RESPONSES. Thus I do not want to know how any one of you filled in these forms."

The two questionnaires students filled out where a 16-item attitudinal scale developed through Thurstone scaling techniques and the 20-question STAI
## Study No. 3

**Attitude Toward Instructor's Performance**

### Phase I

<table>
<thead>
<tr>
<th></th>
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### Phase II

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## STUDY NO. 3

**STUDENT'S "STATE" ANXIETY LEVEL**

### Phase I

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### Phase II

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<th>Mean</th>
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<td>206</td>
<td>44.616</td>
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(state anxiety) scale.

In the experimental condition, these questionnaires were distributed with blanks for students' name and student number. In the control condition, no such blanks were provided.

Class rolls containing student numbers were used to gather information on students' age, sex, grade point average, university major and class standing (freshman, sophomore, etc.) from university records.

Two days after Phase I had been conducted, at the next class period, the instructors explained the purpose of the experiment.

Three weeks later, the instructors announced to their classes they wanted to make a further test on how the students evaluated the March 20 lecture. The two instructors distributed the attitude and anxiety questionnaires again and asked students to complete the forms on an anonymous basis.

This procedure was followed on the rationale that experimental subjects would, in Phase II be under no fear of adverse grading if they were frank, and would thus tend to rate their instructors less favorably than in Phase I. However, when the control subjects re-evaluated their instructors, it was reasoned that they would tend to repeat their Phase I evaluations. It was reasoned that these tendencies would show up in a similar manner in the anxiety scores.

This expectation is shown graphically in Figure 1: (on the following page)
Fig. 1, Theoretical Shift in attitudes and anxiety from Phase I to Phase II.

Data were collected, coded and subjected to analysis of variance and chi-square analysis for the purposes of this study.

FINDINGS

Characteristics of Groups Studied. Tables included herein show the composition of the experimental and control groups by grade point average, class standing, sex and age. These comparisons show that the experimental and control groups compare favorably in these characteristics.

Attitudes. As indicated in table labeled "Study No. 3, Attitude Toward Instructor's Performance," the experimental groups in Phase I actually showed a less favorable attitude toward their instructors than the control groups, a finding opposite that which had been expected. However, the differences were not statistically significant.

Attitudes of the experimental groups in Phase II were more favorable than the control groups. These differences were not significant where the experimental and control groups of individual instructors were compared (though the difference approached significance for Instructor No. 1.) However, when all experimental subjects were compared with all control subjects the difference was significant.
All groups showed a less favorable attitude toward their instructors in Phase II than Phase I, though the difference was significant only for the control groups.

The analysis of variance test indicated that the way students responded during Phase I of the study did not affect the way they responded during Phase II. In the statistical comparisons between Phase I and Phase II, and between experimental and control groups, Scheffe's S method was used to determine whether the obtained F ratios were significant.

Anxiety. In Phase I, control groups showed more anxiety than experimental groups, though the difference was not significant.

In Phase II, the control group of Instructor No. 1 showed more anxiety than that Instructor's experimental group. But the experimental group of Instructor No. 2 showed more anxiety than did his control group. However, neither of these differences was significant.

All groups showed significantly more anxiety in Phase I than in Phase II.

Analysis of the Phase I experimental groups showed a dependency between grade point average and five of the 20 items on the anxiety scale, i.e., the higher the GPA, the higher the anxiety scale. There was little if any relation between anxiety and the other personal characteristics covered in the study.

**DISCUSSION**

These data do not support the hypotheses that in a communications situation a message receiver will be less candid and more anxiety ridden in feeding back information to a sender exerting social power over him.

With reference to the theoretical expectations presented in Fig. 1, experimental groups had slightly more favorable attitudes than control groups in Phase I, a finding opposite than expected. Moreover, though the attitudes
of experimental groups became less favorable in Phase II, the decline was relatively less than for the control groups—another finding opposite than expected. These findings are shown in Fig. 2 for Instructor No. 2's groups. (The decline in attitude is even more dramatic for Instructor No. 1's control group.)

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**Fig. 2. Shifts in attitude in Instructor No. 2's experimental and control groups, Study No. 3.**
Similarly, control groups unexpectedly show more anxiety than do the experimental groups in Phase I, though as noted earlier these differences are not significant.

And instead of the anxiety of experimental groups declining in Phase II, when they presumably were not under social power, it increased. (See Fig. 3). It increased by about the same magnitude for control groups.
It should be noted in this connection that Phase II was conducted during the last regular class week of the semester, just before the start of final exam week. Several students were heard to comment that they were "uptight" about finals. Thus it is possible the shift in anxiety reflected this.

Finally, one could hypothesize that candidness of feedback and anxiety would be related to such personal characteristics as grade point average, age, sex, class standing etc. For example that high GPA students would be less candid (to protect their high grades) or more candid (because they felt less threatened) than low GPA students. However, findings do not support the idea of such characteristics as an intervening variable.

CONCLUSIONS

Why did the experimental groups rate their instructors as high as the control groups in Phase I? Why did the experimental groups not show more anxiety in Phase I?

Perhaps the students in the experimental sections of Phase I simply did not feel threatened. Both instructors have suggested this as a possible answer. For example, one student commented to Instructor No. 1:

"You didn't scare me. I just answered those questions as truthfully as possible."

Instructor No. 1 does not call roll. He does not associate names and faces of his class members. His classes have 40 to 50 students in them.

The two classes of Instructor No. 2 involved in the study are perhaps so large — with 300 enrolled — that class members did not really expect the instructor seriously to go through each of the completed questionnaires and penalize students who gave the instructor low marks on the attitude scale.

Regardless of how visible he may feel he is in a classroom situation, today's college student perhaps is simply not awed by his instructors, as
deferential to his instructors as in earlier years. Rather he may be more
disposed to "tell it like it is" regardless of consequences. He may be less
impressed by, less influenced by authority figures. For example, the senior
author of this research paper recently asked members of his interpretive news
writing class to evaluate as a class assignment an article he had written on the
Soviet Union while visiting that country. The author was surprised by the
students' frank and sometimes sharp criticism of the paper, a criticism he felt
was not always informed and justified.

Thus future study of the presumed phenomenon, social power in communications
feedback, should involve situations that are more clearly threatening to
message receivers. For example, faculty members asked to comment to their
dean on the latter's pet scheme to increase faculty productivity, or employees
asked by their boss to comment on his plans for reorganizing the office and
changing work assignments.

Future study should involve the use of other instruments to measure
candidness of feedback. Perhaps more precise instruments such as the
(GSR) Galvanic Skin Response Technique should be investigated as a way for
detection of attitudinal and anxiety patterns when subjects are subjected to
the forces of social power as a barrier to feedback in the communications
process.

Finally, the authors feel that with greater controls over the individual
subjects (and their responses) it would be possible to use statistical tests
with a greater power efficiency than the tests utilized in this study.

###
## AGE OF STUDENTS IN GROUPS

**Instructor No. 1**

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**Instructor No. 2**

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<tr>
<td>Range</td>
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<td>57</td>
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### DISTRIBUTION OF GRADE POINT AVERAGES BY GROUPS

#### Instructor No. 1

<table>
<thead>
<tr>
<th>Grade Point Average</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1.0</td>
<td>4.3</td>
<td>2.5</td>
</tr>
<tr>
<td>1.0–2.0</td>
<td>4.3</td>
<td>0</td>
</tr>
<tr>
<td>2.0–2.5</td>
<td>35.6</td>
<td>10.0</td>
</tr>
<tr>
<td>2.5–3.0</td>
<td>30.4</td>
<td>50.0</td>
</tr>
<tr>
<td>3.0–3.5</td>
<td>30.4</td>
<td>27.5</td>
</tr>
<tr>
<td>3.5 &amp; above</td>
<td>10.9</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean for group between 2.5 & 3.0

#### Instructor No. 2

<table>
<thead>
<tr>
<th>Grade Point Average</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1.0</td>
<td>17.1</td>
<td>13.4</td>
</tr>
<tr>
<td>1.0–2.0</td>
<td>4.5</td>
<td>4.0</td>
</tr>
<tr>
<td>2.0–2.5</td>
<td>16.3</td>
<td>16.2</td>
</tr>
<tr>
<td>2.5–2</td>
<td>30.5</td>
<td>31.6</td>
</tr>
<tr>
<td>3.0–3.5</td>
<td>22.0</td>
<td>25.1</td>
</tr>
<tr>
<td>3.5 &amp; above</td>
<td>9.8</td>
<td>9.7</td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean for group between 2.5 & 3.0
### CLASS STANDING

#### Instructor No. 1

<table>
<thead>
<tr>
<th>Class</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen (1)</td>
<td>10.9</td>
<td>2.5</td>
</tr>
<tr>
<td>Sophomores (2)</td>
<td>37.0</td>
<td>37.5</td>
</tr>
<tr>
<td>Juniors (3)</td>
<td>28.3</td>
<td>27.5</td>
</tr>
<tr>
<td>Seniors (4)</td>
<td>23.9</td>
<td>32.5</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total No. of Students</td>
<td>46</td>
<td>40</td>
</tr>
<tr>
<td>Mean</td>
<td>2.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Mode</td>
<td>2.0 (sophomores)</td>
<td>2.0 (sophomores)</td>
</tr>
</tbody>
</table>

#### Instructor No. 2

<table>
<thead>
<tr>
<th>Class</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen (1)</td>
<td>51.6</td>
<td>59.1</td>
</tr>
<tr>
<td>Sophomores (2)</td>
<td>28.5</td>
<td>19.0</td>
</tr>
<tr>
<td>Juniors (3)</td>
<td>11.0</td>
<td>10.5</td>
</tr>
<tr>
<td>Seniors (4)</td>
<td>5.7</td>
<td>5.7</td>
</tr>
<tr>
<td>Others</td>
<td>3.3</td>
<td>5.6</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total No. of Students</td>
<td>246</td>
<td>247</td>
</tr>
<tr>
<td>Mean</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Mode</td>
<td>1.0 (freshmen)</td>
<td>1.0 (freshmen)</td>
</tr>
</tbody>
</table>
SEX OF STUDENTS IN GROUPS

**Instructor No. 1**

Relative Distribution (%)  

<table>
<thead>
<tr>
<th>Sex</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>45.7</td>
<td>47.5</td>
</tr>
<tr>
<td>Female</td>
<td>54.3</td>
<td>52.5</td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Instructor No. 2**

Relative Distribution (%)  

<table>
<thead>
<tr>
<th>Sex</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>74.0</td>
<td>61.5</td>
</tr>
<tr>
<td>Female</td>
<td>24.4</td>
<td>36.8</td>
</tr>
<tr>
<td>No response</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>