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Thesis

Professional social capital and graduate training of future scientists at the U.S. universities

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Study Summary

- Scientific & Technical Human Capital - new form of evaluation of S&E policies (Bozeman, Dietz & Gaughan, 2001).
- Importance: Lack of literature on relationship of graduate training and acquired professional social capital.

Goal: Assess whether I/UCRC training impacts professional social capital.

Main IVs: type of graduate training & experiences (I/UCRC vs. non-I/UCRC)

Main DVs:

- Professional Social Capital (STHC)
- Satisfaction
- International students' intentions to stay in the U.S.

Population: PhD students at the research-intensive universities.

Sample:

- 100 from I/UCRCs
- 100 from corresponding Science & Engineering departments
- Target universities with multiple I/UCRCs to minimize IRB transactions.

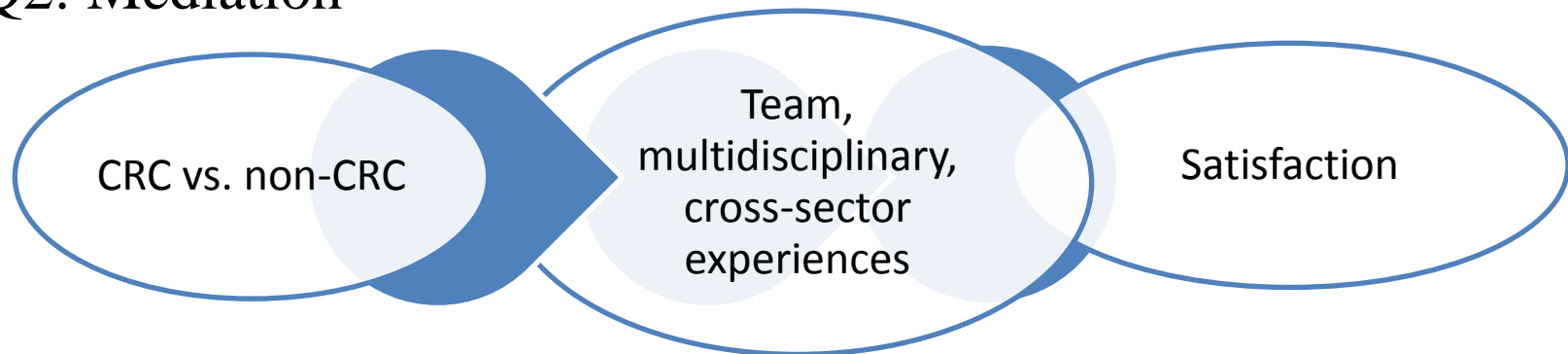


Hypothesis

- H1: Graduate students trained in CRCs will demonstrate a higher level of professional social capital than graduate students trained in non-CRC arrangements.
- H2: Graduate students trained in CRCs will report higher rates of the following types of experiences: working in teams; working with professionals from other disciplines; working with individuals from other institutions; working with individuals from other sectors; working collaboratively with other scientists.
- H3: Graduate students trained in CRCs will demonstrate a higher level of satisfaction than graduate students trained in non-CRC arrangements.

Questions

- Q1: To what extent do team, multidisciplinary, cross-institution, cross sector and collaborative experiences mediate the effect of CRC vs. non-CRC training on various social capital outcomes?
- Q2: Mediation



- Q3: To what extent does national status (U.S. citizen vs. non-citizen) moderate the impact of CRC vs. non-CRC training on various social capital and satisfaction outcomes?
- Q4: Do international students' intentions on to live and work in the U.S. after their graduation predicted by the type of training they receive (CRC vs. non-CRC)?



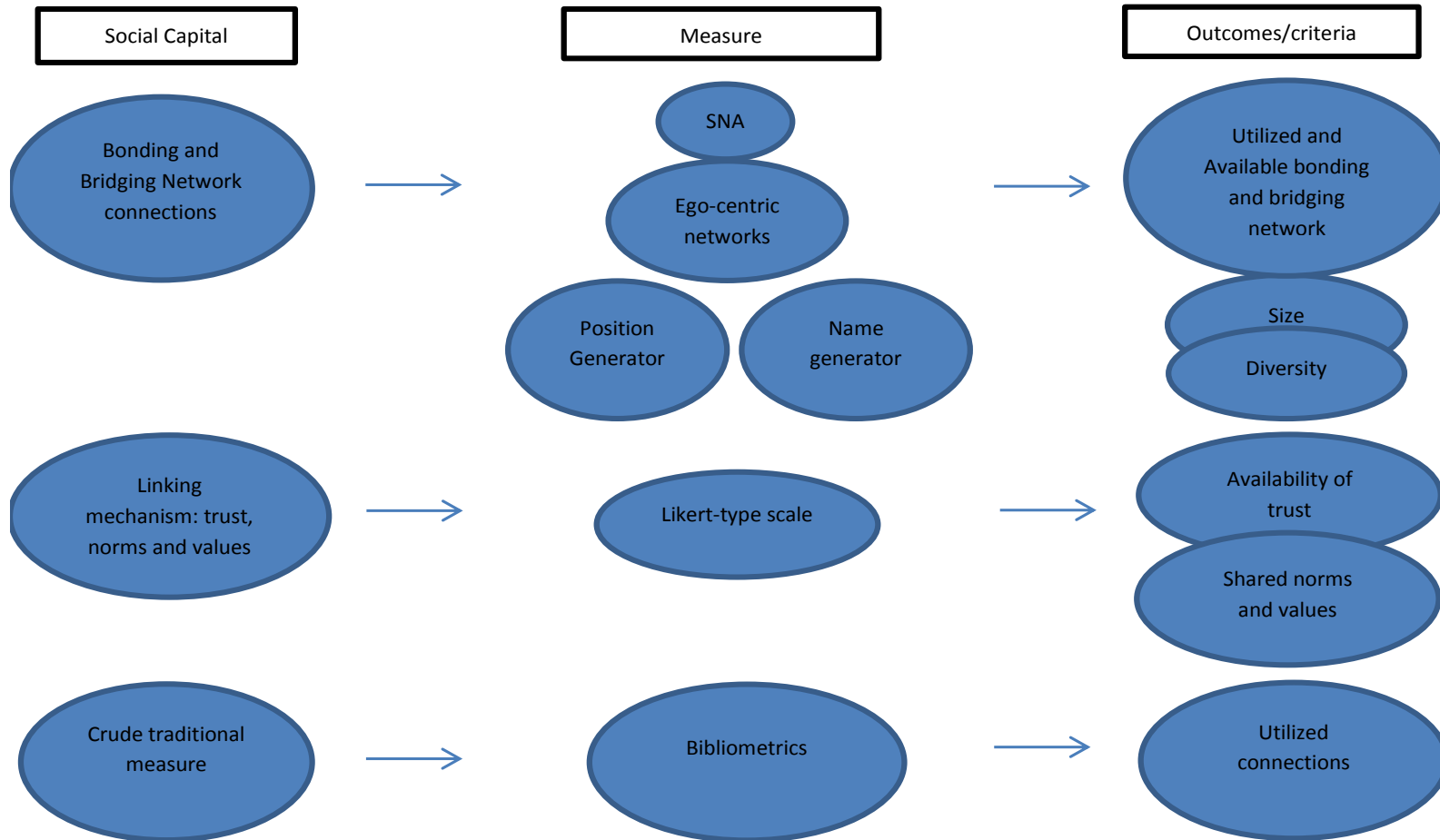
Professional Social Capital

Social capital measures:

- Social Network Analysis of ego-centric professional students' networks:
 - Bonding and bridging ties.
 - Utilized and available networks' size and diversity.
- Psycho-social measure of trust, norms and values (“gluing” mechanism of social capital).
- Bibliometric measures of collaboration (crude traditional measure of authorships).

First Step: identify whether these measures capture social capital as one concept or its particular facets.

Summary of Social Capital's components, measures and measurement outcomes





Steps

- Universities: North Carolina State University (6), Ohio State (7), Arizona State (5), Univ. of Arizona (4), Virginia Tech (7), Univ. of Florida (5), Texas A&M (4)
 - As a result, sites, not whole centers, provide sample's respondents.
1. Acquire students' contact information. More challenging for control group:
 - a. Request students' contacts from center director/department head
 - b. Research university/center web site
 2. Request an official email from NSF to students.
 3. Request help from local evaluator (if needed).
 4. Email link to the survey to the sample students.



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Thank you.