Public Participation and Institutional Fit: A Social-Psychological Perspective

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Collaborators

- **Michael K. Stokes**

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- **Vincent and Elinor Ostrom Workshop in Political Theory and Policy Analysis**

  Indiana University

Special Feature, *Ecology and Society*

Institutional evolution and fit

*Social-ecological field and laboratory experiments

Guiding Framework, (in prep) *Science*

Followed or enforced? Psychological bases of rule compliance in self-governing systems.

Public Participation

Believed to encourage sustainability by promoting acceptance and collecting local social-ecological knowledge for better designs.

Public Participation

Clarify several important issues surrounding the use of participation to promote sustainable social-ecological systems

- Mixed results (Chess and Purcell 1999, Conley and Moote 2003)
- Priveleged solution, without deeper understanding of how participation works (DeCaro and Stokes 2008, 2013)
  - Detrimental effects: exploitation, marginalization, social-ecological disaster (Clement 2010, Turnhout et al. 2010)
  - Rigid use of generic types of participation as "blueprints" for success and "cure all" solutions (Adams and Hulme 2001, Ostrom 2007)

Institutional Fit

Clarify ambiguities in the definition and measurement of "institutional fit" to improve its scientific rigor and usefulness.

Institutional Fit

Policies, decision-making procedures, and best practices should match local social and ecological conditions (e.g., Young 2002, 2008, Ostrom 2007, Hagendorn 2008).
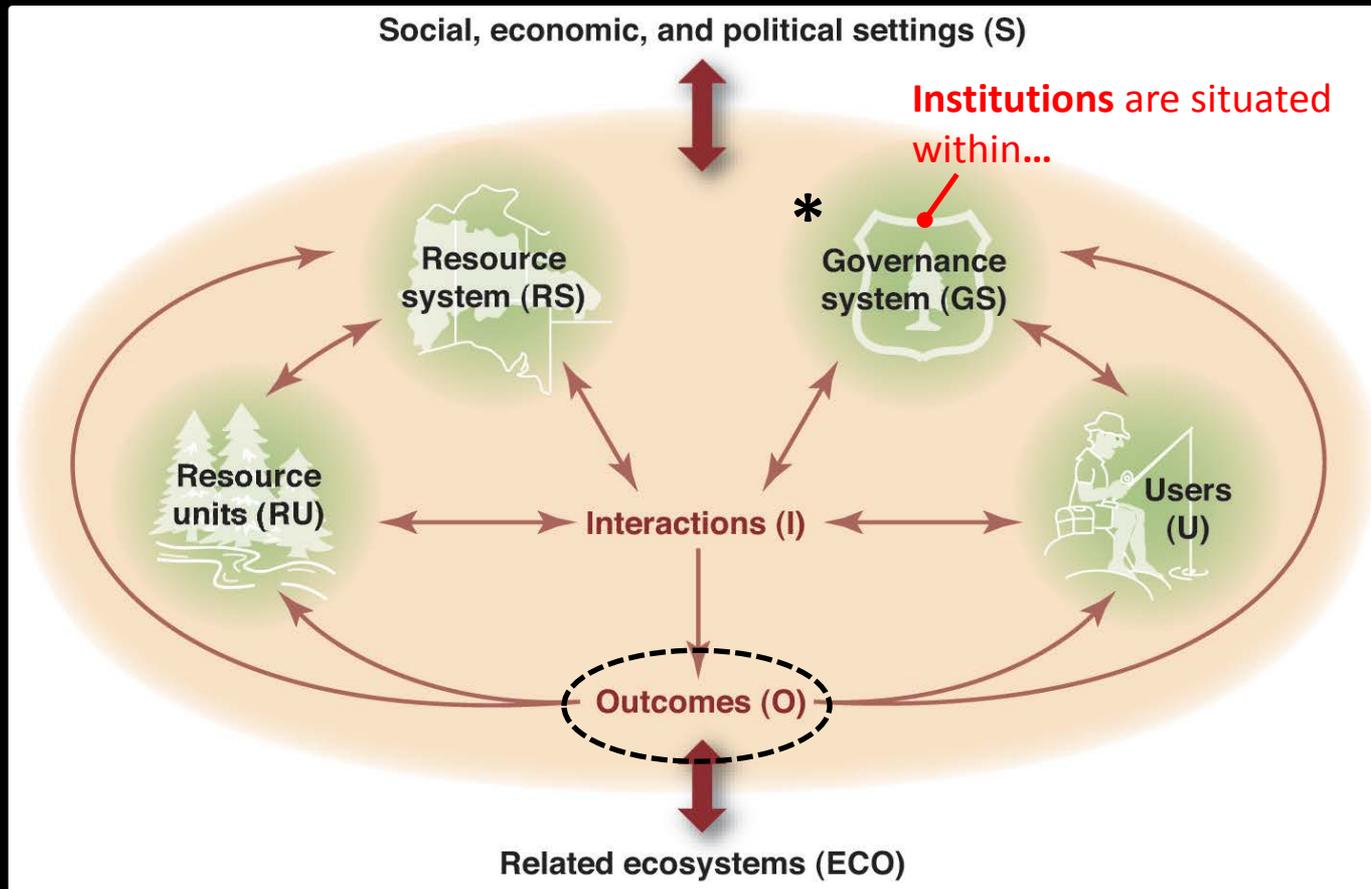
The core subsystems in a framework for analyzing social-ecological systems.
Source: Elinor Ostrom, *Science* 325 (2009: 420)

Social, economic, and political settings (S)
**S1 Economic development. S2 Demographic trends. S3 Political stability.
S4 Government resource policies. S5 Market incentives. S6 Media organization.**

Resource systems (RS)	*Governance systems (GS)*
RS1 Sector (e.g., water, forests, pasture, fish)	**GS1 Government organizations**
RS2 Clarity of system boundaries	**GS2 Nongovernment organizations**
RS3 Size of resource system[*]	**GS3 Network structure**
RS4 Human-constructed facilities	**GS4 Property-rights systems**
RS5 Productivity of system*	**GS5 Operational rules**
RS6 Equilibrium properties	**GS6 Collective-choice rules* Participatory?**
RS7 Predictability of system dynamics[*]	**GS7 Constitutional rules**
RS8 Storage characteristics	**GS8 Monitoring and sanctioning processes**
RS9 Location	

Resource units (RU)	*Users (U)*
RU1 Resource unit mobility *	**U1 Number of users**[*]
RU2 Growth or replacement rate	**U2 Socioeconomic attributes of users**
RU3 Interaction among resource units	**U3 History of use**
RU4 Economic value	**U4 Location**
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RU6 Distinctive markings	**U6 Norms/social capital**[*]
RU7 Spatial & temporal distribution	**U7 Knowledge of SES/mental models**[*]
	U8 Importance of resource[*]
	U9 Technology used

Interactions (I) → Outcomes (O)

I1 Harvesting levels of diverse users	**O1 Social performance measures (e.g.,**
I2 Information sharing among users	**efficiency, equity, accountability,**
I3 Deliberation processes	**sustainability)**
I4 Conflicts among users	**O2 Ecological performance measures (e.g.,**
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I7 Self-organizing activities	**O3 Externalities to other SESs**
I8 Networking activities	

Related ecosystems (ECO)

ECO1 Climate patterns. ECO2 Pollution patterns. ECO3 Flows into and out of focal SES.

*Subset of variables found to be associated with self-organization.

Public Participation

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Institutional Fit

Clarify ambiguities in the definition and measurement of "institutional fit" to improve its scientific rigor and usefulness.

- Operational definition (What is a "good" fit?), and measurement (Folke et al. 2007, Thiel and Farrell 2013)
- Role of human agency and self-determination? (e.g., Ostrom 1990)

DeCaro and Stokes (2008, 2013) Framework

Integrates principles of perception, motivation, and decision making from social and cognitive psychology with Ostrom's (2009) *Social-Ecological System* framework to address each of these problems.

- Framework (important factors, research questions, and methods)

  - **Comprehensive Fit.** Fit in the grandest sense (social, political, economic, and biophysical). Goal of sustainable design.
    - Comprehensive problem of fit (*1st order dilemma*)
  - **Fit as a Behavioral Problem.** Complex problem-solving process, involving many actors in many different action situations.
    - Actors must be sufficiently motivated (*2nd order dilemma*).
    - Stakeholders must comply and enact environmentally responsible behaviors (*3rd order dilemma*).

*Social Fit (how well institutions match human expectations and behavioral patterns) is central (Social fit → Comprehensive Fit).
- Public participation → Social fit

Social Fit

How well policies, decision-making procedures, and best practices match human expectations and behavioral patterns.

- Fighting an uphill battle when there is social misfit.

- **Institutional Acceptance.** Extent to which individuals endorse a set of rights, rules, or decision-making procedures (DeCaro and Stokes 2013).

    - Rejection is a direct expression of social misfit (e.g., Arab Spring)

        - Many technologically sound solutions have failed, because they are unappealing or culturally repulsive (Stankey and Shindler 2008).
        - Citizens routinely thwart so-called "not-in-my-backyard!" (NIMBY) projects (Frey et al. 2004, Wüstenhagen et al. 2007)

    - ✓ Measurable indicator

Example Measures *Institutional Acceptance*

Social Justice Research

1. I approve of the [rule/policy/practice/goal].
2. I support the [rule/policy/practice/goal].
3. I am satisfied with the [rule/policy/practice/goal].   (Allen and Meyer 1990)

Self-Determination Theory

People follow [rules/policies/practices/goals] to different extents and for different reasons. Please indicate how well each of the following reasons describes you. I strive for this [rule/goal] the way I do, because...

(DeCaro and Stokes 2013)

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2. I really believe that it is an important [rule/goal] to have.
3. I endorse the [rule/goal] freely and value it wholeheartedly.
4. I would feel ashamed or guilty if I did not strive for it.
5. I do not want to disappoint [authority figure/person(s)].
6. I get some kind of reward, praise, or approval for doing so.
7. I would be punished if I did not.   (Sheldon and Elliot 1998, Soenens et al. 2009)

(DeCaro and Stokes 2013)

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Social Fit

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    - ✓ Measurable indicator
   - ✓ Well-established link to participation (Participation → Social fit)

Participation and Social Fit

When public participation supports a sense of procedural justice and self-determination, it tends to promote institutional acceptance (DeCaro and Stokes 2008; cf. Frey et al. 2004, Tyler 1990).

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Behavioral process model linking participatory fit, social fit, and comprehensive fit.
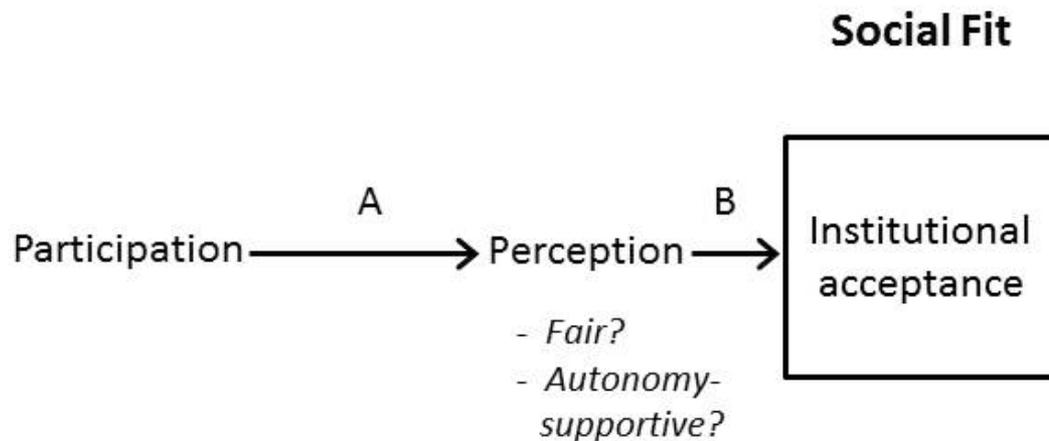
Source: DeCaro and Stokes, *Ecology and Society* (in press)

Examples

McComas, Stedman, and Hart (2011), *Energy Policy*

Community support for university-led approaches to sustainable energy use at Cornell University

*Measures of perceived procedural justice (from prior dealings with the university) predicted acceptance of new energy policies, solutions.

Jenny, Fuentes, and H-J Mosler (2006), *Human Ecology*

Individual rule compliance for common-pool resource management (shared solar energy system in Santa Maria, Cuba)

Measures of perceived procedural justice predicted acceptance and compliance (e.g., unplugging refrigerators from 6-10pm).

- Above and beyond expected probability and severity of punishment (controlling for other factors)

*(Appendix; cf. DeCaro and Stokes 2013)

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    - ✓ Well-established link to participation (Participation → Social fit)

    - ✓ Well-established link to motivation and performance (Social fit → Comprehensive fit)

Social Fit and Comprehensive Fit

Institutional acceptance promotes behavioral entrenchment and intrinsic motivation (voluntary adoption of social norms and institutions).

- Linked to robust environmental responsibility and compliance (DeCaro and Stokes 2008; cf. De Young 2000, Séguin et al. 1998, Pelletier et al. 2001).

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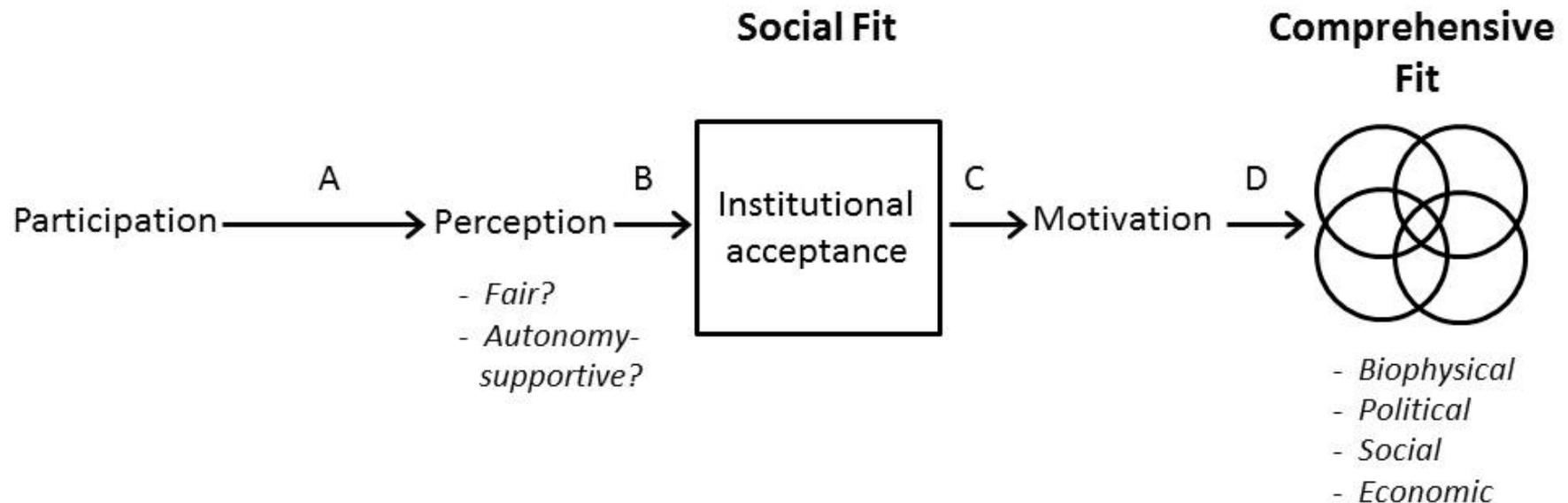
Source: DeCaro and Stokes, *Ecology and Society* (in press)

Examples

Kubo and Supriyanto (2010), *Biodiversity Conservation*

Four-year transition from "Fence-Fines" to "Collaborative management" in an Indonesian park system.

- BEFORE. High levels of distrust and disliking between park rangers and citizens; rampant deforestation. Low policy acceptance.
- AFTER. High levels of trust and liking (spontaneous sharing of local social-ecological knowledge). Halted deforestation; voluntary plantings and new social norms/rules. High policy approval (lowest, 91%)

* Did not measure perceived self-determination or procedural justice, but did follow DeCaro and Stokes's (2008) general design principles for autonomy-supportive environmental management.

- Provision of Choice. Decision-making involvement; transparency.
- Cultural Fit, Empathy, and Respect. Citizens able to avoid taboos and pursue goals in ways that align with own concerns and goals.
- Non-Coercive Communication. Avoid ultimatums ("should," "or else").

Examples

Lafon et al. (2004), *Wildlife Society Bulletin*

Increased human - wildlife conflict, involving black bear in Virginia

- Vigorous citizen-led push for lethal control methods (e.g., hunting, poison)

Quasi-Experimental Field Study

Virginia Department of Game and Inland Fisheries (VDGIF)

o Participate in an educational program through the mail (non-lethal)
o Participate in a citizen advisory board

Before/After
- Perceived procedural justice (current participation *vs* new)
- Support for the VDGIF
- Policy acceptance (e.g., lethal methods *vs* food-waste control)

Both groups showed an increase in procedural justice, and this predicted their support for the VDGIF.

- Citizen Advisory group showed greatest increase, and were the only individuals to reverse approval for lethal bear control methods.

Supporting Evidence

Social psychology and social justice research

- Family (e.g., Soenens et al. 2009)

- Workplace (e.g., Greenberg 1990, Gagné and Deci 2005)

- Academics (e.g., Reeve 2006)

- Sports (e.g., Hagger et al. 2003)

- Religion (e.g., Martos et al. 2011)

- Politics (e.g., Losier et al. 2001)

- Legal process and criminal justice (e.g., Tyler 1990, Frey et al. 2004)

- Environmentally responsible behavior (e.g., De Young 2000, Pelletier et al. 1999)

- Social acceptability of energy policy and technology (e.g., Stankey and Shindler 2006, Wüstenhagen et al. 2007)

(cf. Deci and Ryan 2008, DeCaro and Stokes 2008, 2013)

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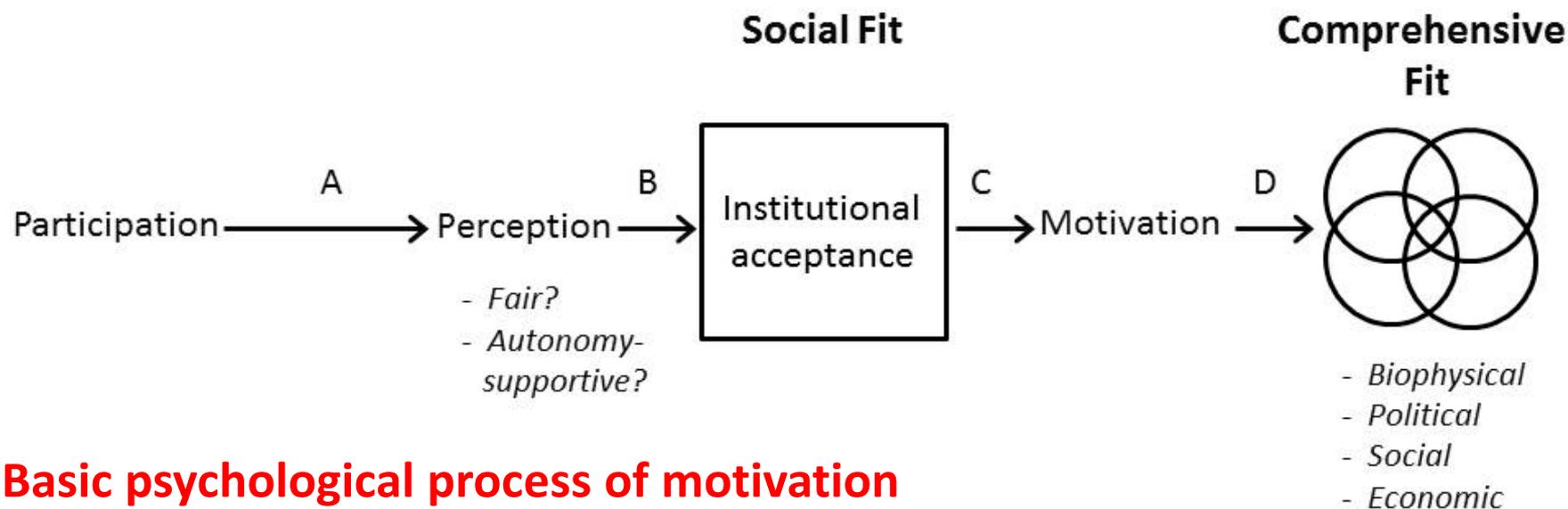
Basic psychological process of motivation

Source: DeCaro and Stokes, *Ecology and Society* (in press)

Participatory Fit

Effective participatory programs match the local social and environmental conditions (DeCaro and Stokes 2013; cf. Ostrom 2009)

- What type(s) of public participation will be perceived as autonomy-supportive and procedurally fair?

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Subjective definitions of "participation" (procedural justice, self-determination)
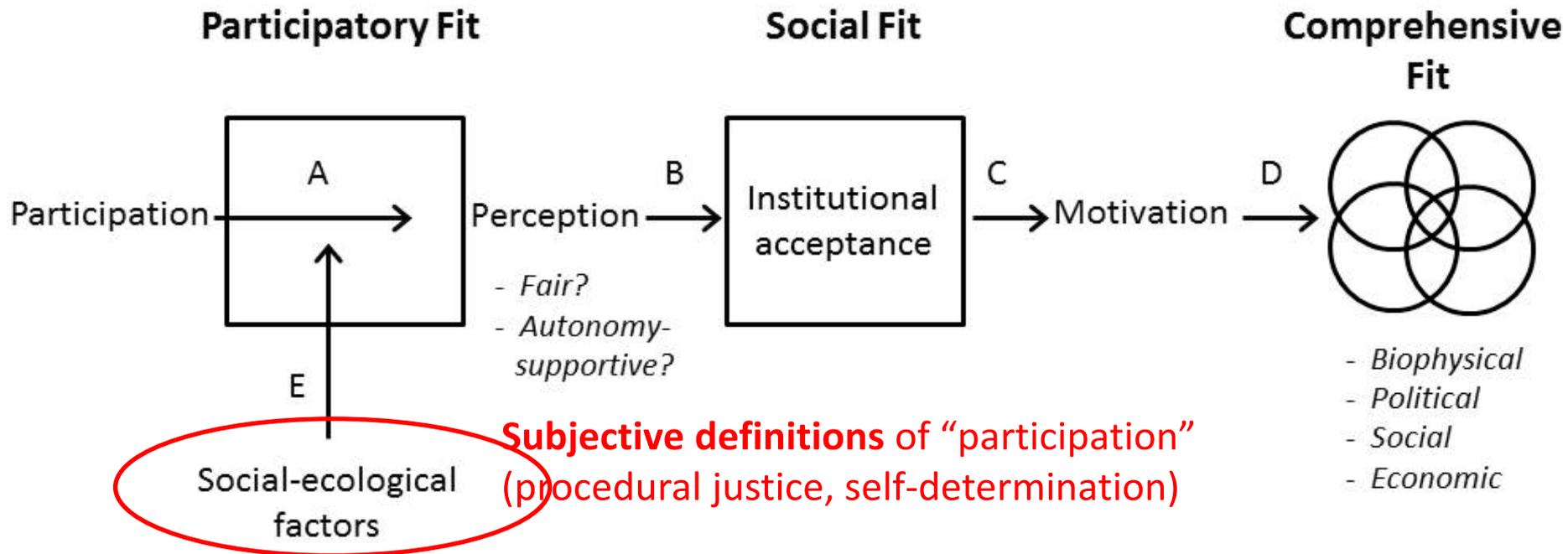
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Useful Tool:

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Interactions (I) → Outcomes (O)

I1 Harvesting levels of diverse users	**O1 Social performance measures (e.g.,**
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Related ecosystems (ECO)

ECO1 Climate patterns. ECO2 Pollution patterns. ECO3 Flows into and out of focal SES.

*Subset of variables found to be associated with self-organization.

Participatory Fit, *Factors*

❑ User (Actor) Characteristics

■ Cultural worldview (U6), *collectivism/individualism*

Relational autonomy ("we") *vs.* independence ("I") (e.g., Sheldon et al. 2004; cf. Triandis 1994, Holfstede 2011)

■ Class (U2) and Gender Roles (U6)

Social stratification (different roles and positions) can create divergent perspectives about who may participate and how.

- Ray and Bhattacharya (2011). Effect of India's caste system on forest regime management.
  - Less legitimacy, information sharing, compliance; more deforestation.
  - Socioeconomic stratification in field-lab experiments (Cardenas 2003)

- Enserink et al (2007). Implementation of the European Union Water Framework Directive in four societies.
  - More traditional norms of masculinity (e.g., United Kingdom), more centralized environmental decision-making (*vs* Netherlands).

Participatory Fit, *Factors*

❑ Resource System Characteristics

- Ease of obtaining accurate ecological information (Ostrom 1990)

  Fish Stocks

  - Large in size (RS3) or many units (fish, RU5)
  - Unclear geographical or political boundaries (RS2)
  - Highly mobile units (RU1) that lack distinct identifiers (RU5)

  Some citizens may prefer to defer decision-making authority (responsibility); demand "informational justice" (transparency) instead (e.g., Jenny et al. 2006)

- Different types of social dilemmas (cf. Ostrom 1990, 2007)

- Resource Sector (RS1)

  - Nuclear power plants versus private solar-power generators (Wüstenhagen et al. 2007, Sauter and Watson 2007)
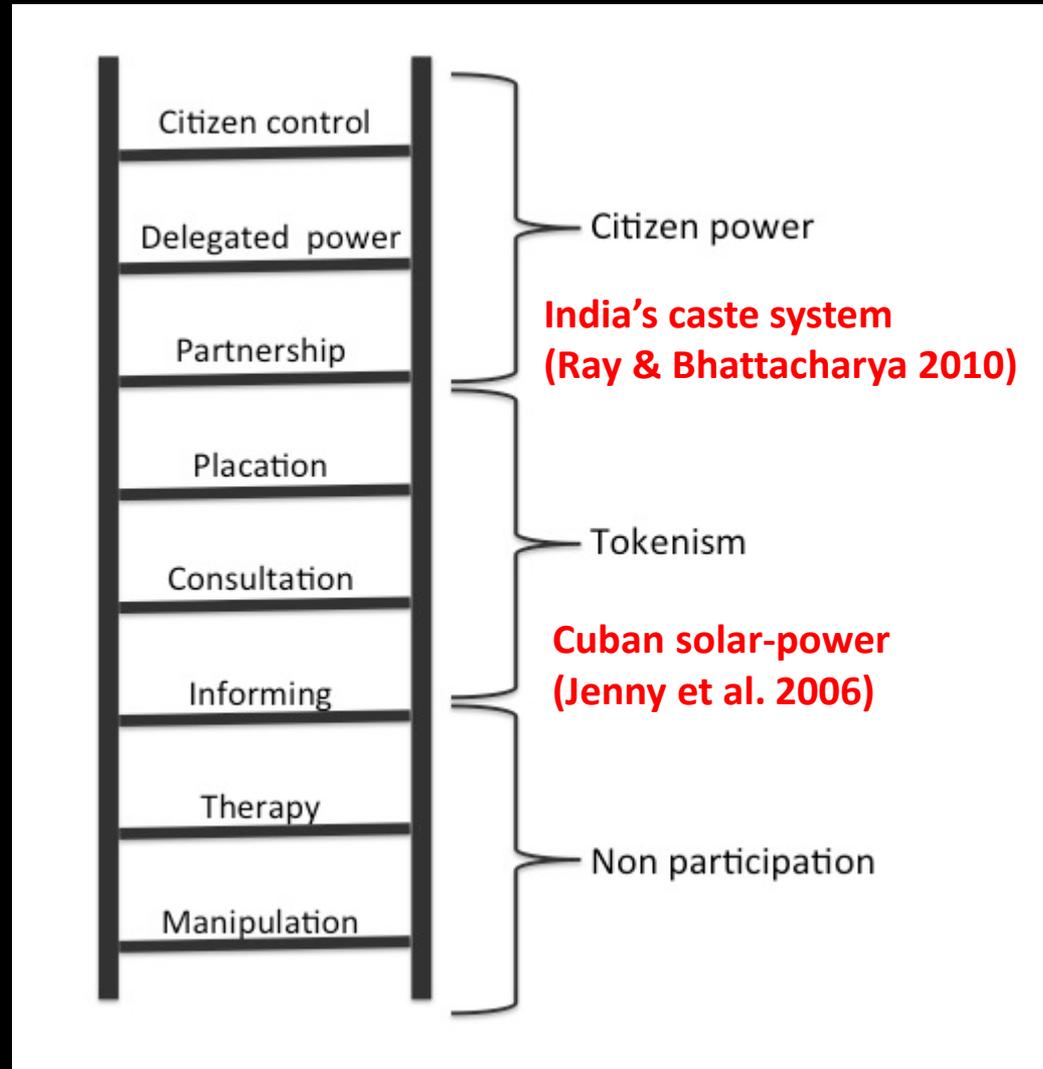
Arnstein's (1969) *Ladder of Citizen Participation*

Traditional Indicators

Number of participants

Diversity

Decision-making control

Citizen control

Delegated power — Citizen power

Partnership

India's caste system (Ray & Bhattacharya 2010)

Placation

Consultation — Tokenism

Cuban solar-power (Jenny et al. 2006)

Informing

Therapy

Manipulation — Non participation

Example, *Need for empirical research*

Hunt and Haider (2001), *Society and Natural Resources*

Using Arnstein's (1969) ladder, attempted to prove that psychological measures of procedural justice (i.e., Lauber and Knuth 1999) are not needed to identify best form of participation.

- Interviewed 324 operators of tourist sites in Ontario, Canada
- Defined "participation" as level of actual involvement in Ontario's Forest Management Planning Program.
    - None, up to…
    - Member of citizen advisory board that drafted the actual forest plan
- AFTER. Measured organizational satisfaction, policy acceptance, and satisfaction with decision-making procedures.

➢ Those who were more involved (citizen advisory board, plan) were the least satisfied on all measures.
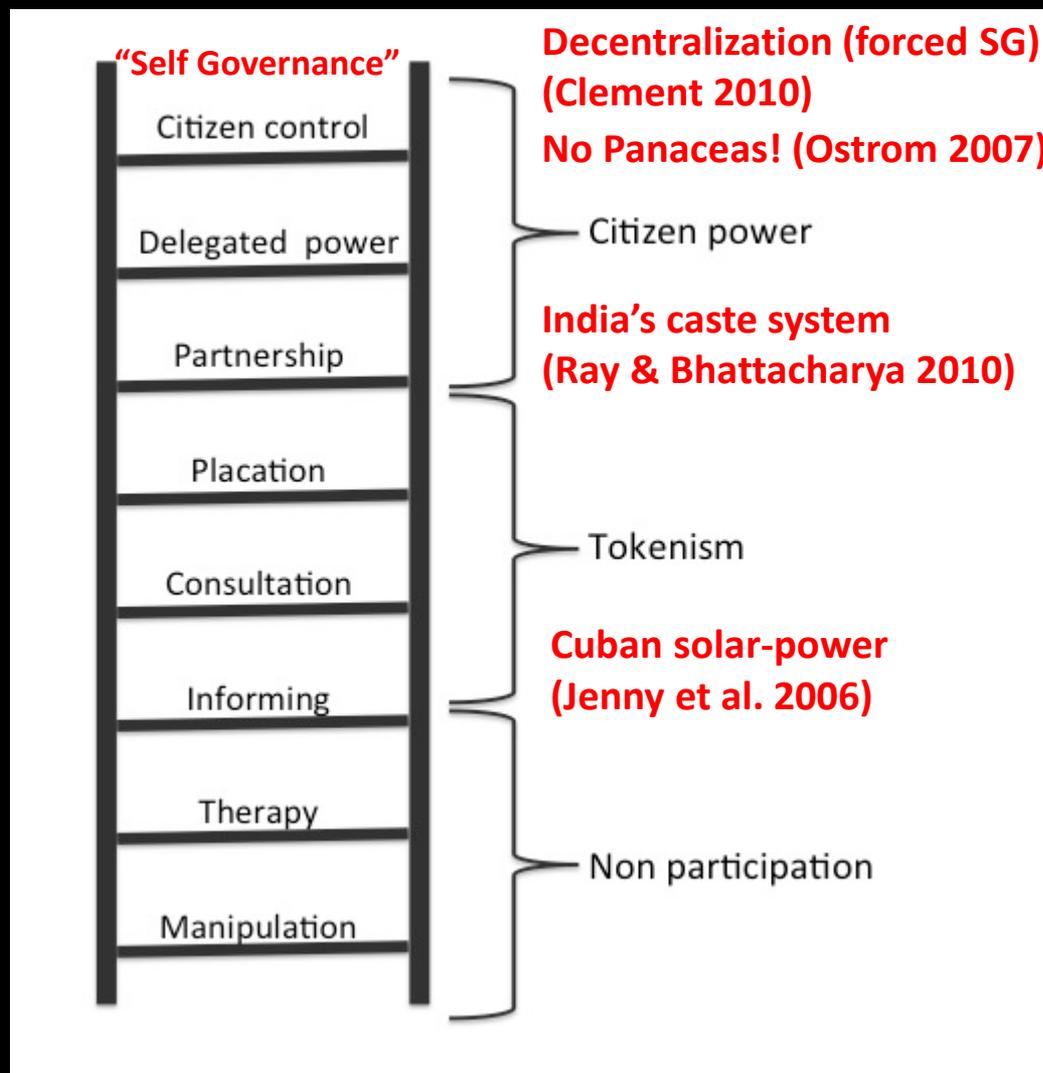   - Concluded that subjective assessments of "participation" were needed after all.

Arnstein's (1969) *Ladder of Citizen Participation*

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Decision-making control

"Self Governance"

Citizen control

Delegated power

Partnership

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Consultation

Informing

Therapy

Manipulation

Citizen power

Tokenism

Non participation

Decentralization (forced SG) (Clement 2010)
No Panaceas! (Ostrom 2007)

India's caste system (Ray & Bhattacharya 2010)

Cuban solar-power (Jenny et al. 2006)

Source: Sherry Arnstein, *American Institute of Planners* 35 (1969: 217)
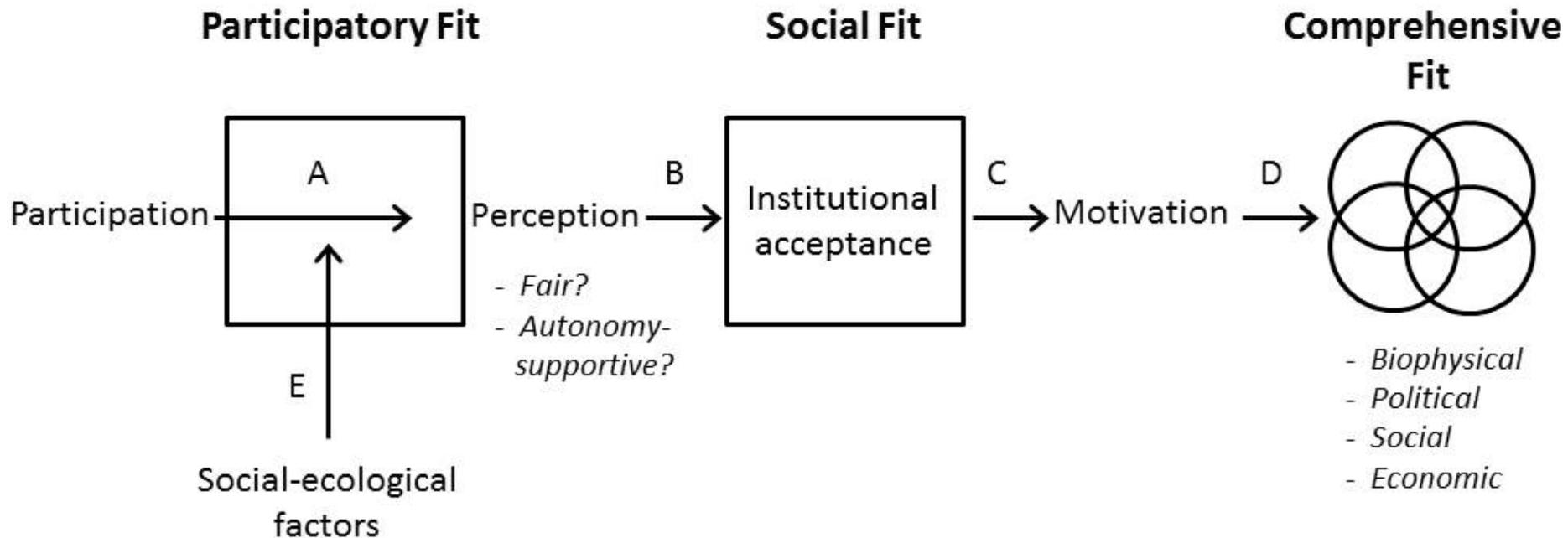
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Behavioral process model linking participatory fit, social fit, and comprehensive fit.

Source: DeCaro and Stokes, *Ecology and Society* (in press)

Demonstration, *Diagnosing Participatory Fit*

Chase et al. (2002), *Wildlife Society Bulletin*

Best form(s) of participation to resolve controversy of elk/deer control?

- Archival research to identify two cases with similar problem (equated on as many other dimensions as possible)

    - Evergreen (Colorado), Cayuga Heights (New York)

- Preliminary interviews with several local citizens and wildlife managers to create more focused questionnaires.

- Questionnaires measured attitudes, preferences, demographics (400 participants in each location)

    - Attitudes: elk/deer, methods of control
    - Preferences for Participation: Arnstein's categories and specifics (e.g., Who should make the final decision, citizen majority vote or state wildlife agency?)

Demonstration, *Diagnosing Participatory Fit*

Chase et al. (2002), *Wildlife Society Bulletin*

❑ Results

- ▪ Different preferences in different locations
  - • Evergreen (Colorado), 53% *State wildlife agency (12% co-management)*
  - • Cayuga Heights (New York), 24% *State wildlife agency (35% co-manag.)*

- ▪ Different preferences within a given location
  - • Evergreen (Colorado), 36% *Consultation, 29% Surveys and hearings, 19% answer calls, etc.*

❑ DeCaro and Stokes (2013) applied Ostrom's (2009) SES Framework.

- ▪ Importance of the resource (U8, *User*)
  - • Evergreen (Colorado), 1% *Nuisance, 30% Remove them*
  - • Cayuga Heights (New York), 1% *Nuisance, 81% Remove them*

- ▪ Socioeconomic status (U2, *User*)
  - • Evergreen (Colorado), *$50,000 to $75,000 median income*
  - • Cayuga Heights (New York), *$75,000 to $100,000 median income*

Demonstration, *Diagnosing Participatory Fit*

## Chase et al. (2002), *Wildlife Society Bulletin*

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- Different preferences within a given location

  - Evergreen (Colorado), 36% *Consultation, 29% Surveys and hearings, 19% answer calls, etc.*

- Used these findings to inform local wildlife agencies and managers (did not do a follow-up study!)

  - Used institutional acceptance as an indicator of social fit, to guide diagnosis and tailoring process.

  - Did not measure perceptions of procedural justice or self-determination (would have provided deeper insight).

Diagnosing Participatory Fit, *Field Research*

1. Use Ostrom's (2009) SES Framework to identify critical factors that may influence subjective definitions of public participation.

2. Also use this information to strategically select field sites (e.g., types of participation, cultural context, etc.)

3. Use measures of self-determination/procedural justice to confirm effects on subjective definitions of participation (across sites or between conditions, depending on design).

4. Measure institutional acceptance to assess social fit (preference for existing and/or potential participatory options).

5. Record the motivational, perceptual, and behavioral outcomes. Relate these to observed environmental outcomes and environmentally responsible behavior.

* If longitudinal design, repeat as needed to track institutional evolution.

* Other factors (e.g., economic sanctioning, resource sector) undoubtedly make a difference; vary across sites based on focal research question.

Behavioral Process Model *Linking Participatory Fit, Social Fit, and Comprehensive Fit.*
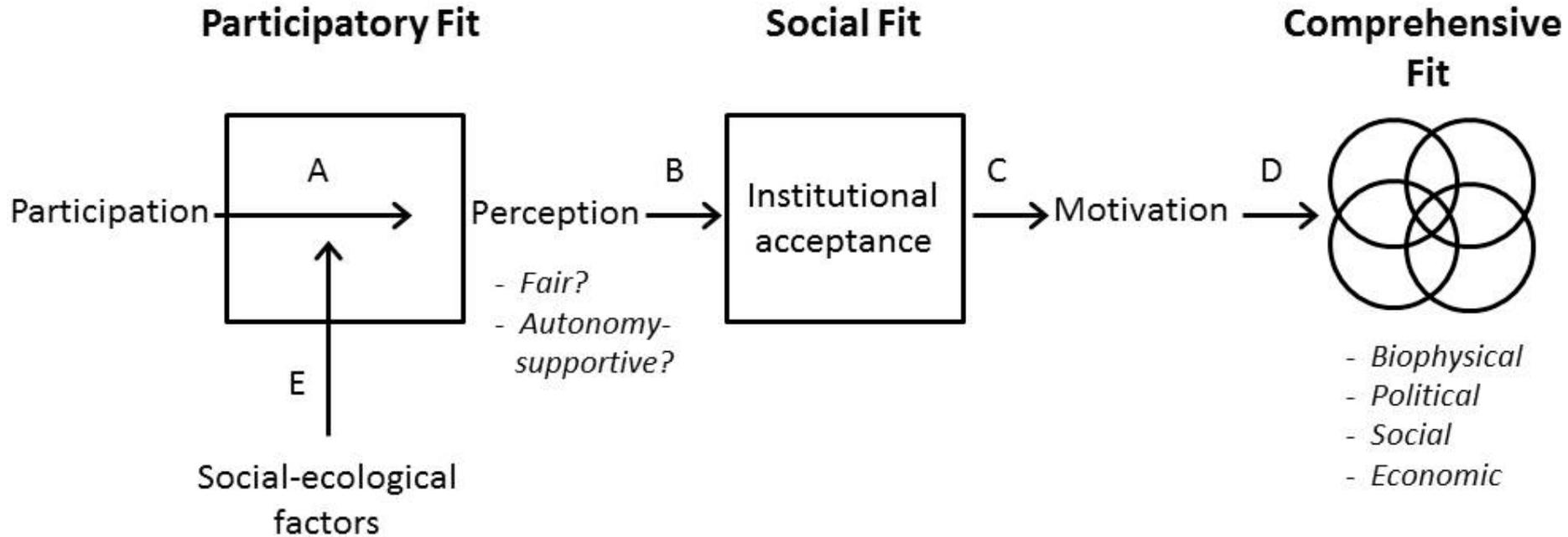
- ✓ Research questions for each link (and at all scales of complexity)
- ✓ Other social and psychological processes contribute to social fit and comprehensive fit (evaluate in light of participation).
  - Economic sanctions? *Varied across sites, or manipulate*.
  - Biophysical characteristics? *Varied across resource sector, sites, etc.*

Source: DeCaro and Stokes, *Ecology and Society* (in press)

Implications and Conclusions

1. There is an important difference between public participation and the subjective feeling of "genuine participation."

   - Subjective perception (reaction) predicts motivation and behavior better than surface features of participation.
   - Best type depends on stakeholder and local social-ecological conditions.
   - Actual involvement might not be essential, but feeling of procedural justice and self-determination probably is essential.

2. Institutional acceptance as a useful indicator of social fit.

   - Measurable operational definition of a type of fit.
   - Highly predictive of actual motivation and behavior.
   - Provides a common evaluative scale for assessing institutional fit across different social-ecological situations.

3. Cannot currently anticipate participatory fit (empirical question); goal is to provide guidance and working hypotheses.

   - Design social-ecological laboratory experiments (e.g., DeCaro, Janssen, Lee, and Ostrom *in prep.*)
   - Design field research (Arnold and DeCaro, *MRG*)

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Daniel A DeCaro, Ph.D.

– Fini

Thank you!

Appendix