

# Community-Based Learning and Academic Performance

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# Presentation Outline

- Literature Review
- SERU Survey
- Methods
- Findings
- Implications

# Theoretical Framework of Service

- Dewey's experiential learning (1916; 1938)
  - Linking education to experience
  - Democratic community
  - Social service
  - Reflective inquiry
  - Education for social transformation
- Kolb's experiential learning (1984)
  - Learning occurs in stages:
    - Concrete
    - Reflective observation
    - Abstract conceptualization
    - Active experimentation

# Typology of Community-based Learning Activities

| Community-Based Learning Option | Out-of-Class Activities | Volunteering | Service Add-ons | Internships | Service Learning | Service-Learning Advocacy |
|---------------------------------|-------------------------|--------------|-----------------|-------------|------------------|---------------------------|
| Social Action                   |                         |              |                 |             |                  | X                         |
| Structured Reflection           |                         |              |                 |             | X                | X                         |
| Apply and Acquire Skills        |                         |              |                 | X           | X                | X                         |
| Curricular Credit               |                         |              | X               | X           | X                | X                         |
| Service Rendered                |                         | X            | X               | X           | X                | X                         |
| In Community                    | X                       | X            | X               | X           | X                | X                         |

Source: Mooney & Edwards' Hierarchy of Community Based Learning (2001)

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# Prevalence of Community Engagement

- NSSE (2009): **47% of college seniors** reported participating in a community-based project (e.g. service-learning) as part of a regular course
- Campus Compact (2009): students enrolled at the Compact's 1,198 member colleges and universities contributed an estimated **366 million hours of service** to their communities during 2008–2009 academic year

# Benefits of Community Engagement

- Astin et al (2000) identify a positive relationship between service and academic performance
- Markus, Howard, & King (1993) found an increase in gpa and higher class attendance

*Yet, not all findings are unanimous...*

- Tartter (1996), Kendrick (1996), and Boss (1994) found no differences in grade point average

# Research Questions

1. Do freshman at the University of Minnesota-Twin Cities engage in community based learning activities? If so, what form does this participation take?
2. Does community based learning contribute to improved student outcomes after controlling for the effects of other variables commonly associated with student success?
3. Is the benefit associated with community-based learning conditional upon the level of importance a student places upon opportunities to learn in these types of environments?

# Student Experience in the Research University (SERU) Survey

## ➤ SERU AAU Consortium currently includes 16 major US public research universities:

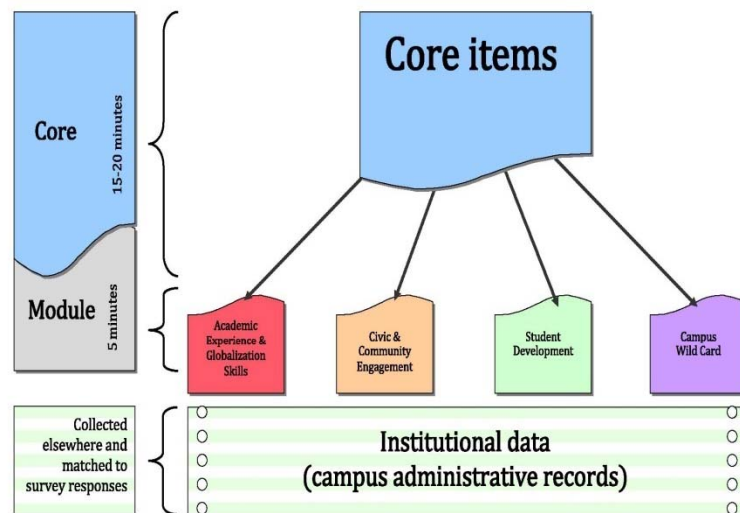
- All 9 undergraduate campuses of the University of California system
- University of Michigan at Ann Arbor
- University of Minnesota-Twin Cities
- Rutgers University
- University of Florida
- University of Pittsburgh
- University of Oregon
- University of Texas at Austin



# SERU Survey

- Systematic environmental scan of the undergraduate experience
- In-depth analysis of the varied types and levels of undergraduate engagement in research universities
- The survey is organized around five thematic research areas:
  - Academic engagement
  - Civic and community engagement
  - Global knowledge, skills, and awareness
  - Student life and development
  - Wildcard module for the University of Minnesota

# SERU Survey Design




- Census Survey of Undergraduates
- Modular Construction—minimize time needed for completion
- Core Items (100% of participants)
- Modules (1 of 4 randomly assigned to varying % of participants)
  - Academic Engagement - 30%
  - Community & Civic Engagement - 20%
  - Student Development - 20%
  - “Wild-Card”—UM Specific Questions - 30%

# What is the Purpose of the SERU?

- Three major uses of the SERU Consortium design and survey products include the following:
  - **ACADEMIC PROGRAM REVIEW:** The SERU Survey provides a census and longitudinal data set providing a broad range of analysis including comparisons with equivalent academic programs at other Consortium campuses
  - **CAMPUS AND PROGRAM ASSESSMENT/ACCREDITATION:** Provides ability to integrate SERU survey data with other campus data sets to identify effective programs and experiences to particular university strategic goals and missions
  - **ADDITIONAL REPORTS AND ANALYSIS:** Data and analysis for internal and external reporting needs. The SERU Survey is also part of the new “voluntary System of Accountability” (VSA)

# SERU Survey

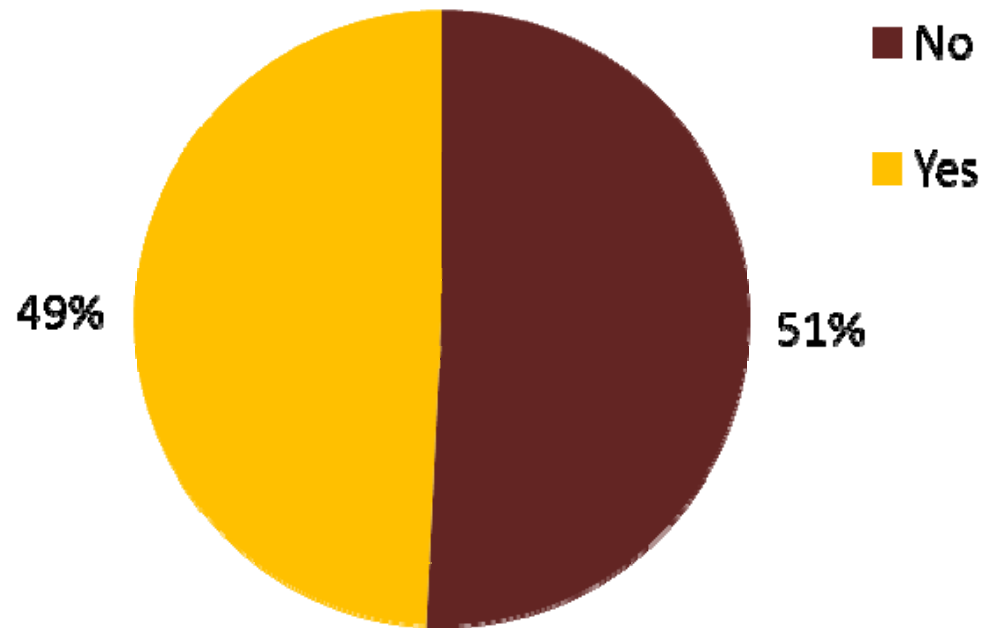
- In spring 2010, the SERU was distributed to 28,237 undergraduate students at the University of Minnesota-Twin Cities.
- 10,187 agreed to participate (36%).
- 9,630 students responded to at least one question (34%)
- 2,074 were assigned to complete Community and Civic Engagement module, of which 80% completed.



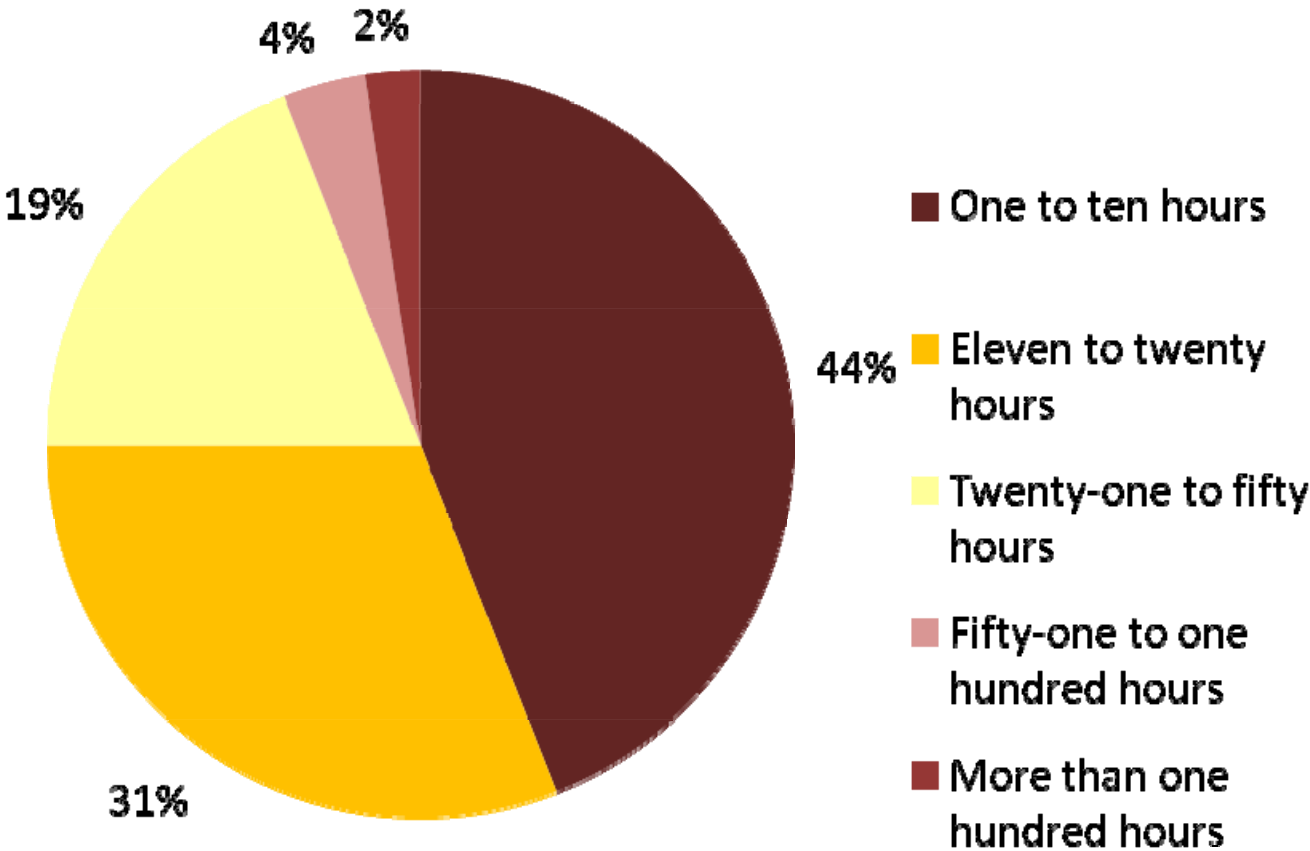
Do freshmen at the University of Minnesota-Twin Cities engage in community based learning activities? If so, what form does this participation take?

## **RESEARCH QUESTION 1:**

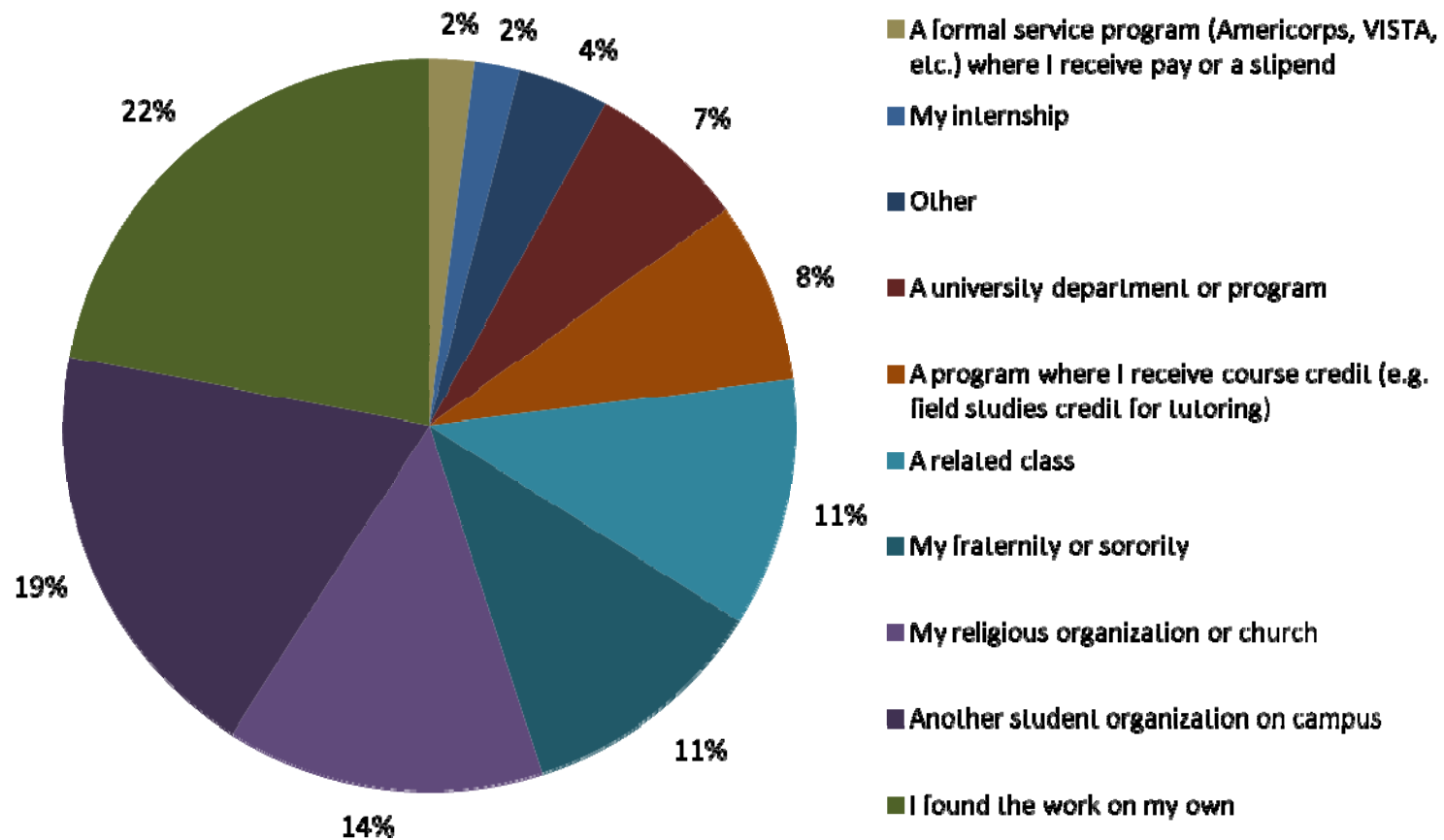
Have you conducted service?



Thinking about your participation in all forms of community service, which includes service through clubs, courses, and one-time events, please estimate **how many total hours of service you completed this academic year?**

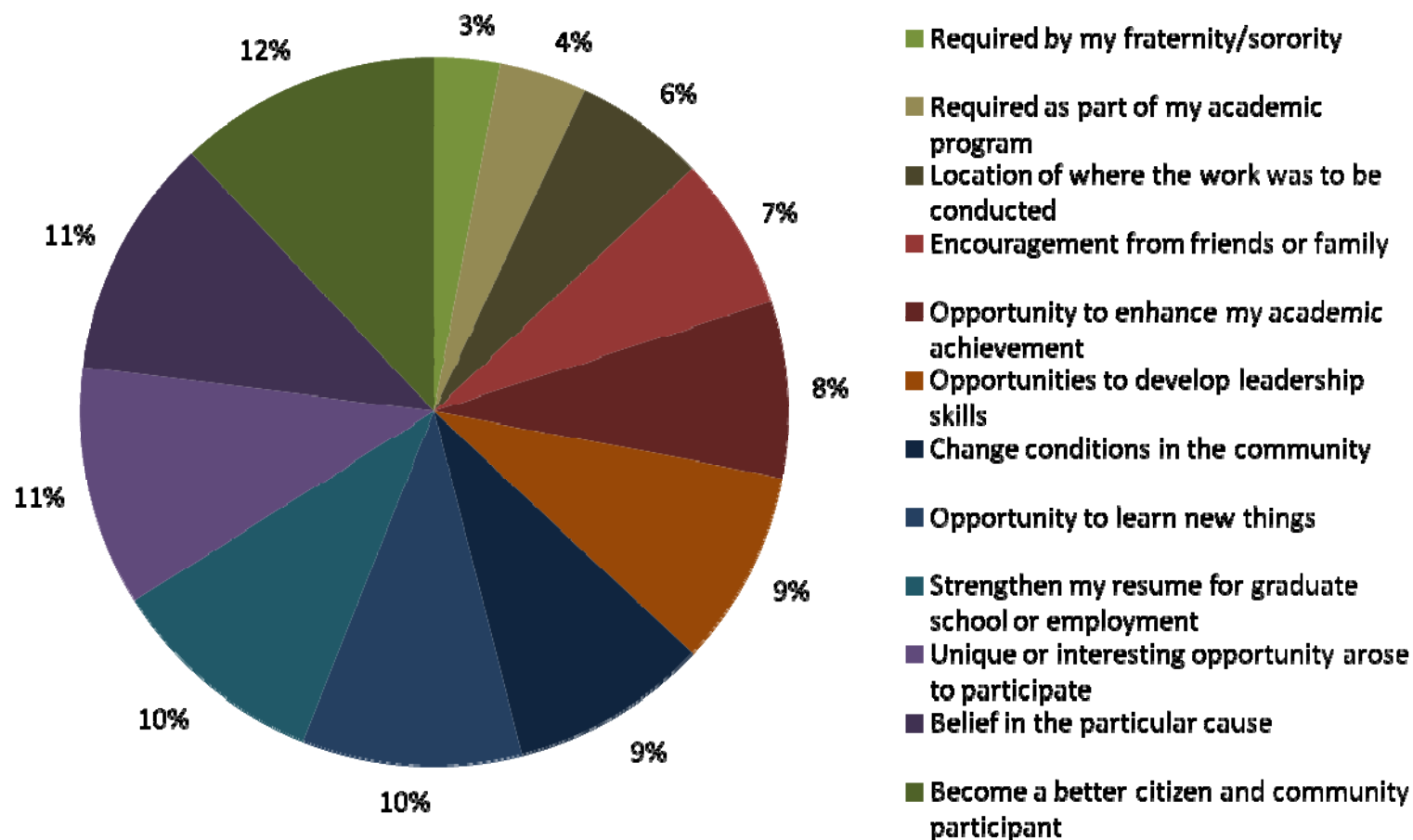


# How did you get involved in community service?

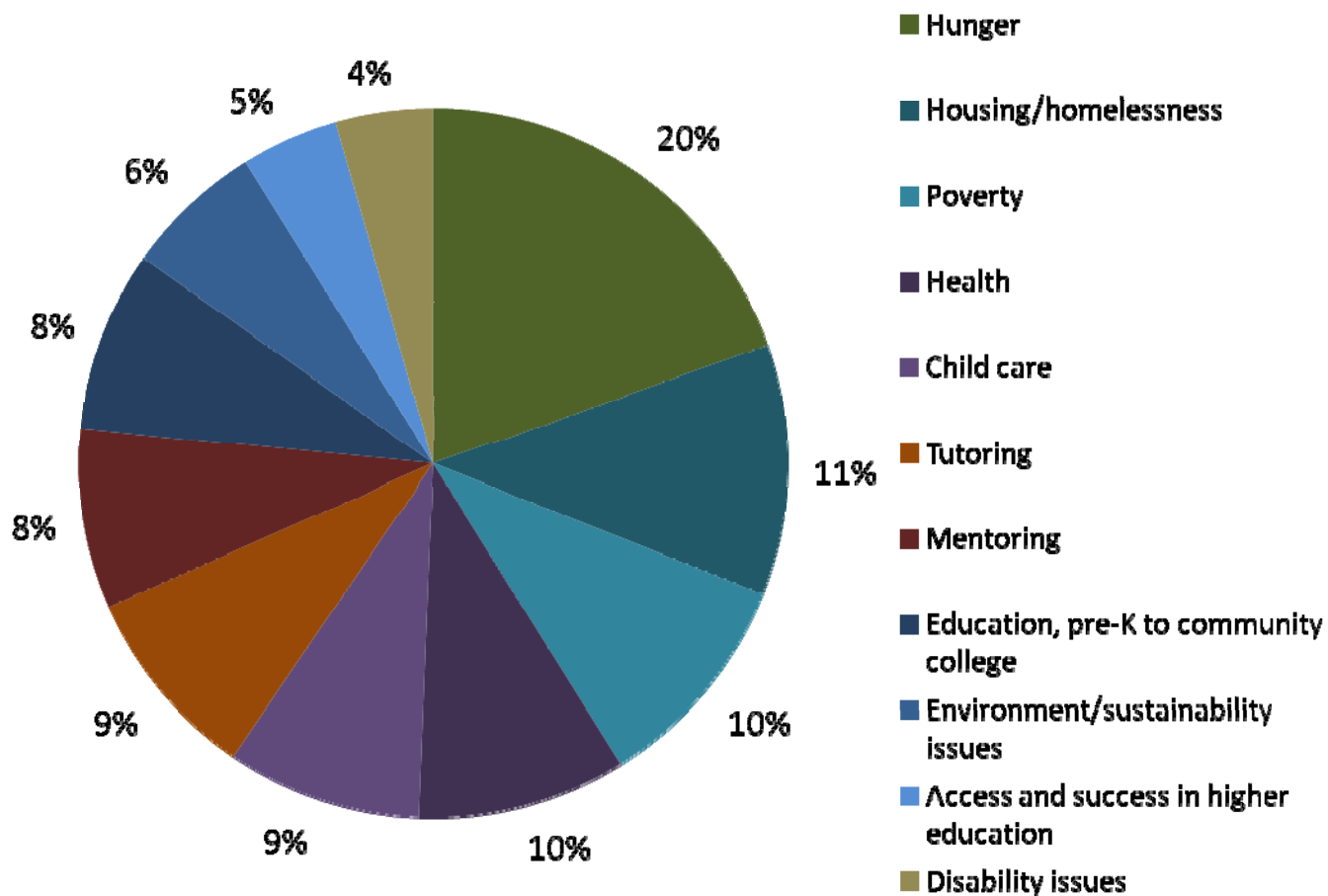





## Which of the following were significant reasons for getting involved in community service?



## What was the focus of the organization where you did this community service? (Top responses)

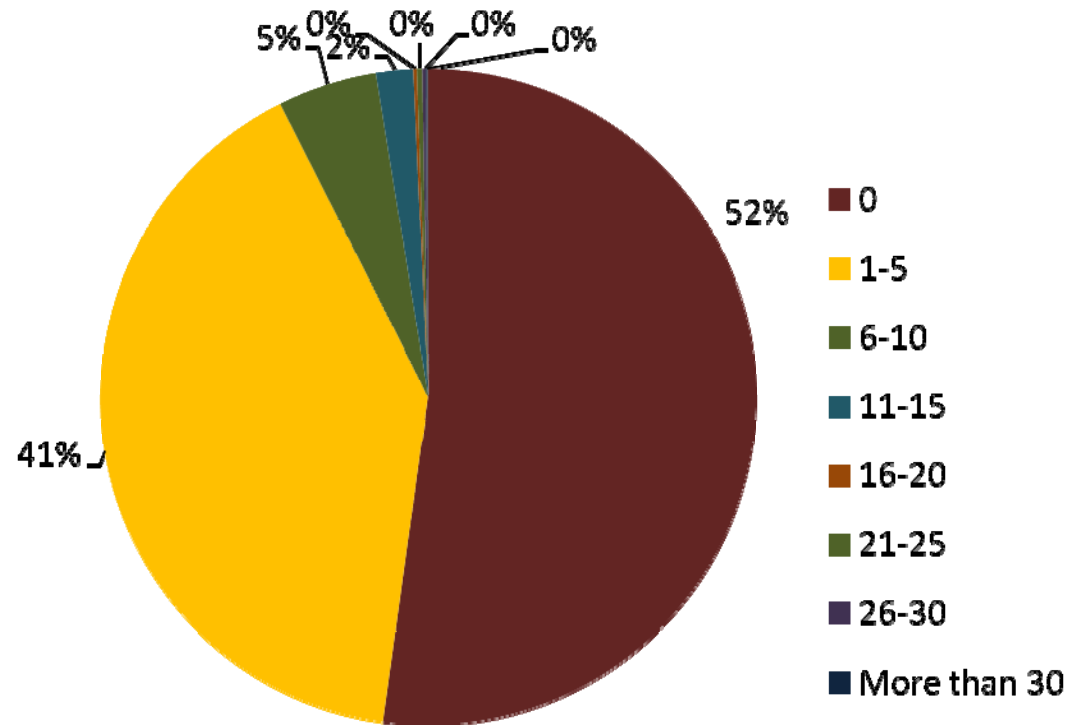




Does community based learning contribute to improved student GPAs after controlling for the effects of other variables commonly associated with student success?

## **RESEARCH QUESTION 2:**

# How many hours do you spend in a typical week (7 days) on ... *performing community service or volunteer activities?*



# Methodology

- N = 1807 NHS Students.
- Multivariate Approach to Identifying Potential Causal Factors Influencing First-Year GPA.
  - Academic Background
  - First Semester Performance
  - Demographic Characteristics
  - Geographic Origin
  - Financial Aid
- Ordinary Least Squares Regression.
- R-squared: Model 1 (.29), Model 2 (.29)

# Results: Academic Background

Model 1

Model 2

|                                | Coef.  |   | Std. Coef. |  | Coef.  |   | Std. Coef. |
|--------------------------------|--------|---|------------|--|--------|---|------------|
| Composite Act Score (centered) | 0.038  | ↑ | 0.305      |  | 0.038  | ↑ | 0.304      |
| First Generation Student       | -0.033 |   | -0.029     |  | -0.033 |   | -0.029     |
| First Choice College           | 0.077  | ↑ | 0.062      |  | 0.077  | ↑ | 0.061      |
| No. of AP Credits              | 0.002  | ↑ | 0.053      |  | 0.002  | ↑ | 0.053      |
| Course Completion Ratio        | 0.016  | ↑ | 0.342      |  | 0.016  | ↑ | 0.340      |

P < 0.01
  P < 0.05
  P < 0.10

# Results: Demographic Characteristics & Finance

|                           | Coef.  |   | Std. Coef. |  | Coef.  |   | Std. Coef. |
|---------------------------|--------|---|------------|--|--------|---|------------|
| Female                    | 0.128  | ↑ | 0.125      |  | 0.125  | ↑ | 0.122      |
| Age 19                    | 0.071  | ↑ | 0.051      |  | 0.074  | ↑ | 0.053      |
| Asian                     | -0.024 |   | -0.017     |  | -0.026 |   | -0.018     |
| Underrepresented Minority | 0.007  |   | 0.003      |  | 0.007  |   | 0.004      |
| Pell Eligible             | 0.035  |   | 0.027      |  | 0.034  |   | 0.027      |

P < 0.01
  P < 0.05
  P < 0.10

# Results: Geographical Origin

|              | Coef. |   | Std. Coef. |  | Coef. |   | Std. Coef. |
|--------------|-------|---|------------|--|-------|---|------------|
| Out of State | 0.022 |   | 0.011      |  | 0.022 |   | 0.011      |
| Reciprocity  | 0.043 | ↑ | 0.035      |  | 0.042 | ↑ | 0.034      |

## College Controls

|                                       | Coef.  |   | Std. Coef. |  | Coef.  |   | Std. Coef. |
|---------------------------------------|--------|---|------------|--|--------|---|------------|
| College of Biological Science         | -0.036 |   | -0.021     |  | -0.038 |   | -0.022     |
| Carlson School of Management          | 0.086  | ↑ | 0.054      |  | 0.081  | ↑ | 0.052      |
| College of Food, Ag., & Nutr. Science | -0.095 | ↓ | -0.041     |  | -0.098 | ↓ | -0.043     |

P < 0.01
  P < 0.05
  P < 0.10



# Results: Community Service and Volunteerism

|               | Coef. |   | Std. Coef. |  | Coef. |   | Std. Coef. |
|---------------|-------|---|------------|--|-------|---|------------|
| Service Hours | 0.036 | ↑ | 0.052      |  |       |   |            |
| Service (0-1) |       |   |            |  | 0.068 | ↑ | 0.068      |

$P < 0.01$ 
  $P < 0.05$ 
  $P < 0.10$



Is the benefit associated with community service conditional upon the level of importance a student places these activities?

## **RESEARCH QUESTION 3:**

# Community Engagement Module

- During this academic year, have you done community service either on or off campus (no/yes)?
- To what extent do you agree or disagree with the following statements. (strongly disagree to strongly agree 1-6).
  - Opportunities for community service while here are important to me.
  - Opportunities to connect my academic work with community-based experience are important to me.

# Methodology

- N = 304.
- Multivariate Approach to Identifying Potential Causal Factors Influencing First-Year GPA.
- Ordinary Least Squares Regression.
- Multiplicative Interaction Term.
- R-squared: Model 1 (0.367), Model 2 (0.378).

# Results: Academic Background & First Semester Performance

Model 1

Model 2

|                                | Coef. |   | Std. Coef. |  | Coef. |   | Std. Coef. |
|--------------------------------|-------|---|------------|--|-------|---|------------|
| Composite Act Score (centered) | 0.036 | ↑ | 0.264      |  | 0.037 | ↑ | 0.276      |
| First Generation Student       | 0.005 |   | 0.005      |  | 0.016 |   | 0.014      |
| First Choice College           | 0.119 | ↑ | 0.094      |  | 0.136 | ↑ | 0.107      |
| No. of AP Credits              | 0.001 |   | 0.034      |  | 0.001 |   | 0.031      |
| Course Completion Ratio        | 0.015 | ↑ | 0.382      |  | 0.015 | ↑ | 0.379      |

P < 0.01
  P < 0.05
  P < 0.10

# Results: Demographic Characteristics & Finance

|                           | Coef.  |   | Std. Coef. |  | Coef.  |   | Std. Coef. |
|---------------------------|--------|---|------------|--|--------|---|------------|
| Female                    | 0.137  | ↑ | 0.137      |  | 0.137  | ↑ | 0.136      |
| Age 19                    | -0.035 |   | -0.026     |  | -0.020 |   | -0.015     |
| Asian                     | -0.010 |   | -0.008     |  | -0.016 |   | -0.013     |
| Underrepresented Minority | -0.195 | ↓ | -0.100     |  | -0.169 | ↓ | -0.085     |
| Pell Eligible             | 0.016  |   | 0.013      |  | 0.019  |   | 0.015      |

P < 0.01
  P < 0.05
  P < 0.10

# Results: Geographical Origin

|              | Coef. |  | Std. Coef. |  | Coef. |  | Std. Coef. |
|--------------|-------|--|------------|--|-------|--|------------|
| Out of State | 0.083 |  | 0.039      |  | 0.095 |  | 0.045      |
| Reciprocity  | 0.058 |  | 0.051      |  | 0.055 |  | 0.048      |

## College Controls

|                                       | Coef.  |   | Std. Coef. |  | Coef.  |   | Std. Coef. |
|---------------------------------------|--------|---|------------|--|--------|---|------------|
| College of Biological Science         | -0.042 |   | -0.029     |  | -0.044 |   | -0.031     |
| Carlson School of Management          | 0.084  |   | 0.060      |  | 0.098  |   | 0.069      |
| College of Food, Ag., & Nutr. Science | -0.296 | ↓ | -0.155     |  | -0.296 | ↓ | -0.155     |

P < 0.01  
  P < 0.05  
  P < 0.10

# Results: Community Service and Volunteerism

|                            | Coef.  |   | Std. Coef. |  | Coef.  |   | Std. Coef. |
|----------------------------|--------|---|------------|--|--------|---|------------|
| Service (0-1)              | 0.257  | ↑ | 0.264      |  |        |   |            |
| Service Important (0-5)    | 0.054  | ↑ | 0.135      |  |        |   |            |
| Interaction 1              | -0.078 | ↓ | -0.319     |  |        |   |            |
| Service (0-1)              |        |   |            |  | 0.356  | ↑ | 0.363      |
| Connection Important (0-5) |        |   |            |  | 0.075  | ↑ | 0.163      |
| Interaction 2              |        |   |            |  | -0.098 | ↓ | -0.403     |

P < 0.01
  P < 0.05
  P < 0.10

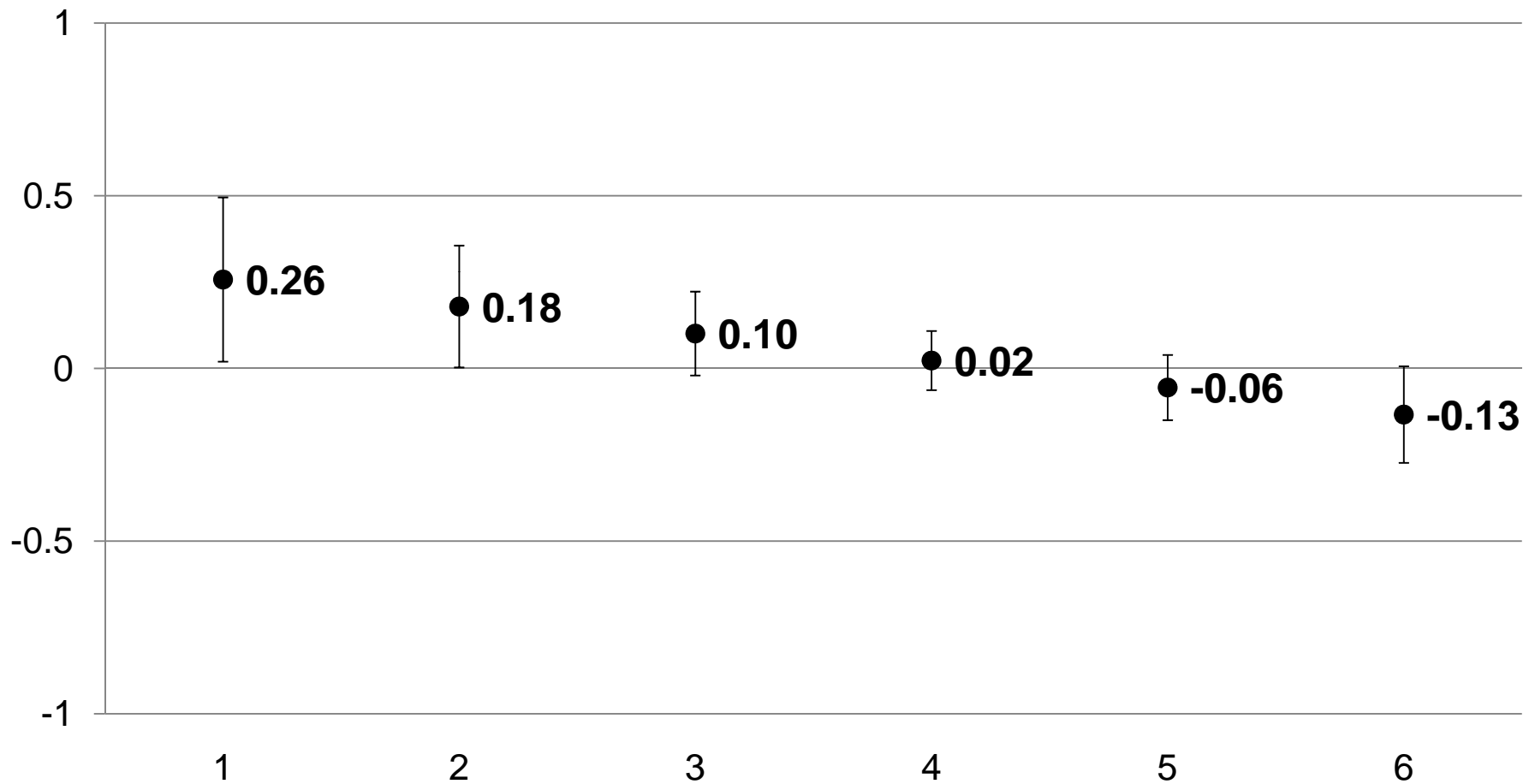


# Tips for Avoiding Common Mistakes when Interpreting Interactions

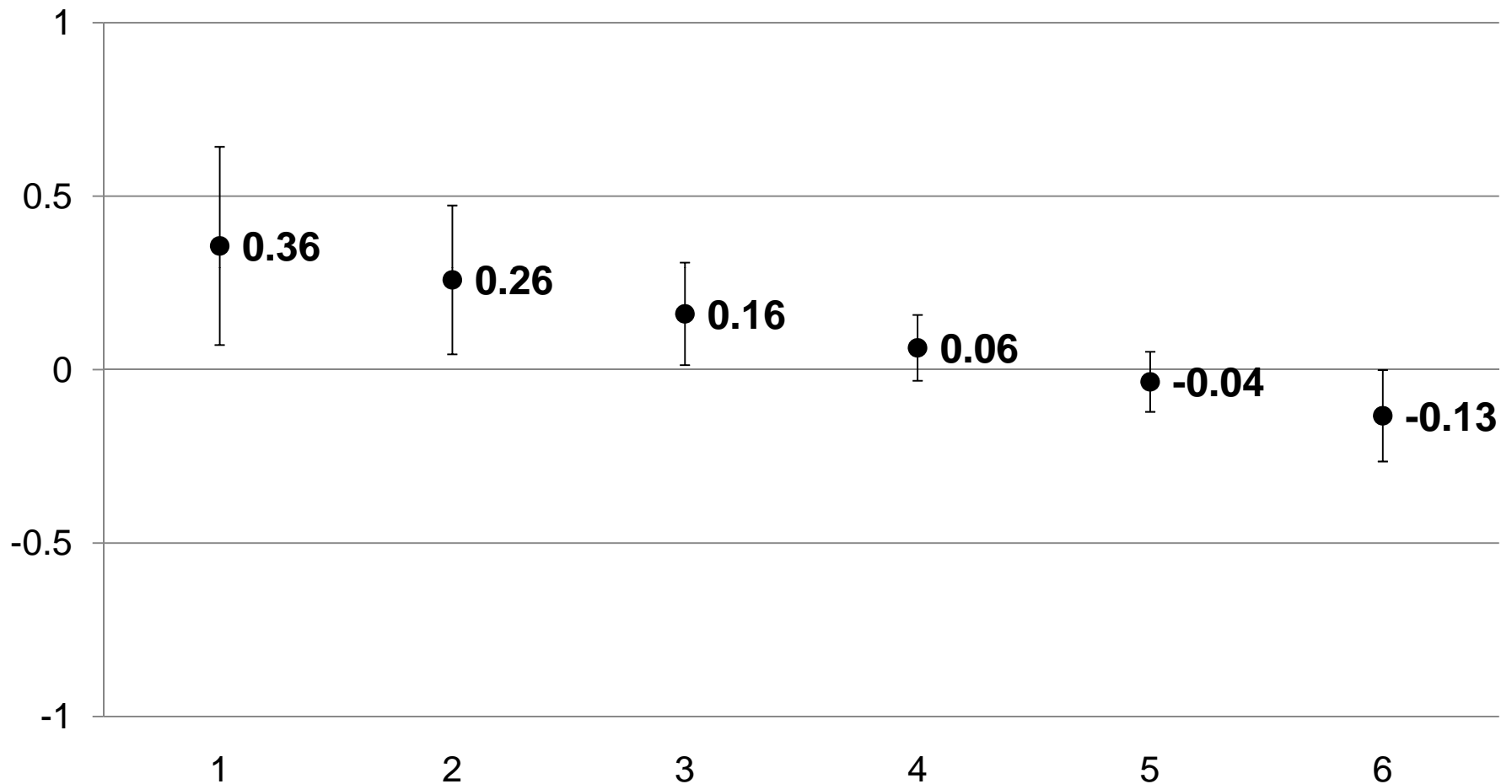
1. Include each of the constitutive terms.
2. Do not interpret constitutive terms as unconditional marginal effects.
3. Do not forget to calculate meaningful marginal effects and standard errors.

Brambor, Clark, and Golder (2006).

# Impact of Service on GPA as Importance of Service Opportunities Changes



# Impact of Service on GPA as Student's Importance Placed on Connecting their Academic Work to the Community Changes (Low to High)



# Limitations

- Lower response rate than we would prefer.
- Small sample size, particularly when selecting sub-populations with a module, hinders our ability to generalize.
- Measure of service is overly broad ignoring important nuances that exist in community based learning.
- GPA is only one potential measure of student performance.

# Conclusions

- Controlling for other factors we found evidence supports that service and volunteer participation is positively associated with higher GPAs.
- Evidence also suggests that this relationship is potentially mediated by students perceptions about the importance of service.

# Future Research

Our study examined **importance of opportunities**; others shed light on how **personal characteristics** (Heffner & Beversluis, 2002), **preferences** (Moely, Furco, & Reed, 2008), and **motives** (Clary, et al 1998) impact community engagement outcomes.

These factors, in addition to others, are worthy of future study.

# Future Research

- Community-engaged learning are designed to promote systematic gains across multiple areas:
  - Confidence
  - Psychosocial development
  - Attitudes and values
- These changes could occur for students not doing well academically

# Future Research

- Students' record of academic performance can be established through a variety of means:
  - Attendance records
  - Self-perceptions of academic success, relative to goals and aspirations
  - Pre-test/post-test measures on learning outcomes
  - Pre-test/post-test measures of efficacy and self-esteem
- Thus, grade point average is one point on a wide spectrum of academic achievement measures.



# References

- Astin, A. W., Sax, L. J., & Avalos, J. (1999). Long term effects of volunteerism during the undergraduate years. *Review of Higher Education, 22*(2), 187-202.
- Boss, J. A. (1994). The effect of community service on the moral development of college ethics students. *Journal of Moral Development, 23*(2), 183-198.
- Clary, E.G., Synder, M., Ridge, R.D., Copeland, J., Stukas, A.A., Haughen, J., & Miene, P. (1998). Understanding and assessing the motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology, 74*, 1516-1530.
- Dewey, J. (1916). *Democracy and education*. New York: The Free Press.
- Dewey, J. (1938). *Experience and education*. New York: Collier.
- Giles, D. E., & Eyler, J. S. (1994). The impact of a college community service laboratory on students' personal, social and cognitive outcomes. *Journal of Adolescence, 17*, 327-339.
- Heffner, G.G., & Beversluis, C.D. (2002). *Commitment and connection: Service-learning and Christian higher education*. Lanham, MD: University Press of America.
- Kendrick, J. R. (1996). Outcomes of service-learning in an Introduction to Sociology course. *Michigan Journal of Community Service Learning, 2*, 72-81.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Markus, G. B., Howard, J. P. F., & King, D. C. (1993). Integrating community service and classroom instruction enhances learning: Results from an experiment. *Educational Evaluation and Policy Analysis, 15*(4), 410-419.
- Moely, B.E., Furco, A., & Reed, J. (2008). Charity and social change: The impact of individual preferences on service-learning outcomes. *Michigan Journal of Community Service, 15*(1), 37-48.
- Tartter, V.C. (1996). *City College Report to FIPSE*. New York: City College Research Foundation.

