Project on Scholarly Integrity

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Terry May, COI officer
Michigan State University
And on behalf of Penn State and U Wisconsin-Madison
CGS Summer Workshop 2010
Background

- MSU, PSU, UW-Madison collaborative
- Survey on the Climate for Responsible Research Practices—Carol Thrush and Brian Martinson
- Faculty, grad students, postdocs, staff—9,910 invitations at MSU with 45% participation
- Similar numbers at PSU and UW-Madison
Survey-C. Thrush and B. Martinson

• Content validity for survey questions developed by Carol Thrush:
  – 27 experts rated 64 potential survey items
  – Result: set of 43 items had high “content validity index” (CVI=.90)
Eight survey composite measures

Departmental/Program
Expectations – 2 questions
   How fair are your department/program's expectations with respect to publishing?
Integrity Norms – 11 questions
   How committed are people in your department/program to maintaining data integrity and data confidentiality?
Integrity Socialization – 11 questions
   How able are people in your department/program to define research misconduct?
Integrity Inhibitors – 11 questions
   How true is it that pressure to produce "positive findings" has a negative effect on the judgment of researchers in your department/program?
Advisor-Advisee Relations– 3 questions
   How fairly do advisors/supervisors treat advisees/supervisees?
Composite measures...continued

Institutional

Institutional Regulatory Quality – 4 questions
How useful are your university’s policies/guidelines for the responsible conduct of research?

Institutional RCR Resources – 5 questions
How effective are the available educational opportunities for learning about responsible research practices (e.g., lectures, seminars, web-based courses, etc) at your university?

Combined Departmental/Program and Institutional

Global Climate of Integrity – 4 questions
How committed are people in your department/program to maintaining high standards of integrity in their research/scholarship?
# MSU College Summary

College: **EXAMPLE**

Number of Respondents: **429**
(192 Research Masters & Doctoral Students; 90 Postdoctoral)

<table>
<thead>
<tr>
<th>Composite Measures</th>
<th>College Results</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>MSU Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Composite Measures</td>
<td>% &gt;= 4.5 (Scale of 1-5)</td>
<td>Average Dept./Pgm. Percentile Rank</td>
<td>Average % NBFJ Response</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Expectations</td>
<td>3.93</td>
<td>22.4%</td>
<td>68.1</td>
<td>15.5%</td>
<td>3.78</td>
<td></td>
</tr>
<tr>
<td>Program Integrity Norms</td>
<td>4.11</td>
<td>25.6%</td>
<td>52.6</td>
<td>18.0%</td>
<td>4.09</td>
<td></td>
</tr>
<tr>
<td>Program Integrity Socialization</td>
<td>3.59</td>
<td>12.9%</td>
<td>52.5</td>
<td>16.5%</td>
<td>3.62</td>
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</tr>
<tr>
<td>Program Integrity Inhibitors</td>
<td>3.88</td>
<td>23.4%</td>
<td>58.0</td>
<td>17.8%</td>
<td>3.78</td>
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</tr>
<tr>
<td>Program Advisor-Advisee Relations</td>
<td>3.92</td>
<td>18.8%</td>
<td>54.3</td>
<td>7.3%</td>
<td>3.88</td>
<td></td>
</tr>
<tr>
<td>Global Climate of Integrity</td>
<td>4.27</td>
<td>45.3%</td>
<td>49.3</td>
<td>3.3%</td>
<td>4.25</td>
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</tr>
<tr>
<td>Institutional Regulatory Quality</td>
<td>3.73</td>
<td>18.8%</td>
<td>52.1</td>
<td>28.7%</td>
<td>3.71</td>
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<tr>
<td>Institutional Integrity Resources</td>
<td>3.58</td>
<td>11.8%</td>
<td>45.7</td>
<td>10.0%</td>
<td>3.56</td>
<td></td>
</tr>
</tbody>
</table>
Average Departmental / Program Percentile Rank

Program Expectations
Program Integrity Norms
Program Integrity Socialization
Program Integrity Inhibitors
Program Advisor-Advisee Relations
Institutional Regulatory Quality
Institutional Integrity Resources
Global Climate of Integrity

Percentile
### MSU “Dashboard” example

<table>
<thead>
<tr>
<th>Composite Measures</th>
<th>ALL RESPONSES(^1, 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(^3)</td>
</tr>
<tr>
<td>FACTOR 1 -- Departmental Integrity (Subscale B -- Integrity Socialization)</td>
<td>2,821</td>
</tr>
<tr>
<td>Graduate Student(^4)</td>
<td>1,510</td>
</tr>
<tr>
<td>Postdoctoral Trainee / Research Associate</td>
<td>165</td>
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<tr>
<td>Faculty(^5)</td>
<td>1,146</td>
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<tr>
<td>How able are people in your department/program to define research misconduct?</td>
<td>3,180</td>
</tr>
<tr>
<td>Graduate Student</td>
<td>1,712</td>
</tr>
<tr>
<td>Postdoctoral Trainee / Research Associate</td>
<td>193</td>
</tr>
<tr>
<td>Faculty</td>
<td>1,275</td>
</tr>
</tbody>
</table>

\(^1\) N = Number of Cases; NBFJ = "No Basis for Judging"
\(^2\) Responses: 1 = "Not at all"; 2 = "Somewhat"; 3 = "Moderately"; 4 = "Very"; 5 = "Completely"; 6 = "No basis for judging"

Factor Scale N = Number of Cases where half or more of individual Measures comprising Factor 1B were answered "1" through "5"; N of Individual Measures = Number of Cases with Responses of "1" through "6" (N of Measure means = N - \([N \times \% \text{NBFJ}])\)

\(^3\) N of Individual Measures = Number of Cases with Responses of "1" through "6" (N of Measure means = N - \([N \times \% \text{NBFJ}])\)

\(^4\) Graduate Student in a Research Masters Program & Graduate Student in a Doctoral Program combined

\(^5\) Fixed-term Faculty -- Not Tenure-track; Tenure-track Faculty -- Not Tenured; Tenure-Tack Faculty -- Tenured; & Clinical Faculty combined
# MSU Department/Program Summary

**Department / Program:** NAME  
**College:** NAME  
**Number of Respondents:** 35 TOTAL  
20 Research Masters & Doctoral Students; 0 Postdoctoral & Research Associates; 15 Faculty

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<td>Program Expectations</td>
<td>3.31</td>
<td>6.5%</td>
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<tr>
<td>Program Integrity Norms</td>
<td>3.91</td>
<td>10.7%</td>
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<td>3.51</td>
<td>10.7%</td>
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<tr>
<td>Program Integrity Inhibitors</td>
<td>3.43</td>
<td>10.7%</td>
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</tr>
<tr>
<td>Program Advisor-Advisee Relations</td>
<td>3.64</td>
<td>10.7%</td>
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<tr>
<td>Global Climate of Integrity</td>
<td>4.05</td>
<td>40.0%</td>
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<tr>
<td>Institutional Regulatory Quality</td>
<td>3.96</td>
<td>30.3%</td>
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<td>Institutional Integrity Resources</td>
<td>3.67</td>
<td>12.1%</td>
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<td>Program Integrity Norms</td>
<td>17.9</td>
<td>17.9%</td>
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<td>31.5</td>
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<td>16.1</td>
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<td>17.3</td>
<td>8.8%</td>
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<tr>
<td>Institutional Regulatory Quality</td>
<td>82.8</td>
<td>6.6%</td>
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<td>Institutional Integrity Resources</td>
<td>62.9</td>
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<td></td>
<td>Average</td>
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<td></td>
<td>MSU Average Composite Measures</td>
<td>3.78</td>
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MSU Department example

Average Percentile Rank

Composite Measures

- Program Expectations
- Program Integrity Norms
- Program Integrity Socialization
- Program Integrity Inhibitors
- Program Advisor-Advisee Relations
- Institutional Regulatory Quality
- Institutional Integrity Resources
- Global Climate of Integrity

Percentile
MSU—integrated approach

• Research Integrity Council (for VPR and Provost)—faculty, grad students, postdocs
  – Completed a 12-item MSU “needs assessment” using CGS inventory. Recommendations e.g., communication—at all levels, focus on postdocs, link to NSF requirement

  No obvious correlation of inventory results with climate survey results

• Link to Grad Handbooks project and updates

• Ongoing learning assessment with personal response system

• Connected to U Grad Council and Council of Grad Students

• Link to NSF requirement

• Developing Resources Website: [http://grad.msu.edu/researchintegrity/](http://grad.msu.edu/researchintegrity/)
Survey Results Dissemination at UW-Madison (J. Wells, E. Callahan)

- Developed summary results for 119 graduate programs at UW-Madison with 4 or more respondents (N = 3,785)
  - Comparative results for 8 composite measures (mean, proportion scoring above cut-point, campus percentiles)
  - Programs own and campus-wide item-by-item results
- Presented overall results to Graduate School deans and associate deans for research of campus schools/colleges prior to dissemination
- Sent results to 119 graduate programs (directed to departmental chair and graduate program chair)
- Provided document to assist in data interpretation, posted Website with survey FAQs and RCR resources
Survey on Responsible Research Practices

- Survey validation work ongoing
  - Co-PI’s C. Thrush (UAMS) & B. Martinson (HealthPartners)
  - NIH-NCRR/ORI funded “R21”
  - fielded in 40 institutions nationally

- Goal: establish data repository with metrics for institution, dept., field comparisons

- Psychometric analysis in process
  - placement in Creative Commons expected by late 2010

- Permission for CGS Deans to view pre-validated instrument available now
Survey support materials

• Survey Codebook - Survey of Responsible Research Practices
  – Technical description of the survey elements and the resulting composite measures developed from the multi-university data.

• Users Manual - Survey of Responsible Research Practices, includes:
  • Background and Survey Development
  • Terms of Permission to Use the Survey
  • Survey Description
  • Survey Administration Considerations
  • Scale Creation Notes & Considerations
  • SAS Code for Computing the Eight Climate Composite Measures
  • List of Demographic Questions & Climate Questions
  • List of Composite Measures Descriptions & Items Represented
Survey Implementation Planning

• Defining and identifying sample
• Obtaining lists of mailing addresses (e.g., HR, directories)
• Sufficient information on departmental units to be able to denominate internal units for reporting (#’s invited, #’s responded) {know your own context}
• Notification and good will communications!
  – leadership emails, newsletters, 3-6 weeks prior
• Mapping out survey process itself
  – Mode of delivery and return (web or paper) (IT assistance)
  – Timing of implementation
  – Timing and number of reminders
How to use survey effectively

• Presentation to grad associate deans—sharing college data (incl. quartile distribution)
• Data dashboard for each department
• Guidelines on how to use the data:
  – Identify 1 or 2 composite measures or even single survey items as the focus
  – Present the “dashboard” in context with other units
  – Link to the NSF requirement and ongoing improvement efforts
  – Offer support, resources, and guidance