

ORGANIZATIONAL CLIMATE SURVEYS AT THE NATIONAL AGRICULTURAL STATISTICS SERVICE

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Abstract: *The National Agricultural Statistics Service (NASS) has conducted organizational climate surveys five times in the past 15 years to gauge how responding employees view their working conditions. These climate surveys have provided great benefits to management yielding measures for Agency assessment, employee input for shaping the agency's future, and identifying areas of strengths to formulate appropriate measures for identified areas of weaknesses. Yet all but two of these five climate surveys have not been comparable. And all but one of the climate surveys has been conducted "at NASS, by NASS, and for NASS." The exception is the 1997 Organizational Climate Survey at Federal Statistical Agencies. This survey was developed by the students in the Survey Practicum class at the Joint Program in Survey Methodology, University of Maryland at College Park. The goal was to develop a survey instrument that afforded the opportunity for a federal statistical agency to "benchmark" or compare its climate with climates at other federal statistical agencies. This paper summarizes the organizational climate surveys, their various uses at NASS, and recommendations for future organizational climate surveys at NASS.*

1. History of NASS Organizational Climate Surveys

The National Agricultural Statistics Service conducted organizational climate surveys in 1982, 1983, 1990, and 1993. The 1982 survey was conducted among the professional staff, followed by a similar survey of the support staff in 1983. The response rate for the combined 1982/1983 survey was 73 percent, the 1990 survey response rate was 66 percent, and the 1993 survey had an overall response rate of 63 percent.

The 1993 survey instrument was expanded so that items could be compared to the 1990 survey. NASS created a baseline measure to provide management with information for strategic planning purposes. The 1993 organizational climate survey design will be explored in more detail since discontinuing its use trades the gains from survey comparisons for improved survey design.

The 1993 Organizational Climate Survey, hereafter referred to as the NASS survey (indicating the party responsible for survey design), had three specific goals: (1) to obtain a clear idea of how current NASS employees see the organization, (2) to assess if views have shifted from 1990 to 1993, and (3) to ask employees for their direct opinions, suggestions and ideas on how to improve NASS as an organization, what they see as issues for NASS to deal with in the next five to 10 years, how to best do so, and what mission or purpose they believe NASS should achieve in the future.

The NASS Survey was designed, pretested and revised over a period of several months. The questionnaire had three parts:

- Part I consisted of background variables, and asked employees to provide their job series, location, years of service in any part of NASS, and supervisory/managerial status.
- Part II contained questions that covered various areas

logically related to achieving and maintaining a productive organizational setting and work environment. A five-point rating scale (*Never, Occasionally, Fairly Often, Very Often, and Always*) was used for most questions.

- Part III asked about conditions liked and disliked at NASS, and also requested written comments (in the form of open-ended questions) on the "one thing" considered best to do in improving NASS products, the biggest issues facing NASS as a work setting in the next five to ten years and ways of dealing with those issues, and the overall purpose, mission, or vision of NASS in the future, and any other thoughts or suggestions respondents had.

The 1,330 employees of NASS as of November 1, 1993 were given a self-administered, anonymous survey. A memorandum from the Acting Administrator asked employees to "provide an honest appraisal of the present working climate" and stressed that results would help in identifying problem areas in NASS. One copy of the survey form was distributed to each employee. Employees who reported a lost or misplaced survey form received a replacement copy. Reminders to respond appeared in the Agency's monthly Staff Letter, and e-mail bulletin board messages.

The challenge presented to the 1996-1997 Survey Practicum Class of the Joint Program in Survey Methodology (JPSM) was "to assess employees' perceptions of the policies, practices, conditions and organizational variables existing in the work environment of an individual statistical agency, and to compare or "benchmark" that statistical agency's standing on related issues with corresponding results in other statistical agencies" (Hakes). Nine federal statistical agencies agreed to participate and the survey of the Organizational Climate at Federal Statistical Agencies was born.

Instrumental to the 1997 survey design (hereafter referred to as the JPSM Survey) is the definition of climate. Climate is the “incumbent’s perceptions of the events, practices, and procedures and the kinds of behavior that get rewarded, supported, and expected in a setting” (Schneider, 1990). Three related issues impacted the survey design; the climate construct, the form of the data, and the unit of analysis.

Schneider (1990) argues that the climate construct may subsume almost anything. Boundaries needed to be identified in such a way as to provide strategic foci. This challenge was met by conducting focus group sessions, pretesting, borrowing questions from other surveys, and expert review, methods prescribed by numerous survey methodologists.

To address the form of the data, Schneider (1990) argues that recognizing the importance of perceptions is key to understanding and applying the climate construct. Earlier researchers had assigned a climate label for their own perceptions of the routines and rewards they themselves observed. Climate research (for example, Joyce and Slocum, 1982) supports the connection between incumbents’ perception and incumbents’ behavior. Thus, perceptions of the incumbent are the basic diagnostic data.

Schneider (1990) addresses the unit of analysis issue by imploring researchers to adhere to the distinction between the unit of data (individual perceptions) and the unit of analysis (agency, work group, etc.). He contends that the analysis of individuals’ perceptions may occur at any meaningful level provided that respondents are given a suitable frame of reference which corresponds to the level at which the data will be aggregated. An opening statement in the questionnaire focused the respondent on their own agency-level perceptions: “This survey is about your perceptions of the organizational climate in your agency. Please answer based on your experiences of the overall climate in your agency.” Consequently, the unit of analysis is agency, specifically NASS.

The JPSM Survey was designed, pretested and revised over a period of approximately four months. Two focus group sessions were used to query representative members of the population on aspects of their working conditions. The sessions were key to identifying valued working conditions and confirmed many climate dimensions discovered in prior research and surveys.

Two sessions of cognitive pretesting were conducted to: (1) ensure orderly questionnaire flow, (2) ensure sensible response categories, (3) discover interpretation differences, (4) gather respondent reaction to the survey, (5) estimate the length of the survey, and (6) confirm the selected dimensions as foci of the survey design.

Respondent debriefing was performed after the pretests to identify remaining problem questions and seek

clarification. Fourteen dimensions and 73 associated statements were developed. The JPSM class developed 19 additional statements or questions to assess overall satisfaction and morale, collect demographic information, and solicit additional comments on the issues covered in the questionnaire.

An advisory panel was formed to address agency concerns and review draft versions of key survey components. Each participating agency was represented on the panel. In addition, the Survey Research Center (SRC) at the University of Maryland reviewed and revised the draft survey instrument provided by the class. After two rounds of cognitive interviews, additional pretests were conducted by SRC. SRC staff recommended some changes to the draft survey instrument with the approval of the course instructor.

A five-point agree-disagree rating scale was used for 73 of the 92 statements or questions. These 73 statements correspond with the fourteen dimensions. The rating scale categories used were: *Strongly Disagree*, *Disagree*, *Neutral*, *Agree*, and *Strongly Agree*. The population was all permanent employees at each participating agency as of November 1996. NASS’ staff was randomly divided into three samples of 395 each; one received an electronic mail version of the questionnaire, another received a conventional mail questionnaire without identifying marks, and the third sample received a conventional mail questionnaire with an identification code on the back cover. Hereafter, the conventional mail samples are referred to as the anonymous and identifiable samples, respectively. Questionnaires for the identifiable sample contained a box on the back cover with an identification code; questionnaires for the anonymous sample contained the box without the code. Cover letters for the identifiable sample explained the presence and purpose of the code. The back page of the cover letters for both the anonymous and identifiable samples also contained similar data confidentiality provisions. All cover letters were printed on JPSM stationery. The Survey Research Center was responsible for administering all phases of the survey.

Paper questionnaires were sent through NASS’ interoffice mail system in JPSM envelopes and were returned by respondents through the U.S. Postal Service. Approximately two weeks after the initial mailing, post card reminders were sent to the entire anonymous sample and those in the confidential sample who had not yet returned their questionnaire. Approximately two weeks after the post card reminders, second questionnaires were sent to the entire anonymous sample and the identifiable nonrespondents. Telephone reminder calls were made to the identifiable nonrespondents two weeks after the second questionnaire was sent. No reminder calls were made to the anonymous sample.

2. Organizational Climate Survey Applications

Baseline Measure

With the development of the JPSM Organizational Climate Survey a decision must be made as to which instrument will be used to track the agency's climate. We contend the JPSM instrument produces a more reliable measure of climate than the previous NASS instruments. Consequently, the 1997 results mark the baseline NASS data series in addition to offering baseline comparisons with other statistical agencies combined.

To demonstrate the greater reliability of the JPSM instrument, Cronbach's Coefficient Alpha was calculated for each instrument. In each case, only substantive questions were included in the correlation analysis. Substantive questions were operationally defined as all questions other than background or demographic items. This resulted in 81 questions for the JPSM instrument and 16 questions for the NASS instrument. Alpha values for the JPSM and NASS instruments were 0.97 and 0.89, respectively. Since both alphas indicate strong correlation between the questions, the modest gain in the JPSM instrument may not be viewed as justification for the substantial increase in the number of questions.

Researchers have shown that organizational climate is not a singular measure, but is comprised of multiple components (Schneider and Snyder, 1975; Zohar, 1980). While the exact number of components is not clear, focus groups of federal statistical employees identified many areas of importance. These areas included such concepts as communication, supervision, and diversity, to name a few. The JPSM instrument was designed to address these individual components of organizational climate.

The question may be posed whether the JPSM instrument was successful at measuring multiple components. Also, did the NASS instrument measure multiple components of climate? To address these questions, common factor analysis was performed on the data from each instrument. Two factors were identified in the NASS instrument while 15 were identified in the JPSM instrument. These 15 factors approximately agreed with the 14 questionnaire sections. According to Schneider and Snyder (1975), the number of climate factors in a specific organization is determined by the people in that organization. As was mentioned earlier, the JPSM instrument was based on comments received from focus groups of federal statistical workers. Therefore, the JPSM instrument more accurately taps the issues important to NASS employees.

So far we have argued the JPSM questionnaire has marginally stronger reliability and is more likely to capture the various components of the NASS climate. These points would be less convincing if the much longer JPSM questionnaire produced significantly lower

response rates. Fortunately, the NASS response rates for the JPSM Survey were significantly *higher* than those for the NASS Survey.

Of the 1,330 questionnaires distributed for the 1993 NASS Survey, 63 percent were returned. Remember, this was entirely an anonymous mail survey. Of the 1,186 questionnaires distributed for the 1997 JPSM Organizational Climate Survey, 72 percent were returned. However, the two response rates are not directly comparable due to the mode experiments conducted (e-mail versus conventional mail and anonymous versus identifiable conventional mail). The overall JPSM return rate is brought down by the lower response rate of those employees in the e-mail (61 percent) sample. The JPSM survey return rates for the anonymous and identifiable conventional mail samples were 73 percent and 79 percent, respectively. Interestingly, the return rate was higher for the identifiable employees. It has also been shown that the attitudinal measures produced from the anonymous and identifiable samples were *not* statistically significant nor were they between the e-mail and conventional mail.

Unfortunately the JPSM Survey has one critical drawback — direct comparisons are not possible with the NASS Survey data series. The two instruments have five either exactly or nearly exactly worded questions, however, due to scale differences no exact comparisons can be made. As mentioned earlier the majority of the JPSM instrument used a five point scale ranging from *strongly disagree* to *strongly agree* while the majority of the NASS instrument used a five point scale ranging from *always* to *never*. Since we have no knowledge of the comparability of the scales in the NASS population, we feel direct survey comparisons are not advisable.

The only question common to both instruments with similar scales asks for current job morale. The wording is identical on the two instruments. Two methods were investigated to compare the JPSM responses to those from the 1990 and 1993 NASS surveys.

The first method involved creating three equal partitions of the five point scale. This was done by assigning JPSM *very low* morale responses to the *low* category, two thirds of the JPSM *low* responses to the *low* category, one third of the JPSM *low* responses to the *medium* category, all JPSM *neither low nor high* responses to the *medium* category, one third of the JPSM *high* responses to the *medium* category, two thirds of the JPSM *high* responses to the *high* category, and all JPSM *very high* responses to the *high* category. Figure 1 contains the results. Because of the arbitrary method of assigning observations to the *low*, *medium*, or *high* categories, it is not possible to analyze the morale of subgroups.

NASS Self Reported Morale

Estimated By 3 Equal Partitions

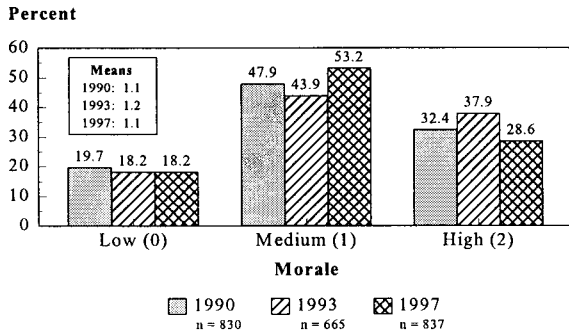


Figure 1. Morale (1990, 1993, 1997). Morale in 1997 is lower than 1993 using the equal partitioning method.

The second method involved assigning JPSM responses to the *low*, *medium*, or *high* morale category based on responses to high loading questions in factor analysis (Goldsamt, 1997). The method can be summarized as (1) collapsed JPSM categories *very low* and *low* to *low* because it was determined that respondents answering in one of these two categories were more likely to be not significantly different across the high loading questions, (2) collapsed JPSM categories *neither low nor high* and *high* to *medium* because it was determined that respondents answering in one of these two categories were more likely to be not significantly different across the high loading questions, and (3) analyzed individual observations to determine if they were likely collapsed into the wrong category. This was based on the individual's responses to the high loading questions. Figure 2 contains the results.

NASS Self Reported Morale

Estimated By Using Responses To High Loading Questions

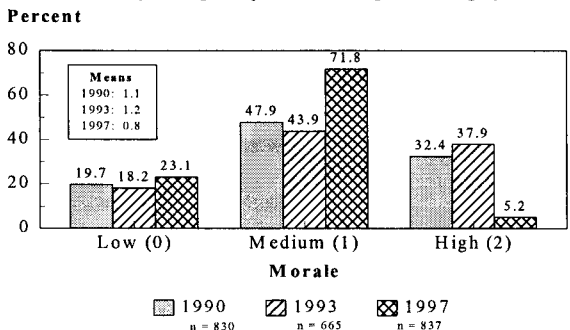


Figure 2. Morale (1990, 1993, 1997). Morale in 1997 is drastically lower than in 1993 using the factor method.

Comparison of Figures 1 and 2 illustrates why results from the different instruments should not be compared. While both methods are reasonable, they produce quite different results. One may be tempted to accept Figure 1 because its distribution more closely resembles 1990 and 1993 distributions. However, the statistical defensibility of this method is questionable. The second method benefits from greater statistical rigor but it produced almost unbelievable results. There is no apparent reason why morale at NASS would have decreased that drastically between 1993 and 1997.

Strategic Plan

The Government Performance and Results Act of 1993 was developed to improve Federal programs by establishing a system whereby each agency is to set goals for program performance and to measure program results. All executive agencies are required to submit a five-year strategic plan to Office of Management and Budget and to the Congress by September 30, 1997. Thereafter, a strategic plan will be submitted every three years.

Three performance measures from Goal XII of the NASS Strategic Plan specify quantitative results. The results from the organizational climate survey for these statements are as follows:

- Performance Measure, Objective 2, *Treat employees fairly, with respect and as special participants in an important mission*: Organizational climate surveys show fewer than 15 percent of employees are experiencing low morale (Fig. 3).

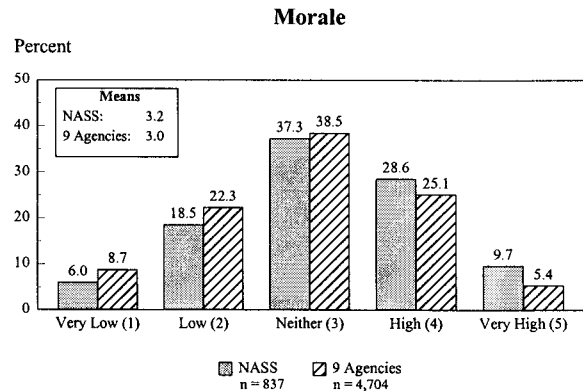


Figure 3. Agency Morale. Morale at NASS is higher than morale of the combined nine participating federal statistical agencies.

- Performance Measure, Objective 4, *Allocate financial and human resources effectively*: Over 80 percent of NASS employees report feeling a sense of ownership in their work at least fairly often (Fig. 4).

Employees Have Sense of Ownership of Agency

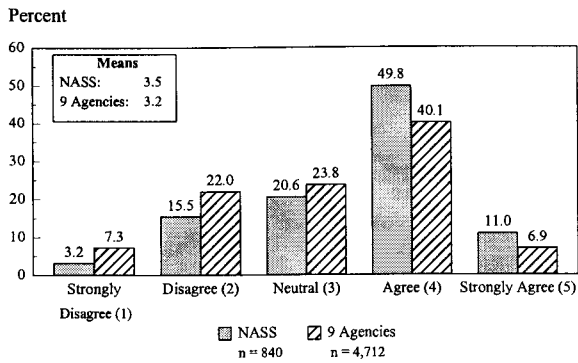


Figure 4. Agency Sense of Ownership. Sense of ownership at NASS is higher than that of the combined nine federal statistical agencies.

- Performance Measure, Objective 5, *Ensure an effective information resource management system maximizes production capability and facilitates communication for employees*: Less than 10 percent of employees cite lack of quality equipment as a negative work factor (Figure 5).

Employees Have Adequate Resources

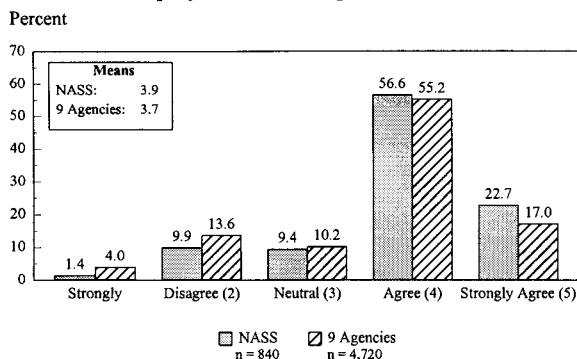


Figure 5. Adequacy of Resources. NASS employees agree or strongly agree that resources are adequate more than the combined reporting of the nine federal statistical agencies.

Personnel Management Evaluation

NASS consists of a headquarters office in Washington, DC in addition to 45 State Statistical Offices (SSO's) under NASS' Field Operations Division. Roughly two thirds of the Agency's 1,200 employees work in the SSO's and the remaining third work in headquarters. Each SSO averages between 15 and 25 employees, with a few exceptions.

Each SSO is subject to a Personnel Management Evaluation (PME) approximately every five years. The purpose of the PME is to assess the effectiveness of the personnel programs in the particular SSO and to provide advice and assistance on personnel management matters. PME's are conducted by a team of NASS managers and USDA personnel specialists.

A major aspect of the review process involves the Organizational Climate Survey. Six weeks prior to the site visit all members of the SSO receive a Organizational Climate Survey questionnaire that is very similar to the one conducted in 1993. The questionnaire for the PME also contains a question asking the respondent to evaluate the climate in their office. Completed questionnaires are individually sealed in envelopes and collectively returned to the PME team leader. Cooperation is usually 100 percent and all respondents are anonymous.

Questionnaires are summarized and compared to the most recent Agency wide survey in addition to the 20 most recent PME surveys conducted in the Agency. The summary primarily involves comparisons of individual question means and response frequency distributions. Although the sample size for an office is small, comparisons between the office and the agency climate provide NASS management with indications of the strengths of the SSO's leadership in addition to what areas may need improvement. During the site visit, a PME team member personally interviews each member of the SSO staff to substantiate or explain findings from the survey.

A written report is prepared by the evaluation team and presented to the field office within 30 days of the site visit. The report summarizes the findings and makes recommendations for improvement. SSO management is encouraged to share the report with their staff. However, the reports are not circulated throughout the Agency.

As described earlier, the JPSM Organizational Climate Survey instrument is different from the previous NASS Surveys. This fact has implications for future PME processes. While the JPSM instrument may still be administered prior to the site visit, the data should not be directly compared to the previous 20 PME surveys. However, comparisons may still be made with the 1997 Agency-wide figures.

Also, due to the substantial increase in the number of questions in the JPSM survey from the previous NASS instrument, it is probably not desirable to administer the entire JPSM instrument for the PME review. Since the PME review primarily focuses on communication, promotions/recognition, and supervisor/management issues, those may be the only sections of the JPSM instrument needed. This "reduces" the PME questionnaire to about 25 questions.

The JPSM instrument certainly addresses the *types* of issues the PME process targets, however, the nomenclature of the instrument must be changed in order to compare a particular office to the Agency as a whole. Under the construct of climate used in the JPSM instrument, respondents were asked their opinions of the Agency as a whole, and did not focus on the respondent's particular office or workgroup. While this construct was

effective at gauging the Agency's climate, it will need to be changed when dealing with a particular SSO. This will simply mean replacing phrases such as "in my agency" and "top level management" with "in my office" and "management in my office", respectively. Fortunately comparisons with the Agency wide climate survey will still indicate how a particular SSO compares to all of NASS, and comparisons with PME's from other SSO's will indicate how a particular SSO compares to other SSO's.

3. Discussion

Survey Instrument

We recommend that NASS adopt the JPSM instrument for future organizational climate surveys. The strength of the JPSM survey instrument lies in the multi-dimensionality of climate. Management is provided with a more concrete direction should a subclimate score be undesirable.

Survey Administration

The increased return rate of the JPSM Survey was surprising in light of the longer survey instrument. The JPSM survey was administered by the Survey Research Center (SRC). We also recommend that management review and select an outside source to administer future organizational climate surveys.

Mode

Even though the return rate was not as good for the e-mail version of the questionnaire, we recommend that management explore using e-mail with Raosoft software. Raosoft is currently used for other internal surveys at NASS.

Survey Frequency

The delay between organizational climate surveys in the past has been as few as one year to almost four years. We agree with the NASS Strategic Plan which recommends a NASS-wide organizational climate survey be conducted every three years.

Strategic Plan

The three performance measures discussed earlier can not be quantified due to the new response categories. We recommend that the performance measures be modified as follows:

- "Organizational climate surveys show fewer than five percent of employees are experiencing very low morale and fewer than 15 percent of employees are experiencing low morale."
- "Organizational climate surveys show more than 75 percent of NASS employees agree or strongly agree

- that they have a sense of ownership in their Agency."
- "Organizational climate surveys show more than 85 percent of NASS employees agree or strongly agree that they have adequate resources."

These recommendations are subject to management approval through the NASS Strategic Planning Council.

Personnel Management Evaluation

Due to the size of the JPSM Survey and the differences in the focus of the PME process, we recommend that the sections on communication, promotions/recognition, and supervisor/management from the JPSM Survey be used for PME's. This would require reordering sections in the JPSM instrument to prevent contextual effects when comparing data from the JPSM and PME surveys.

Survey Result Effects

The results from this survey are meaningless without management recognition of positive climates and corrective action of negative climates. We recommend that survey results and actionable steps be made available to all employees within 90 days of a clean data set.

It is disappointing that only 12 percent of the NASS respondents believe any changes will occur based on the results from this survey. We recommend that future pre-survey letters highlight changes that are direct results of past climate surveys.

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