



# Disciplinary Differences in Faculty Work with the Public

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# Academic Disciplines shape Faculty Work

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- Seminal studies indicate the importance of disciplines (Becher, 1989; Becher & Trowel, 2001; Biglan, 1973a, 1974b; Clark, 1986)
- Literature focuses on how disciplines shape faculty research and teaching (Alise, 2008; Kwok, 2004; Laird, Schwarz, Shoup, & Kuh, 2008; Neumann, Perry, & Becher, 2002; Smart & Umbach, 2007; Smart, Feldman, & Ethington, 2000; Stark & Morstain, 1978)
- Discipline also shapes faculty service (Antonio, Austin, & Cress, 2000), but overall much less is known about service due to its status (Neumann & Terosky, 2007)



# Literature about Faculty Involvement with External Audiences

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- Faculty work with non-academic audiences is most often conceptualized as a form of service or volunteer work
- Literature examines faculty service in terms of
  - **Commitment** (Antonio, Austin, & Cress. 2000)
  - **Race and gender** (Abe, Jackson, & Jones, 2002; Antonio, Austin, & Cress. 2000; Hammond, 1994)
  - **Academic rank** (Antonio, Austin, & Cress, 2000; Austin and Gamson, 1983; Baldwin and Blackburn, 1981; Finkelstein, 1984; Neumann & Terosky, 2007)
- Rather than equate faculty involvement with external audiences only in terms of service, recent efforts define it as relating to faculty research, teaching, and service (Boyer, 1990, 1996; Driscoll & Lynton, 1999; Holland, 1999; Glassick et.al, 1997; O'Meara & Rice, 2005; O'Meara, 2002 Ward, 1999)
- Strong Institutional push towards expanding definition



## Outreach and Engagement

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- Targets and involves the public (audiences external to academia)
- Related to faculty expertise and scholarship
- Cuts across faculty research, teaching, and service
- As service, under examined and less integral to faculty work—typically identified as undermining faculty promotion



# Research Questions

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- Are there differences in faculty *commitment* to the public and type of *involvement* by the epistemological dimensions of disciplines?
- Are the findings in the literature about the importance of *faculty characteristics* — academic rank, race, and gender— replicated when faculty *involvement* with the public is conceived as research, teaching, and service?



## Sample

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- Faculty at Michigan State University who participated in institutional-wide data collection about outreach and engagement during AYs 2004-05 and 2005-06
- 736 Faculty (ranked)
- Race, gender, and academic rank
  - 64% Male, 35% Female
  - 86% White, 13% Faculty of Color
  - 49% Full Professor, 26% Associate, and 25% Assistant
- Representative of MSU faculty characteristics



# Measures

## Dimensions of Discipline

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- Department proxy for discipline
- Disciplines coded using an extended version of Biglan's classification (Biglan, 1973a; 1973b; Nelson, et al., 2008; Stark & Morstain, 1978; Stoeker, 1993)
  - Application (Pure-Applied)
  - Consensus (Hard-Soft)
  - Life-System (Life-Non-Life)



# Examples of Disciplines by 3-way Dimensions

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## ***Pure-Hard-Life***

Biology  
Zoology

## ***Applied-Hard-Life***

Agricultural  
Medicine

## ***Pure-Hard-Non-Life***

Chemistry  
Physics

## ***Applied-Hard-Non-Life***

Engineering

## ***Pure-Soft-Life***

Anthropology  
Psychology

## ***Applied-Soft-Life***

Teacher Education  
Nursing

## ***Pure-Soft-Non-Life***

Geography  
History

## ***Applied-Soft-Non-Life***

Advertising  
Economics





# Measures

## O&E and Faculty Characteristics

- Faculty Commitment (Survey)  
Self-reported percent of appointment time devoted to outreach
- Type of Involvement (Survey)  
Research, teaching (non-credit, credit, public event) and service (technical assistance and clinical)
- Faculty characteristics (Human resources)
  - Race
  - Gender
  - Rank



# Data Analysis

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- Three-way ANOVA to determine if there are differences among disciplinary dimensions and ***commitment to outreach and engagement***
  - Dependent variable-Outreach percentage
  - Controlled for faculty characteristics (race, gender, and rank)
- Multinomial logistic regression to determine differences in ***type of involvement***
  - Dependent variable-Type of involvement
  - Service reference category

# Findings

## Commitment by Gender and Race

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<i>Variable</i>	<i>N(%)</i>	<i>Mean</i>	<i>SD</i>	<i>t-test(727)</i>
<b>Gender</b>				
Male	474(64)	17.87	16.06	1.07
Female	255(35)	19.20	16.13	(not sig)
<b>Race</b>				
White	636(86)	18.42	16.15	0.38
Faculty of Color	93(13)	17.74	15.76	(not sig)

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## Commitment by Rank

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<i>Variable</i>	<i>N(%)</i>	<i>Mean</i>	<i>SD</i>	<i>F(2,733)</i>
Full	357(49)	17.92	15.35	
Associate	191(26)	18.04	16.31	0.75 (not sig)
Assistant	188(25)	19.63	17.28	

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## Commitment by Dimensions

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>SE</i>	<i>F(1,733)</i>
<b>Application (<i>pure-applied</i>)</b>				
Pure	280	14.75	1.00	7.04**
Applied	456	18.34	0.91	
<b>Consensus (<i>hard-soft</i>)</b>				
Hard	342	14.37	1.07	9.97**
Soft	394	18.72	0.84	
<b>Life (<i>life-non-life</i>)</b>				
Nonlife	364	14.79	0.96	6.61*
Life	372	18.30	0.96	



# Commitment by Two and Three-way Interaction

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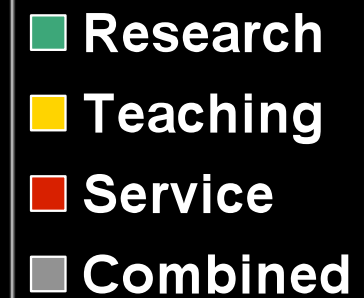
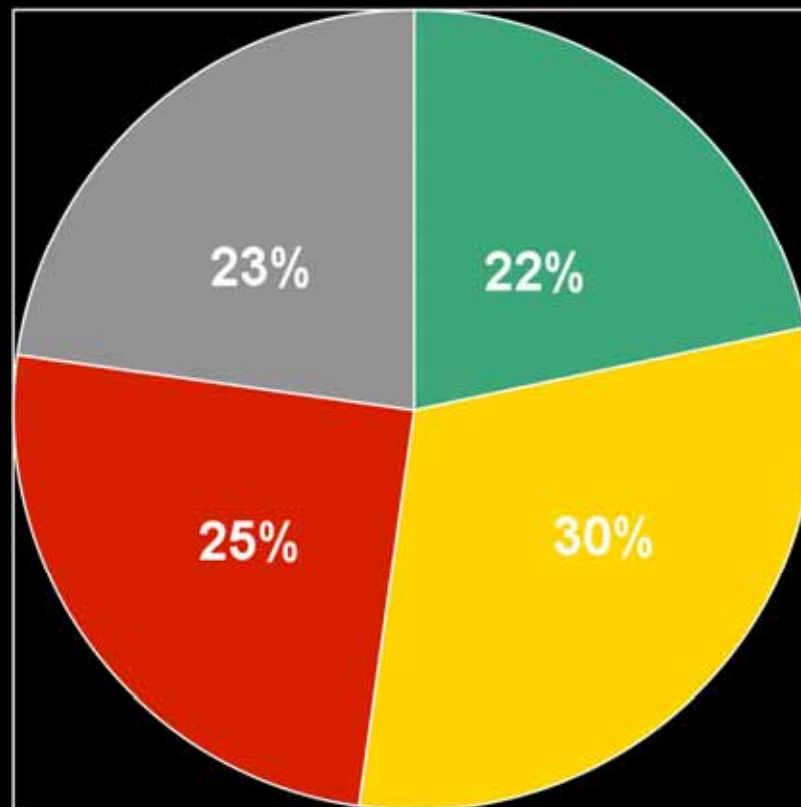
## Two-way interaction

- *Application-Life System* (6.33\*)
- *Application-Consensus* (15.37\*\*\*)
- *Consensus-Life System* (9.57\*\*)

## Three-way interaction

- *Pure-Hard-Non-Life* (chemistry, physics)  
 $M = 7.51$  ( $SD = 1.80$ )  
*Pure-Soft-Non-Life* (geography, history)  
 $M = 21.89$  ( $SD = 1.49$ )
- *Pure-Hard-Life* (biology, zoology)  
 $M = 12.36$  ( $SD = 2.50$ )  
*Applied-Hard-Life* (agriculture, human medicine)  
 $M = 24.08$  ( $SD = 1.11$ )

# Type of Involvement





## Type of Involvement by Faculty Characteristics

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- Females were **more** likely (than males) to engage in research, teaching, or combination vs. service (technical assistance-consulting)
- Faculty of color were **more** likely (than White faculty) to engage in research or combination vs. service (*no differences in teaching*)





## Type of Involvement by the Dimensions of Disciplines

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- Faculty in pure disciplines were **more** likely (than those in applied disciplines) to engage in research, teaching, or combination vs. service
- Faculty in soft disciplines were **more** likely (than those in hard disciplines) to engage in research than in service (*no differences in teaching or combination*)
- Faculty in non-life disciplines were **more** likely (than those in life disciplines) to engage in teaching than in service (*no differences in research or combination*)



# Conclusion

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- Dimension of disciplines matter which is supportive of findings in existing literature
  - Commitment-Applied, Soft, and Life
  - Influence type of involvement
- Significance of faculty characteristics varies
  - Not related to commitment
  - Gender and race important for understanding type