

**Catalogue No. 93-09**

**SLID CONTENT EVALUATION  
THE AUTHORITY SERIES: SUPERVISION AND  
MANAGEMENT**

June 1993

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## **EXECUTIVE SUMMARY**

As part of the ongoing planning for the labour portion of the Survey of Labour and Income Dynamics (SLID), the authority series of questions, or those examining supervision and management, were analyzed using data collected in January 1993. An overview of these data revealed that they could provide supplementary information to Standard Occupational Coding (SOC), be used independently, or in the derivation of new variables. With regards to data quality, there were no evident problems with comprehension (as judged by response rates, don't knows), with the exception of a question on time spent supervising.

Subsequent to this analysis, a planning session on this series was held with academic and governmental representatives. A focus on independent uses of the data, and a clear delineation of management from supervision, resulted from this meeting.

Finally, the results of the data analysis and the planning session, in addition to the goals of SLID, constraints of proxy response and respondent burden, were all considered in the process of culling a revised series of questions, proposed for use in the SLID labour interview, starting in January 1994.



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## 1. INTRODUCTION

The authority (supervisory/managerial) series is a subsection of the Job Characteristics section of the SLID Labour interview, conducted as a test in January 1993. This series was derived from the General Social Survey (GSS), 1989 (cycle four).

The questions in this series were asked to all paid employees aged 16 to 69, within the context of a specific employer. For those with more than one employer, authority data were collected on a maximum of three, during the reference year. Using computer-assisted interviewing (CAI), the SLID labour interview was conducted on a sample from Newfoundland and southern Ontario. Both rural and urban areas were included in this sample. The data in this study have not been weighted (due to their unavailability at the time of analysis).

The objectives of this analysis were twofold: 1) Evaluate data quality, and, 2) Establish uses for the data; these include coding improvements, derivation of variables based on authority and other variables, or independent use of the data. A list of all SLID Test 3A questions can be found in SLID Research Paper 93-02 "SLID Labour Interview Questionnaire - January 1993". The questions, response options, and subsequent flows for the authority series are given below.

**CHAR-Q14: IN 1992, DID [respondent] DIRECTLY SUPERVISE ANYONE?**

YES - GO TO CHAR-Q15

NO - GO TO CHAR-Q17

DK/R - GO TO CHAR-Q19ONC

**CHAR-Q15: ABOUT HOW MANY PEOPLE DID [respondent] SUPERVISE (in an average week on the job in 1992)?**

1 TO 5 - GO TO CHAR-Q16

6 TO 20 - GO TO CHAR-Q16

MORE THAN 20 - GO TO CHAR-Q16

**CHAR-Q16: IN 1992, ABOUT HOW MUCH OF [respondent's]  
WORKING TIME WAS SPENT SUPERVISING OTHERS?  
WOULD YOU SAY...**

LESS THAN A QUARTER? - GO TO CHAR-Q17

BETWEEN A QUARTER AND A HALF? - GO TO  
CHAR-Q17

MORE THAN A HALF? - GO TO CHAR-Q17

DK/R - GO TO CHAR-Q17

**CHAR-Q17: WHICH OF THE FOLLOWING BEST DESCRIBES THE  
KIND OF WORK THAT (respondent) DID IN THIS JOB?  
WAS HE/SHE A MANAGER, A SUPERVISOR OR  
SOMETHING ELSE?**

MANAGER - GO TO CHAR-Q18

SUPERVISOR - GO TO CHAR-Q19ONC

SOMETHING ELSE - GO TO CHAR-Q19ONC

DK/R - GO TO CHAR-Q19ONC

**CHAR-Q18: WOULD YOU SAY THAT [respondent] WAS IN A TOP,  
UPPER, MIDDLE OR LOWER MANAGEMENT  
POSITION?**

Interviewer enters information - GO TO CHAR-  
Q19ONC

## **2. DATA QUALITY ANALYSIS OF TEST RESULTS**



To ascertain the quality of SLID data several things were done. The incidence of "don't knows" and refusals were examined. Next, authority by gender was looked at, with GSS as a comparison (albeit constrained). A GSS study looking at the consistency of SOC in light of additional data, including supervision, was then overviewed. Lastly, a similar type of analysis was performed with SLID data.

Use of GSS data for comparison, however, is problematic. The specific geographic scope of the SLID labour test (Newfoundland and southern Ontario) means that SLID is not nationally representative. Therefore, comparison would be difficult for different geographic levels. Also, the small sample size for the test run, means that comparison with GSS is not reliable, especially at smaller aggregates such as those who supervise/manage. Lastly, the SLID sample was not weighted at the time of this report, while GSS was.

## **2.1 Response Rates and Don't Knows**

Of the 991 respondents who were aged 16-69 and paid workers, 255 (26%) answered "yes" and 734 "no" in response to whether they directly supervised anyone in 1992 (CHAR-Q14). This compares with 32.4% of all paid workers and self-employed, from Cycle 4 of the 1989 General Social Survey (GSS). A figure for paid workers only was not available from the GSS.

There were also one "don't know" and one "refusal" for this question. Individually these accounted for 0.1% of the total. For the subsequent questions on supervision/management the "don't knows" ranged from zero to four (1.6% of total). The question with the largest number of "don't knows" was that dealing with time spent supervising (CHAR-Q16), probably the most difficult to quantify. CHAR-Q18, on level of management, had one "don't know" out of 81

respondents, or 1.2% of the total. With the exception of the question on time spent supervising, these suggest minimal confusion with the questions.

## 2.2 Debriefing and Issues of Question Clarity

There were only two comments provided by interviewers in debriefing summaries.

These were:

- "There are five questions concerning a management position. Is this necessary?" In response to this, only a subset of respondents answered these questions. It is valid, however, that we should minimize all forms of respondent burden.
- With reference to question CHAR-Q17, respondents didn't like the "something else" option. This issue is addressed in Section 4.1

## 2.3 Authority and Gender

The inclusion of the self-employed in the GSS sample probably explains the higher proportions of both males and females who said they supervise (CHAR-Q14), relative to SLID (Table 1). The same can be said for those who stated that "manager" best described their work (CHAR-Q17).

**TABLE 1: SUPERVISERS AND MANAGERS, BY GENDER**

	%	Female	Male
SLID	SUPV	20	31
	MNG	7	9
GSS	SUPV	25	38
	MNG	11	18

## **2.4 Overview of Coté's "The Occupational Coding of 5691 Respondents in Cycle 4 (GSS)"**

Coté (1990A) compared the occupational coding for Cycle 4 of the GSS with a second code derived by using additional data on supervision, completed education, hours worked, number of employees in the company and employment status. He examined the SOC at the four digit level. The GSS supervisory questions were the model for the SLID series, hence the relevance of the Coté analysis.

A limitation of this analysis, however, was that GSS did not have a question on major job duties (LFS and SLID do), facilitating coding at the four digit level. In an appendix, Coté notes that the coders often did not have enough information to accurately assign a code. Coté's conclusion on the accuracy of coding must be viewed in this light.

Coté concluded that substantial recoding resulted from examination of this additional Cycle 4 data, but 10.1% of the recoding was due to incorrect initial coding. The impact of the additional supervisory data was evident with a 110% increase in the number of foremen/women (excluding SOC 1130, 3330 and 3370). In addition, 54% of respondents in the managerial group were recoded, with 34% migrating out of this major group, as a result of recoding. This group declined from 11.7% to 9.1% of the total. A similar type of analysis performed with SLID data follows.

## **2.5 Fit Between SLID Data and Standard Occupational Code (SOC)**

Occupational coding has not yet been done for the SLID test sample. This sample, however, was drawn from former LFS respondents, and occupation is coded as a routine LFS operation. Hence, occupation as coded by LFS in January 1992, was

used here. Therefore any new jobs identified in SLID are excluded from this analysis.

To get some feel for the fit between authority data and assigned SOC, several potentially anomalous situations were examined. These include:

- Those who reported that they did not supervise but were coded as a supervisor (last digit is 0);
- Those who responded that they did not supervise but were coded as a manager (Major Group 11);
- Those who stated that they supervised but were not coded as either a supervisor or manager;
- Those who stated that "manager" best described their job, yet were coded as other than managerial.

These preliminary examinations, although not exhaustive, provide a solid basis for examining the fit between SLID's authority series and SOC.

Table 2 provides an overview of those coded as supervisors (last digit of SOC=0), managers (first two digits of SOC=11), or neither. Of the 255 who stated that they supervised, 48% were contradictory (prior to more in-depth analysis). For those who did not supervise, 6% were contradictory.

**TABLE 2 SOC CODE BY RESPONSE TO CHAR-Q14**

	SUPERV.	DOESN'T SUPV.	TOT
SUPV. CODE	39 (15%)	11 (2%)	50 (8%)
MGT. CODE	94 (37%)	33 (4%)	127 (12%)
NEITHER	122 (48%)	690 (94%)	812 (80%)
TOTAL	255 (100%)	734 (100%)	989 (100%)

"No" to Supervision but with a Supervisory Occupational Code (last digit of SOC=0)

Eleven respondents stated "no" to the supervisory question (CHAR-Q14), yet were coded as a supervisor. Of these:

- Three had the word "foreman" or "supervisor" in the LFS "kind of work" question, and one in the "duties" question. Hence the response to supervision was contradictory.
- Six were included in a supervisory category (last digit of SOC was 0) but a negative response to CHAR-Q14 was consistent since the job involves the supervision of non-employees, such as coach, building superintendent, etc..
- One case should be recoded after examining SLID data. This was a Senior Service Representative who serviced business equipment. The senior in the title resulted in a supervisory code (8580) but on examination of SLID data there was a "no" response to supervision. Hence a recode to 8585 - Business and Commercial Machines is suggested.

"No" to Supervision but with a Managerial Occupational Code

Thirty-three respondents stated that they did not supervise but were coded in Major Group 11 - Managerial, Administrative and Related Occupations.

- Twenty-four were appropriately coded; that is, the occupational code, although managerial, did not imply supervision - but four others appeared to supervise (based on LFS data), indicating an incorrect SLID response.
- Four appeared to be incorrectly coded even before examining the supervisory data, including three that should be moved out of the

management group. Two of these had "accountant" or "accounting" as kind of work and "accounts receivable" and/or "accounts payable" as main duties. These should be recoded from 1171 to 4131.

- For one, the supervisory question shed additional light, suggesting a different occupational code. This was a department head (English) at the grade school level, whose main duties were teaching.

#### "Yes" to Supervision but Without a Supervisory or Managerial Occupational Code

There were 255 "yes" respondents to the supervisory question. Of these, 39 (15%) were coded as a supervisor, and 94 (37%) were coded as a manager (first two digits of SOC=11). These groups were not examined further, as they were consistent (assuming that managers supervise - which is not always the case).

The remaining 122 (48%), or those with incongruities between occupational code and the supervisory question, were subject to further analysis.

Several assumptions were formulated prior to proceeding with the analysis.

- For individuals who stated that they supervised only one to five persons but considered themselves "something else", the non-supervisory occupational code was assumed to be correct (subdivided for analytical purposes into those supervising less than one quarter of the time, and greater than one quarter of the time)
- For respondents who supervised six to 20 persons, or more than 20 persons, it was assumed that a supervisory or managerial occupational code would be more appropriate, regardless of time spent supervising and self-identification.
- If one to five persons were supervised and the respondent self-identified as a supervisor, recoding to the supervisory level was felt to be appropriate.

- For respondents who supervised one to five persons, but considered themselves to be managers, recoding to the managerial level was considered appropriate for those in professional groupings (21, 23, 27, 31, 33). For those in non-professional groupings, recoding to the supervisory level was done.

Results:

- There was consistency between occupational code and response to the supervisory question in 50 of 122 responses. This includes 14 who supervised one to five persons, less than one quarter of the time, and self-identified as "something else", and 35 supervising one to five persons, greater than one quarter of the time and self-identified as "something else". Also, one individual worked for the federal Department of Transportation as an instructor, but stated that he or she supervised and instructed six to 20 persons. The occupational code that was chosen, 2797 - Instructor and Training Officer, was appropriate.
- Twelve cases appeared to need recoding, but could not be, since a supervisory code did not exist for this occupational group. Hence the original code was acceptable. For example, one respondent coded as a chemist (2111), supervised six to 20 persons, with greater than one half of their time spent supervising, and considered themselves to be a supervisor. However, a supervisory category does not exist for chemists.
- Thirty-two (26%) cases could be recoded with the additional information available from SLID. Nine (7%) were established as miscodes prior to looking at the SLID data.
- For 19 (16%) cases there was a strong likelihood that the respondent's affirmative response to the supervision question reflected supervision of a class or caseload. The two groups where this was an issue were teachers and nurses. This was also the case in Coté's analysis of GSS supervisory

data. This raises concern for the structure of the supervision question. Should a more explicit question be formulated? This is addressed later in this report.

An examination on a major group basis is included in Appendix 1 for those interested in further detail.

Self-identified as a Manager but Without a Managerial Occupational Code

Table 3 shows a tabulation of management/non-management occupational codes by the responses to CHAR-Q17: manager, supervisor or something else. Particularly noteworthy are the 19 who stated that "manager" best described their work but were not coded as such. Also, a number of cases were coded as managerial but stated that "something else" best described their work (39). However, only the former group is analyzed more closely in this document.

**TABLE 3     MANAGERIAL CODE BY "WHAT BEST DESCRIBES WORK" (CHAR-Q17)**

	MANAGER	SUPER-VISOR	SOMETHING ELSE	TOT
MGT. OCC.	62	26	39	127
NOT MGT.	19	80	763	862
TOTAL	81	106	802	989

There were 19 respondents who stated that "manager" best described their work but were not coded appropriately, representing 25.9% of those self-identified as a "manager". The SLID data serves as a check in isolating "true" managers (SOC code is managerial, as is self-identification in SLID).



- For two cases, the SOC as per LFS was not the most appropriate (error).
  - For seven cases, a recode to the managerial grouping appeared necessary after referring to the SLID data.
  - For five, despite stating that "manager" best describes their work, a recode to a supervisory level seemed most appropriate.
  - Three stated that they were a manager, but this contradicted all other available data. This may have reflected confusion over the concept of management. Those who did not supervise (per CHAR-Q14) but stated that they were managers (per CHAR-Q17), were not recommended for recode to the management group, based on the self-identification only.
  - One teacher appeared to be referring to students.
  - One respondent was appropriately coded at the supervisor level.
- Therefore, the SLID response was wrong.

Table 4 provides a breakdown of the self-identified levels of management for those who stated that "manager" best described their work. (It was not cross-tabulated by gender due to the small cell sizes.)

Comparing SLID with GSS (1989-cycle 4) reveals that 32.8% of GSS and 21.4% of SLID managers considered themselves to be at the top level. However, given the small number of managers in the SLID sample, a comparison with GSS was not reliable. Therefore it was not examined further.

**TABLE 4      MANAGERIAL CODE BY "LEVEL OF MANAGEMENT"  
(CHAR-Q18)**

	TOP	UPP	MID	LOW	TOT.
MGT.	16	7	29	9	61

	TOP	UPP	MID	LOW	TOT.
NOT MGT. CODE	2	4	8	5	19
TOTAL	18	11	37	14	80

## 2.6 Conclusion of Data Analysis

The examination of the "anomalies" revealed that some recoding due to SLID data was possible (although recoding was not performed here). For those who stated "yes" to supervision but without a supervisory or managerial code, recodes were suggested for 13%, while 4% were miscoded in LFS. Those who supervised but likely referring to patients/caseload or students, constituted 7%. A minor change in the wording of one question should alleviate this latter problem (See Section 4.1).

On the other hand, 52% had either a supervisory or managerial code, or had consistency between SOC and SLID response. This rises to 76% when including those that were subsequently found to be consistent.

For both groups that stated "no" to supervision (per SLID), but with either a managerial or supervisory code, enhancements in SOC coding due to SLID would be minimal. Of these, 74% supervised as per SLID. Upon further study, an additional 18% were found to be consistent, as the SOC category did not necessitate supervision of employees. On the other hand, 5% had SLID responses inconsistent with LFS data. Lastly, 3% were incorrectly coded in LFS.

For the nineteen managers without management occupational codes, a number of inconsistencies remained after analysis, including 12 suggested recodes. This constituted 15% of all managers.

The above suggests that a more accurate gauge of managerial and supervisory responsibilities could be ascertained by using direct and explicit questions similar to those used in the SLID test. The questions could be used independently, or with other SLID/LFS variables in the creation of a measure of socio-economic status. The longitudinal philosophy of SLID will, in turn, foster the determination of changes in supervisory/managerial status at micro levels, over various time frames and levels of aggregation.

### **3. CONTENT WORKSHOP**

The authority series of questions was the subject of an all day workshop held April 20, 1993. This session included sociologists from several universities, and Statistics Canada representatives.

The content of this discussion can be subsumed under the following:

- 1) Results from a SLID report on Test 3A data;
- 2) Discussion of the analytical value of authority (supervisory/managerial) questions, in general;
- 3) Examination of the current set of SLID questions - Do these provide analytically valuable data? What should be retained and changed, and why?

#### **3.1 Overview of SLID Data**

There was strong disagreement with the idea of recoding using these additional data. Corrected SOCs are problematic since comparability with other data sets

based on SOC is impossible. One party suggested the possibility of two sets of SOCs, the original set and a recoded one. Ultimately this was decided against, partly because the revamping of this Statistics Canada standard is not within the scope of SLID.

Participants declared the use of authority data in the creation of a status hierarchy to be a dead-end issue in social analysis. Looking at the data on their own merit is more valuable analytically. It is supplementary, rather than complementary, to the SOC. Derived variables are therefore not necessary.

Several participants inquired about a proxy/non-proxy analysis. This would allow the determination of the reliability of detailed authority questions with proxy responses. The results of this subsequent analysis can be found in Appendix 2. Briefly, there were no noteworthy differences between proxy and non-proxy respondents. Nonetheless, the caution against asking detailed questions to proxy respondents remains.

The issue was raised of asking the authority series of questions to the self-employed in addition to paid workers. The former were excluded from SLID (but not GSS) due to an initial presumption that all self-employed with employees supervised, and the Class of Worker (CLW) variable would capture this.

The possibility of using dependent interviewing (feeding back of information, particularly when contradictions with previous periods exist) was examined. This was considered problematic by some because of the additional time that this would consume. Also, the repetitiveness of dependent interviewing may be onerous for the respondent. Lastly, feeding back information when answers are inconsistent, can be confrontational.

### **3.2 Analytical Value of Authority Questions**

The structure of occupational coding is unidimensional (task structure of the job) while jobs are **multidimensional**. Other such dimensions include supervision and/or management, skill and education required, and autonomy and control.

The SOC provides data on the technical division of labour, while supervisory/managerial questions can provide data on the social division, or hierarchical structure of labour. This includes power/authority over others, the degree of authority (can you fire, grant pay raises?), and involvement in policy setting, budgeting, hiring and so on (managers). It was decided that current questions do not provide enough data on these other dimensions. This led to suggestions for question change, improving analytical value (see sections 3.3 to 3.6).

### **3.3 Differentiating Supervision from Management**

One workshop participant stated that there are two objectives of the authority module: are you a supervisor and tell us something about it, and are you a manager and tell us something about this. This very straightforward explanation emphasizes that we have to clearly distinguish the two concepts. This was not done in the initial series. We also have to decide what we want to find out about each. SOC indicates whether a person is a supervisor or a manager, but not both - hence the potential value of SLID. Currently, however, one question establishes these two as mutually exclusive. Examples of variations include: An employee at a fast food chain who supervises staff, but is not involved in budgeting or hiring, is a supervisor. If they are also involved in the latter tasks, they are a manager and a supervisor. If an employee manages or administers without directly supervising staff, such as a school board administrator, they are a manager only.

It is important to have behavioural questions differentiating supervisors from managers. Some managers, as coded by SOC, do not have policy functions but supervise. Therefore their position in the hierarchy is misrepresented. This was a rationale for asking a question on policy setting - to clearly distinguish the two groups. For example, a respondent who states that he/she supervises and considers his/her work managerial, yet is not involved in policy setting, may well be a supervisor only, especially if he/she reports being in lower management. This also demonstrates that questions can be structured to isolate "false positives" - those stating that they supervise/manage, but whose response to the behavioural questions suggest otherwise - and "false negatives" - those stating that they do not supervise/manage, but whose behavioural responses suggest that they do. In addition, it enables a differentiation of degrees of supervision and management, facilitating analysis of hierarchical position.

Regarding the objectives of the supervisory and managerial sub-sections, participants ultimately decided that the focus would be on the activity of supervision, and the rank/position for managers.

### **3.4 Longitudinal**

The issue was raised that these data might be used for cross-sectional analysis only. What potential longitudinal analyses exist?

First, these data can be used to examine the relationship of authority/hierarchy position to pay (human capital model - pay equations). A problem exists, however, with response errors in measuring change in wages between employers.

Additional supervisory/managerial data can also accurately pinpoint career position (i.e., stenographer, clerical supervisor, office manager, etc.), which could be

misrepresented using only SOC codes. In turn, career change can be analyzed with a greater degree of accuracy. That is, career path and transitions into management can be followed. Hence, the impact is cross-sectional and longitudinal. Another longitudinal issue which could be addressed is whether supervisory/managerial workers are more buffered in recessionary times.

### **3.5 Other Uses**

SOC only gives those whose primary responsibility is supervision. SLID wants to determine all those who supervise, even if it is not the primary responsibility. This leads into another issue: do we want to know how many people are supervised directly, or how many are below the respondent in the hierarchy (direct and indirect supervision). There was agreement on using direct, largely because it is virtually impossible to collect data on indirect supervision among proxy respondents, and very difficult for some non-proxy.

Differentiation within the broad self-employed group can be attempted with additional data. As mentioned before, the self-employed were not asked this series of questions - the presumption being that most self-employed supervise, and the number of employees as determined by the Class of Worker (CLW) variable, could be used to determine the number supervised.

Another item of interest for division of labour analysis, but not currently in SLID, is the gender structure of authority. Specifically, sex of supervisor is an important data item. (The presumption is that men supervise men and women, while women supervise only other women.) This content issue was not pursued further due to perceived difficulties in collecting this from proxy respondents, and the lack of longitudinal utility.

### **3.6 Autonomy and Control**

The supervisory/managerial series can also contain questions on autonomy, fostering knowledge of work conditions. This also facilitates hierarchical analysis. Two proposed questions include freedom at work, and repetitiveness of tasks. These would be asked of all paid workers (and self-employed and unpaid family workers, if included in this universe).

### **3.7 Respondent Burden / Proxy Reporting**

Additional questions were felt to be justified since response burden would be increased only for those who supervise/manage. On the other hand, any respondent attrition due to length of the survey, affects the data quality of the entire survey. In the SLID test, respondents (paid workers) answered two to five questions. Now the range is four to nine, and self-employed and unpaid workers may also be included in the authority series universe.

Proxy respondents may also have difficulty answering detailed questions such as those on autonomy. This could manifest itself in increased "don't knows" or decreased reliability of data.

## **4. FINAL SERIES OF QUESTIONS**

With a goal of providing a succinct series of questions which examines supervision and management separately, a revised series was prepared. Minimization of response burden was a priority, as was the longitudinal focus of SLID. That is, the questions must result in data of analytical value in a longitudinal context. The final series of questions are given below:



**SUPERVISORY RESPONSIBILITIES**

**(For Paid Workers, Self-Employed, and Unpaid Family Workers)**

**Q1. IN THE PAST YEAR AT THIS JOB, DID ... SUPERVISE THE WORK OF OTHER EMPLOYEES? (delete "OTHER" for self-employed and unpaid family workers)**

For Paid Workers:

Yes - Go to Q2

No - Go to Q5

DK/R - Go to Q5

For Self-Employed and Unpaid Family Workers:

Yes - Go to Q2

No - Go to next module

DK/R - Go to next module

**Q2. ABOUT HOW MANY PEOPLE DID ... SUPERVISE DIRECTLY?**

\_\_\_\_\_ - Go to Q3

DK - Probe for an estimate, if still DK go to Q3

R - Go to Q3

**Q3. DOES ... HAVE AN INFLUENCE ON WHETHER A PERSON HE/SHE SUPERVISES RECEIVES A PAY RAISE OR PROMOTION?**

Yes - Go to Q4

No - Go to Q4

DK/R - Go to Q4

**Q4. IS ... DIRECTLY RESPONSIBLE FOR DECIDING THE SPECIFIC TASKS OR JOBS TO BE DONE BY THE PEOPLE HE/SHE SUPERVISES?**

For Paid Workers:

Yes - Go to Q5

No - Go to Q5

DK/R - Go to Q5

For Self-Employed and Unpaid Family Workers

Yes - Go to next module

No - Go to next module

DK/R - Go to next module

**MANAGERIAL RESPONSIBILITIES**

**(For Paid Workers Only)**

**Q5. IN THE PAST YEAR AT THIS JOB DID ... MAKE DECISIONS ABOUT BUDGETS OR STAFFING?**

Yes - Go to Q6

No - Go to Q6

DK/R - Go to Q6

**Q6. IN 1992, WAS ...'S WORK WITH (THIS EMPLOYER) MANAGERIAL?**

Yes - Go to Q7

No - Go to next module

DK/R - Go to next module

**Q7. WOULD ...'S WORK BE BEST DESCRIBED AS TOP, UPPER, MIDDLE OR LOWER MANAGEMENT?**

Top - Go to next module

Upper - Go to next module

Middle - Go to next module

Lower - Go to next module

DK/R - Go to next module

**4.1 Rationale for Final Selection and Alterations**

It was decided that the self-employed would be asked the supervisory questions only. Although the class of worker question isolates the self-employed, with or without employees, the number supervised by the self-employed may not correspond to the number of employees. This is particularly the case for more complex organizational structures with larger numbers of employees. Unpaid family workers were also added to the universe for the supervisory questions.

The self-employed are not to be asked the managerial series of questions, though; the assumption being that self-employed with employees would be involved in managerial decisions such as budgeting and staffing. Hence no additional meaningful information would be gathered by asking this. Similarly, unpaid family workers are excluded from the managerial questions as they are not deemed relevant.

Dependent interviewing will not be performed for every question. When it will be done depends on the question flow followed.

For Q1 (previously CHAR-Q14), the reference was changed to "supervise employees" from "supervise others". This tackles the issue of teachers and nurses saying that they supervise, but likely referring to students or patients.

The word "directly" was removed from Q1 and put in the subsequent question on number supervised (Q2, previously CHAR-Q15). It is not necessary to make the initial distinction between direct and indirect in the first question as this may lead true positives away from a "yes" response. Having the reference to direct supervision in the question will enable a differentiation between those who indirectly and directly supervise (compare responses to Q1 and Q2).

Another change in form for this question is that respondents state the exact number supervised, rather than selecting one of three mutually exclusive and exhaustive categories. This will be more meaningful in analysis as previous groupings were too broad for many analytical purposes. For those unable to give an exact number, the second part of the question is a prompt asking for an estimate. A query for high responses can be added, i.e., 30. There is also the possibility of zero being an answer, if people are supervised but indirectly.

The previous question on time spent supervising was felt to be substantively meaningless by most and was abandoned. As shown earlier, it also had the largest number and proportion of "don't know" responses. As well, CHAR-Q17 (kind of work best described as supervisory, managerial or other?) was dropped, since supervisors and managers are not mutually-exclusive groups.

The third and fourth supervisory questions (Q3 and Q4) look at job content. The third specifically examines sanctioning authority - whether people have power over others. These two questions also establish the degree of supervision. In the process, false negatives can be isolated. For example, those who have no influence

on pay and promotion, nor directly responsible for deciding the tasks done by the people supervised, may be foremen/women rather than supervisors.

As established earlier, the primary focus of the managerial questions is to look at rank or position. The initial question (Q5) looks at involvement in budgeting and hiring. These are key functions of managers and will help to isolate those who consider themselves managers but are more likely supervisors. It also is a fundamental part of determining hierarchical/authority position.

This is followed by a self-identification managerial question (Q6). Once again this allows us to isolate those who consider their work managerial but are not managers (lower level).

The initial question on level of management (now Q7), is retained. After some discussion, it was successfully argued that this, in coordination with the other questions, isolates managers from supervisors, allowing removal of false positives. It was changed, however, from "Would you say that..." to "In 1992, was ...'s work with..". This reduces the perception or opinion aspect of this question.

Questions on autonomy (i.e., repetitiveness of tasks, freedom of work) were proposed to examine the quality of work life. This is more useful for cross-sectional, rather than longitudinal analysis. Also, autonomy questions do not fit in with the goal of measuring career progression. They also require detailed knowledge of the job - a problem with proxy respondents. Lastly, it would likely take more than two measures to ascertain autonomy, adding to respondent burden. As a result, autonomy questions were not added.

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## **APPENDIX 1**

### **DETAILED DESCRIPTION OF INCONSISTENCIES BETWEEN REPORTING TO BE SUPERVISOR AND SOC CODE**

### **Major Group 21 - Natural Sciences, Engineering and Mathematics:**

- Three respondents who supervised one to five persons, less than one quarter of the time, and self-identified as "something else", were consistent with a non-supervisory or non-managerial SOC. One respondent who supervised one to five persons, one quarter to one half of the time, and self-identified as "something else" was also consistent.
- Three respondents who supervised six to 20 persons and self-identified as a manager were suggested recodes. Two others who supervised six to 20 persons, but self-identified as a supervisor and something else, respectively, could not be recoded to a supervisory grouping as one does not exist.
- Three respondents supervised one to five persons and self-identified as supervisors, but there were no supervisory codes for these occupations.
- Two respondents who supervised one to five persons but self-identified as managers, were suggested recodes to the managerial subgroup.
- One respondent who supervised more than 20 persons, more than one half of the time and self-identified as a supervisor, should be recoded but to the manager level.

### **Major Group 23 - Occupations in Social Sciences and Related Fields**

- One respondent supervised one to five persons, less than one quarter of their time, and self-identified as something else - this was consistent.
- One, who supervised one to five persons, less than one quarter of their time, and self-identified as a manager (2315 - psychologist), was a possible recode to 1134, Manager - Health and Social Services Industries. This was established after looking at the SLID data.



- One supervised more than 20 persons, more than one half of the time and identified as "something else", was likely referring to the supervision of participants (fitness counsellor).
- One respondent who supervised more than 20, more than one half of the time, and self-identified as a supervisor (2333 - Welfare and Community Services) should be recoded to Major Group 31, Occupations in Medicine and Health (3130 - Supervisors: Nursing, Therapy and Related Occupations). The recode was evident without reference to SLID data.

### **Major Group 27 - Teaching and Related Occupations**

- Six who supervised one to five persons, less than one quarter of the time and self-identified as something else are consistent, as is one respondent who supervised one to five persons, did not know the amount of time spent supervising, and self-identified as "something else".
- Five who supervised six to 20, or more than 20, were very likely referring to students supervised. Two who supervised one to five persons may have been referring to students, but also a teaching assistant.
- One respondent instructed and supervised staff and was therefore coded appropriately.

### **Major Group 31 - Medicine and Health (except Nursing)**

- Two self-identified as supervisors, with six to 20, and more than 20 persons supervised, respectively, but there wasn't a supervisory code.
- One supervised one to five persons, one quarter to one half of the time and identified as "something else", so the coding was consistent.

**Major Group 31 - Nursing (3131 - Nurses, and 3134 - Registered Nursing Assistants)**

- Nine respondents are coded appropriately as all supervised one to five persons, and self-identified as "something else". Of these, six supervised less than one quarter of the time while three supervised more than one quarter of the time.
- For six respondents who supervised six to 20, or more than 20 persons, they were likely referring to a caseload. It is also possible that this apparent contradiction results from nurses who are frequently appointed charge nurse on a shift basis but who are not head nurses. This is possibly the case for three respondents who supervised one to five persons, one quarter to one half, or more than one half of their time, and self-identified as supervisors.

**Major Group 33 - Artistic, Literary, Recreation and Related**

- One radio announcer self-identified as a supervisor (six to 20 persons) but there a supervisory code did not exist for this occupation.

**Major Group 41 - Clerical and Related Occupations**

- Three respondents who supervised one to five persons, less than one quarter of their working time, and self-identified as "something else" were consistent. Two who supervised one to five persons, more than one quarter of the time, respectively, and self-identified as "something else" were also consistent.
- Eleven (11) cases were suggested recodes based on SLID data. This includes two who supervised one to five persons, less than one quarter of

the time, but considered themselves managers. These would likely be recoded to a supervisory category.

- Two were coded wrong - this was evident before examining the SLID data.

### **Major Group 51 - Sales**

- Three respondents who supervised one to five persons, one quarter to one half of the time, were coded appropriately.
- One should be recoded based on SLID data. This respondent supervised one to five persons, one quarter to one half of their time, but self-identified as a manager. This is doubtful as the kind of work is "produce clerk" and duties are "stocking produce on shelves. A recode to a supervisory category is deemed best. The second supervised six to 20 persons, one quarter to one half of the time, and self-identified as a supervisor.
- One was a LFS coding error.

### **Major Group 61 - Service Occupations**

- One respondent supervised one to five persons, less than one quarter of the time, and self-identified as "something else". This was consistent.
- Five respondents with one to five persons supervised, less than one quarter of the time, and self-identified as "something else", with no suggestion of supervision in the LFS, were consistent.
- Three were LFS coding errors.
- One respondent with more than 20 persons supervised, more than one half of the time, and self-identified as a "supervisor" were likely referring to children supervised in a school lunchroom.
- For two cases, recoding to supervisor is recommended but a more appropriate code does not exist. Hence the code was consistent.

- Four cases were suggested recodes after analyzing SLID data, including two who supervised six to 20 persons, and self-identified as "supervisor".
- In one case, a building superintendent stated that they supervised one to five persons, more than one half of the time, but self-identified as "something else". The respondent was likely referring to supervision of residents. Therefore the SOC is acceptable. Once again, however, the issue of question comprehension is raised.

### **Major Groups 71, 73, 75 and 77 - Fishing, Farming, Trapping, Mining and Quarrying**

- One Area Habitat Coordinator with duties of habitat management (as per LFS), was coded to 7319 - Fishing, Trapping and Related. This was an error as the more appropriate code appeared to be 6119 - Protective service Occupations, Conservation Officer. There was no supervisory code for the latter group.

### **Major Group 81/82 - Processing**

- Two cases are suggested recodes based on SLID data. One supervised more than 20 persons, more than one half of the time, but self-identified as a supervisor. This respondent should be recoded to the managerial group. The other respondent supervised one to five, more than one half of the time, and identified as a supervisor.

### **Major Group 83 - Machining and Related**

- One respondent who supervised one to five persons, less than one quarter of the time, and self-identified as "something else", had consistency between SOC and SLID response.
- Two respondents who supervised six to 20 persons, should be recoded after examination of SLID data. This includes one who supervised one quarter to one half of their time, but self-identified as "other". This should be recoded from 8311 Tool and Die Making Occupations to 8310 Foremen/Women: Metal Machining Occupations. Another one supervised less than one quarter of the time, but considered themselves to be a supervisor, should be recoded from 8313, Machinist and Tool Setting, to 8310.

### **Major Group 85 - Product Fabricating**

- Three respondents who supervised one to five persons, less than one quarter of the time, and self-identified as "something else", were consistent. Two who supervised one to five persons, one quarter to one half of the time and identified as "something else", were also appropriately coded.
- Three were suggested recodes to the supervisory level after examination of SLID data.

### **Major Group 87 - Construction**

- Two respondents who supervised one to five persons, one quarter to one half of the time, and self-identified as "something else", were appropriately coded.
- Four should be recoded to supervisory codes after review of SLID data.
- One was coded wrong in LFS as duties were "supervising staff".

### **Major Group 91 - Transport Equipment**

- One respondent who supervised one to five persons, one quarter to one half of the time, and identified as "something else", was coded appropriately.
- One respondent who supervised one to five, less than one quarter of the time, and self-identified as a supervisor, but this occupation (Lighthouse Keeper - 9159) did not have a corresponding supervisory category (Water Transport Operating Occupations).

### **Major Groups 93 and 95 - Material Handling/Other Craft**

- Two respondents who supervised one to five persons, one quarter to one half of the time and identified as "something else" were appropriately coded.
- One individual gave "photo technician" as their kind of work per LFS and were coded to 9591 - Photo Processing Occupations. This can be recoded to 9590 - Foremen/Women - Other Crafts and Equipment Operating Occupations, n.e.c. (Film Developer - Foremen/Women) since they

supervised one to five persons, less than one quarter of their time, and self-identified as a supervisor.

## **APPENDIX 2**

### **EXAMINATION OF PROXY DATA**



## Introduction

The proposed series of questions on management/supervision are more detailed than the original series. It was therefore imperative, that a data quality analysis be performed for proxy data. The presumption is that proxy respondents would have difficulty in answering detailed questions.

A caution should be issued, however. In some cases, field operational problems led to the wrong person being identified as providing the information. Thus, for some, proxy/non-proxy status will be wrong. The number of errors cannot be determined.

This analysis includes a cross-tabulation of proxy/nonproxy response by gender, and cross-tabulations of proxy/nonproxy by each of the managerial/supervisory questions. Lastly, an analysis of the accuracy of SOC coding, utilizing LFS and SLID (authority) data, is undertaken.

## Gender

- The table below clearly shows that for most female respondents the data were obtained from the respondent themselves, while for males, most were obtained by proxy. In fact, 65% of all proxies were for males.

**TABLE A1 TYPE OF RESPONDENT BY GENDER**

	FEMALE	MALE	TOTAL
PROXY	217 (41.6%)	409 (67.0%)	626 (55.3%)
NONPROXY	305 (58.4%)	201 (33.0%)	506 (44.7%)
TOTAL	522 (100.0%)	610 (100.0%)	1132 (100.0%)

**SLID Question Analysis**

- For each of the supervisory/managerial variables the don't knows and refusal (only one) were all proxy respondents. The numbers, however, were small.
- The percentage of proxy and non-proxy respondents who do, and do not supervise, are comparable (Table A2). For women, proxy and non-proxy respondents have virtually the same percentages while non-proxy males had a slightly higher percentage than their proxy counterparts.

**TABLE A2 TYPE OF RESPONDENT BY WHETHER SUPERVISE (CHAR-Q14) AND GENDER**

	YES	NO	TOTAL
<b>Female</b>			
PROXY	40 (20.2%)	158 (79.8%)	198 (100.0%)
NON-PROXY	56 (20.3%)	220 (79.7%)	276 (100.0%)
<b>Male</b>			
PROXY	103 (30.6%)	234 (69.4%)	337 (100.0%)
NON-PROXY	56 (31.5%)	122 (68.5%)	178 (100.0%)

- Proxy respondents were slightly more likely to supervise smaller groups. As shown in table A3, 52.8% of proxy respondents supervised one to five persons versus 50.9% for non-proxy. The difference is only 1.5 percentage points.

**TABLE A3 TYPE OF RESPONDENT BY NUMBER SUPERVISED (CHAR-Q15)**

	1-5	6-20	20+	TOTAL
PROXY	75 (52.8%)	42 (29.6%)	25 (17.6%)	142 (100.0%)
NON-PROXY	57 (50.9%)	32 (28.6%)	23 (20.5%)	112 (100.0%)
TOTAL	132 (52.0%)	74 (29.1%)	48 (18.9%)	254 (100.0%)

- There were four don't knows among respondents to CHAR-Q16 and these were all for proxy respondents (Table A4). This is not surprising given the detail of this question. Examining the breakdown for proxy and non-proxy again reveals no noteworthy difference. Proxy respondents had higher percentages for the extreme time groupings - but the differences (and cell sizes) are small.

**TABLE A4 TYPE OF RESPONDENT BY TIME SPENT SUPERVISING (CHAR-Q16)**

	<1/4	1/4-1/2	>1/2	TOTAL
PROXY	51 (36.7%)	39 (28.1%)	49 (35.2 %)	139 (100.0%)
NON-PROXY	37 (33.0%)	34 (30.4%)	41 (36.6%)	112 (100.0%)
TOTAL	88 (35.1%)	73 (29.1%)	90 (35.8%)	251 (100.0%)

- Proxy respondents were less likely to say "manager" best describes their work, more likely to say "supervisor" and less likely to say "something

else". A caution is issued due to the very small numbers in this case (Table A5).

**TABLE A5 TYPE OF RESPONDENT BY WHAT BEST DESCRIBES WORK (CHAR-Q17)**

	MANAGER	SUPERVISOR	SOMETHING ELSE	TOTAL
PROXY	42 (7.9%)	61 (11.4%)	432 (80.7%)	535 (100.0%)
NON-PROXY	39 (8.6%)	45 (9.9%)	370 (81.5%)	454 (100.0%)
TOTAL	81 (8.2%)	106 (10.7%)	802 (81.1%)	989 (100.0%)

- Proxy respondents selected middle-level manager 57% of the time versus 33% for non-proxy (Table A6). This is evidence of taking the safer, middle route. However, the previous question on time spent supervising did not indicate this. The small cell size problem (smallest is three) becomes more acute when examining type of respondent by level of management.

**TABLE A6 TYPE OF RESPONDENT BY LEVEL OF MANAGEMENT (CHAR-Q18)**

	TOP	UPPER	MIDDLE	LOWER	TOTAL
PROXY	10	4	24	3	41
NON-PROXY	8	7	13	11	39
TOTAL	18	11	37	14	80

**Consistency of Authority Data and SOC for Proxy and Non-proxy Respondents**

Several anomalous situations were examined for the two respondent groups.

These included:

- (1) respondent said that they (or respondent for whom they were answering) supervised, but were not coded as a supervisor;
- (2) respondent was coded as a supervisor (last digit of SOC is 0) but stated that they did not supervise;
- (3) respondent stated that they were a manager but the SOC code was not managerial (first two digits are not 11);
- (4) respondent were coded as a manager but did not consider themselves to be this.

To remind readers, 55.3% of all respondents were proxy, and 44.7% non-proxy. Of 255 who said they supervised, 143 (56%) were proxy and 125 (44%) were non-proxy. For those who stated that "manager" best described their work, 42 (52%) were proxy and 39 (48%) were non-proxy. These proxy and non-proxy breakdowns are all relatively comparable.

Thirty-seven proxy respondents were coded as managers but did not consider themselves managers. The comparable figure for non-proxy was 28. The breakdown was 55.4% proxy and 44.6% non-proxy. Again, this is similar to the overall proxy/non-proxy breakdown.

Upon further examination 12 out of 37 (33%) of the proxy cases have contradictions between the SLID response and SOC. For example, if the word "manager" or "manage" were in LFS Kind of Work or Duties responses, then the SOC appears correct and the SLID response appears wrong. For non-proxy though, this is even higher at 36%. When this is expressed as a percentage of all

those coded as managers within each group, 16.4% of all proxy SLID responses contradict LFS data. For non-proxy the figure is slightly lower (15.2%).

There were 19 respondents who self-identified as a manager but were not coded as a manager. This was broken down into 12 for proxy and seven for non-proxy. Of these, 75% of proxy and 86% of non-proxy have evident contradictions between SLID response and SOC. The remainder were miscodes in LFS. Due to the similarity in proxy and non-proxy results, the analysis was discontinued at this point.

## **Conclusion**

Although all the "don't know" responses and refusal were for proxy respondents, they are few in number. The question with the most "don't knows" (time spent supervising..) will likely be dropped.

Looking at the anomalies between the SOC and related LFS occupational data, and responses to SLID questions on supervision/management, reveals no noteworthy discrepancies. It is difficult to conclude, however, that proxy respondents are providing accurate data on such things as time spent supervising. What is more likely is that they are guessing at a response, especially when prodded by the interviewer. Although this is not obvious in the previous analysis, debate on the degree of detail for proposed questions on supervision and management, must consider the potential limitations of proxy responses.