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2007-2008 Process Outcome Survey Results

Descriptive Statistics Compiled from Industry and Faculty Surveys

***D.O. Gray, L.C. McGowen, & J.P. Isaza
Department of Psychology
Psychology in the Public Interest Program
North Carolina State University***

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REPORT PROCESSING & DATA ISSUES

This report provides descriptive statistics on the IUCRC Process Outcome Questionnaires. Data were collected during the fall of 2008 and refer to the Center activity for FY 2007-2008.

Since most evaluators use this report to benchmark their Center compared to a program-wide “norm”, we have reported “Center-level” means and standard deviations, with the exception of question #5 on the Industry Questionnaire (see below). That is, means (unweighted) for each center were used to calculate a Center-level mean. Because questions that require a numeric answer (e.g. number of dollars) often have highly skewed distributions, we also reported the medians for these variables. For forced choice questions, frequencies and standard deviations for individual respondents were also reported.

Industry Questionnaires

All data were collected using a single industry questionnaire form; the short and long versions of industry questionnaires used in past data collection are no longer utilized.¹

Beginning with the 2006-7 report, question #5 on the Industry Questionnaire (the dollar value of center-stimulated projects) has been reported based on forced choice categories. This change was made to avoid coding problems and ambiguities raised with open-ended answers. Descriptive statistics for this question are reported three ways: member-level, center-level and IUCRC Program-level. Also, we report an individual-level mean, median, and standard deviation for dollar value for cases reporting at least one project. Because unweighted center means were highly skewed and misleading, individual-level data were used to calculate these statistics.

Faculty Questionnaires

The faculty questionnaire includes two versions: a long version (13 items) that is used by centers in year 1-5 and a short version (6 items) that is used by centers in year 6-10². Since both the faculty long and faculty short questionnaires share some of the same questions, data for these shared questions were pooled for analysis. In the tables below, questions only included in the long version are noted as follows: (L).

¹ The industry questionnaire was revised as of 2006-2007 data collection. *The current industry questionnaire has been significantly shortened (from 44 (L) and 27 (S) to 16 questions).*

² The faculty questionnaire was revised as of 2006-2007 data collection. The primary changes made include: some questions used in past questionnaires were dropped (old version was 29 questions), and two versions of the faculty questionnaire were created.

RESPONSE RATES

| Category | Center Level | | Individual Level | |
|--|--------------|---------|------------------|---------|
| | Industry | Faculty | Industry | Faculty |
| <i>Response Frequency</i> | | | | |
| Continuing Population from CD report | 32 | 32 | 671 | 570 |
| 1 st Year Reporting Population from CD report | +2 | +2 | +27 | +13 |
| Retired/Defunct Centers | 6 | 6 | 125 | 114 |
| Retired/Defunct Centers Reporting ^a | +2 | +2 | +43 | +67 |
| Population ^b | 30 | 30 | 616 | 536 |
| Centers Excused from Evaluation ^c | 2 | 3 | 76 | 66 |
| Centers that did not return data | 2 | 3 | 32 | 48 |
| Available Population ^d | 26 | 24 | 508 | 422 |
| Data Received | 26 | 24 | 222 | 195 |
| Received / Population | 86.7% | 80.0% | 36.0% | 36.4% |
| Received / Available Population | 100% | 100% | 43.7% | 46.2% |

- a. Retired, defunct, and new Centers that are not required to submit data, but some do submit some data. If relevant, those data were included in the analysis.
- b. Population was defined as centers that were at least 1 year old.
- c. Centers were excused for reasons such as being in the midst of center restructuring and respondent refusal to complete surveys.
- d. Numbers based on population minus excused and not returned counts.

LONG FACULTY FORM VS. SHORT FACULTY FORM

| | Long Form | Short Form |
|---------------------------------|-----------|------------|
| # of items | 13 | 6 |
| # of questions in common | 6 | 6 |
| # of unique questions | 7 | 0 |
| # of Centers using form | 10 | 14* |
| Sample size | 89 | 106 |

*Includes 1 centers that completed an alternate version of the faculty questionnaire. This form was very similar, but combined some questions, while disaggregating others. One center also used a combination of 9 short surveys and 4 long surveys. That center is represented in the short form center total, while the individual surveys from that center are accounted for in the long and short form sample size.

Industry Results: 2007-2008

Table 1: Research Program

| 1. What percentage of Center research projects do you take an active interest in? | | | | | | | | | | | Center Level | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------------|---------------------|-------------|
| 0-19% | | 20-39% | | 40-59% | | 60-79% | | 80-100% | | Missing Data | | |
| (1) | | (2) | | (3) | | (4) | | (5) | | | | |
| N | % | N | % | N | % | N | % | N | % | N | Mean | S.D. |
| 38 | 17.1 | 57 | 25.7 | 55 | 24.8 | 50 | 22.5 | 12 | 5.4 | 10 | 2.63 | .69 |

3. During the past year, how satisfied were you with the following features of the Center's research program?

| | Individual Frequencies | | | | | | | | | | | Center Level | |
|---|-------------------------------|----------|--------------------|----------|--------------------|----------|-----------------|----------|----------------|----------|--------------|---------------------|-----|
| | Not Satisfied | | Slightly Satisfied | | Somewhat satisfied | | Quite Satisfied | | Very Satisfied | | Missing Data | | |
| | 1 | 2 | 3 | 4 | 5 | | | | | | Mean | S.D. | |
| | N | % | N | % | N | % | N | % | N | % | N | | |
| a. Capabilities of the researchers & quality of the research program* | 1 | 0.5 | 2 | 0.9 | 25 | 11.3 | 115 | 51.8 | 72 | 32.4 | 7 | 4.13 | .38 |
| b. Breadth of the research topics covered | 0 | 0 | 8 | 3.6 | 54 | 24.3 | 110 | 49.5 | 43 | 19.4 | 7 | 3.87 | .28 |
| c. Focus of the research | 1 | 0.5 | 8 | 3.6 | 61 | 27.5 | 103 | 46.4 | 42 | 18.9 | 7 | 3.80 | .39 |
| d. Relevance of research to my organization's needs* | 2 | 0.9 | 17 | 7.7 | 62 | 27.9 | 92 | 41.4 | 41 | 18.5 | 8 | 3.68 | .48 |

* Item presented for the first time on the 2006-2007 Industry Questionnaire

Table 2: Benefits

5. During the past year, approximately how many Center-stimulated research projects were supported by your organization (include internal projects and projects contracted to outside performers)? Please estimate the dollar value of all Center-stimulated research projects. Exclude Center membership fee.

| Member Level Scores | <u>Member Level</u> | | |
|---|-----------------------------|---------------|-------------|
| | Mean | Median | S.D. |
| Includes All Cases | | | |
| a. Number of center-stimulated research projects per respondent organization <i>Sample: N of members = 215; N of centers = 24</i> | 1.50 | 1.00 | 2.29 |
| b. Average dollar value of center-stimulated projects (in thousands) per respondent organization <i>Sample: all respondents: N of members =205 ; N of Centers=24</i> | 200.40 | 50.00 | 506.39 |
| Includes Only Cases Citing 1 or more projects | | | |
| c. Number of center-stimulated research projects per respondent organization <i>Sample: N of members = 155; N of Centers = 24</i> | 2.08 | 1.00 | 2.47 |
| d. Average dollar value of center-stimulated projects (in thousands) per respondent organization <i>Sample: N of members = 145; N of Centers = 24</i> | 283.33 | 100.00 | 582.76 |
| e. Average dollar value of each center-stimulated project (in thousands) <i>Sample: N of members = 145; N of Centers = 24</i> | 131.04 | 50.00 | 204.03 |
| Center Level Scores | <u>Center Level</u> | | |
| | Mean | Median | S.D. |
| Includes All Cases | | | |
| a. Number of center-stimulated research projects per center <i>Sample: N of members = 215; N of Centers = 24</i> | 13.42 | 14.00 | 9.38 |
| b. Average dollar value of center-stimulated projects (in thousands) per center <i>Sample: all respondents: N of members =205 ; N of Centers=24</i> | 1711.79 | 867.50 | 2910.04 |
| Program Level Scores | <u>Program Level</u> | | |
| f. Total number of center stimulated projects supported by respondent organizations <i>Sample: N of members = 215; N of Centers = 24</i> | 322 | | |
| g. Total dollar value of center-stimulated projects supported by respondent organizations <i>Sample: all respondents: N of members =205 ; N of Centers=24</i> | 41,083,000* | | |

* It is worth noting that since only 36% of all members complete the questionnaire, this is a very conservative estimate of the value of center stimulated projects supported by members.

6. During the past year, how many students trained in the Center projects were hired by your organization?

Sample: N of members = 216; N of centers = 24

| Member Level Scores | <u>Member Level</u> | |
|---|-----------------------------|-------------|
| | Mean | S.D. |
| a. Average number of students hired per respondent organization | .29 | .70 |
| Center Level Scores | <u>Center Level</u> | |
| | Mean | S.D. |
| b1. Average number of students hired per respondent organization per center | .26 | .38 |
| b2. Average number of students hired by respondent organizations per center | 2.63 | 4.24 |
| Program Level Scores | <u>Program Level</u> | |
| c. Total number of students hired by respondent organizations | 63 | |

7. During the past year, to what extent has participation in the Center contributed to the following benefits for your organization?

| | <u>Individual Frequencies</u> | | | | | | | | | | | | | <u>Center Level</u> | |
|---|-------------------------------|------|---------------|------|-----------------|------|-------------|------|------------------|------|-----|------|--------------|---------------------|------|
| | No Impact | | Slight Impact | | Moderate Impact | | High Impact | | Very High Impact | | N/A | | Missing Data | Mean | S.D. |
| | 1 | 2 | 3 | 4 | 5 | 9 | | | | | | | | | |
| N | % | N | % | N | % | N | % | N | % | N | % | N | | | |
| a. Research & Development: Enhanced via increased technical awareness, accelerated or new projects or development of intellectual property in my organization | 12 | 5.4 | 46 | 20.7 | 82 | 36.9 | 51 | 23.0 | 15 | 6.8 | 6 | 2.7 | 10 | 2.94 | .62 |
| b. Commercialization: Enhanced via improved or new products, processes, services, improved sales, or new or retained jobs. | 80 | 36.0 | 41 | 18.5 | 41 | 18.5 | 17 | 7.7 | 4 | 1.8 | 26 | 11.7 | 13 | 2.03 | .68 |
| c. Professional Networking: Enhanced via improved ability to recruit students, increased cooperation with other industrial members and scientists outside my organization | 8 | 3.6 | 34 | 15.3 | 65 | 29.3 | 61 | 27.5 | 40 | 18.0 | 7 | 3.2 | 8 | 3.37 | .54 |

Table 3: Center Administration and Operations

| 9. During the past year, how satisfied were you with center administrative operations? | | | | | | | | | | | | |
|--|----|---------------------------|-----|------------------|------|------------------------|------|-----------------------|------|--------------|---------------------|------|
| <u>Individual Frequencies</u> | | | | | | | | | | | <u>Center Level</u> | |
| Not Satisfied (1) | | Slightly Satisfied (2) | | Satisfied (3) | | Quite Satisfied (4) | | Very Satisfied (5) | | Missing Data | | |
| N | % | N | % | N | % | N | % | N | % | N | Mean | S.D. |
| 2 | .9 | 8 | 3.6 | 28 | 12.6 | 112 | 51.4 | 55 | 24.8 | 15 | 4.04 | .34 |

Table 4: General Evaluation

| 11. Will your organization renew its membership? | | | | | | | | | | | | |
|--|-----|---------------------|-----|------------------|------|---------------------|------|-----------------------|------|--------------|---------------------|------|
| <u>Individual Frequencies</u> | | | | | | | | | | | <u>Center Level</u> | |
| Definitely Not (1) | | Probably Not (2) | | Uncertain (3) | | Probably Yes (4) | | Definitely Yes (5) | | Missing Data | | |
| N | % | N | % | N | % | N | % | N | % | N | Mean | S.D. |
| 3 | 1.4 | 3 | 1.4 | 44 | 19.8 | 100 | 45.0 | 63 | 28.4 | 9 | 4.00 | .37 |

| 13. Organization Type/Size | | |
|---------------------------------------|-------------------------------|------|
| | <u>Individual Frequencies</u> | |
| | N | % |
| 1. For-Profit Large (> 500 employees) | 138 | 62.2 |
| 2. For-Profit Small (< 500 employees) | 37 | 16.7 |
| 3. Non-Profit/Government | 40 | 18.0 |
| Missing Data | 7 | 3.2 |

Faculty Results: 2007-2008

1. Compared to the research projects that you typically conduct outside the Center, would you describe your Center funded research as: (L)*

| Individual Frequencies | | | | | | | | | | | Center Level | |
|-------------------------------|-----|----------------|-----|----------|------|------------------|------|-----------------------|-----|---------------|---------------------|------|
| Much more basic (1) | | More basic (2) | | Same (3) | | More Applied (4) | | Much more applied (5) | | Missing Data* | | |
| N | % | N | % | N | % | N | % | N | % | N | Mean | S.D. |
| 2 | 2.2 | 7 | 7.9 | 27 | 30.3 | 43 | 48.3 | 6 | 6.7 | 4 | 3.50 | .40 |

* Indicates a question that is unique to the long version of the faculty questionnaire.

2. During the past year, how satisfied were you with the following?

| | Individual Level | | | | | | | | | | | Center Level | |
|--|-------------------------|-----|------------------------|-----|------------------------|------|---------------------|------|--------------------|------|--------------|---------------------|------|
| | Not Satisfied (1) | | Slightly Satisfied (2) | | Somewhat Satisfied (3) | | Quite Satisfied (4) | | Very Satisfied (5) | | Missing Data | | |
| | N | % | N | % | N | % | N | % | N | % | N | Mean | S.D. |
| a. Quality of the Center-supported research program | 1 | 0.5 | 4 | 2.1 | 20 | 10.3 | 92 | 47.2 | 73 | 37.4 | 5 | 4.29 | .33 |
| b. Relevance of the Center's research program to my professional goals | 1 | 0.5 | 5 | 2.6 | 27 | 13.8 | 78 | 40.0 | 80 | 41.0 | 4 | 4.26 | .43 |

4. During the past year, what impact has participation in the Center had for YOU in the following areas? (L)*

| | Individual Level | | | | | | | | | | | Center Level | |
|--|-------------------------|------|------------------------------|------|--------------------------------|------|--------------------------|------|-------------------------------|------|--------------|---------------------|------|
| | No Impact (1) | | Somewhat Positive Impact (2) | | Moderately Positive Impact (3) | | Very Positive Impact (4) | | Extremely Positive Impact (5) | | Missing Data | Mean | S.D. |
| | N | % | N | % | N | % | N | % | N | % | N | | |
| a. The feeling of accomplishment I get from the research I do. | 6 | 6.7 | 4 | 4.5 | 19 | 21.3 | 40 | 44.9 | 17 | 19.1 | 3 | 3.67 | .43 |
| b. Opportunities for research contracts/grants. | 5 | 5.6 | 5 | 5.6 | 22 | 24.7 | 33 | 37.1 | 21 | 23.6 | 3 | 3.65 | .56 |
| c. Recognition I receive for the work I do. | 6 | 6.7 | 8 | 9.0 | 25 | 28.1 | 30 | 33.7 | 16 | 18.0 | 4 | 3.49 | .63 |
| d. Access to useful equipment. | 24 | 27.0 | 3 | 3.4 | 18 | 20.2 | 18 | 20.2 | 21 | 23.6 | 5 | 3.03 | .95 |
| e. Ability to support graduate students. | 14 | 15.7 | 6 | 6.7 | 21 | 23.6 | 27 | 30.3 | 18 | 20.2 | 3 | 3.32 | .58 |
| f. Ability to publish my work in quality proceedings and journals. | 16 | 18.0 | 9 | 10.1 | 21 | 23.6 | 21 | 23.6 | 18 | 20.2 | 4 | 3.17 | .59 |

* Indicates a question that is unique to the long version of the faculty questionnaire.

5. Which option best expresses your current intentions?

| | Individual Frequencies | | | | | | | | | | Center Level | | |
|---|-------------------------------|-----|------------------|-----|---------------|------|------------------|------|--------------------|------|---------------------|------|------|
| | Definitely Not (1) | | Probably Not (2) | | Uncertain (3) | | Probably Yes (4) | | Definitely Yes (5) | | Missing Data | Mean | S.D. |
| | N | % | N | % | N | % | N | % | N | % | N | | |
| Next year I will submit my best research ideas in a center funded proposal* | 5 | 2.6 | 11 | 5.6 | 40 | 20.5 | 68 | 34.9 | 67 | 34.4 | 4 | 4.01 | .44 |

* Item presented for the first time on the 2006-2007 Industry Questionnaire

6. During the past year, how satisfied were you with center administrative operations?

| | Individual Frequencies | | | | | | | | | | Center Level | | |
|--|-------------------------------|-----|------------------------|-----|------------------------|------|---------------------|------|--------------------|------|---------------------|------|------|
| | Not Satisfied (1) | | Slightly Satisfied (2) | | Somewhat Satisfied (3) | | Quite Satisfied (4) | | Very Satisfied (5) | | Missing Data | Mean | S.D. |
| | N | % | N | % | N | % | N | % | N | % | N | | |
| | 3 | 1.5 | 4 | 2.1 | 23 | 11.8 | 82 | 42.1 | 77 | 39.5 | 6 | 4.24 | .40 |