



Norm Power of Snorkelers and SCUBA Divers in the Florida Keys

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Normative Theory

- **Norms**: socially agreed upon standards of behavior

The ability of norms to influence behavior is a function of:

$$\text{Norm Power} = \text{Obligation} * \text{Sanction}$$

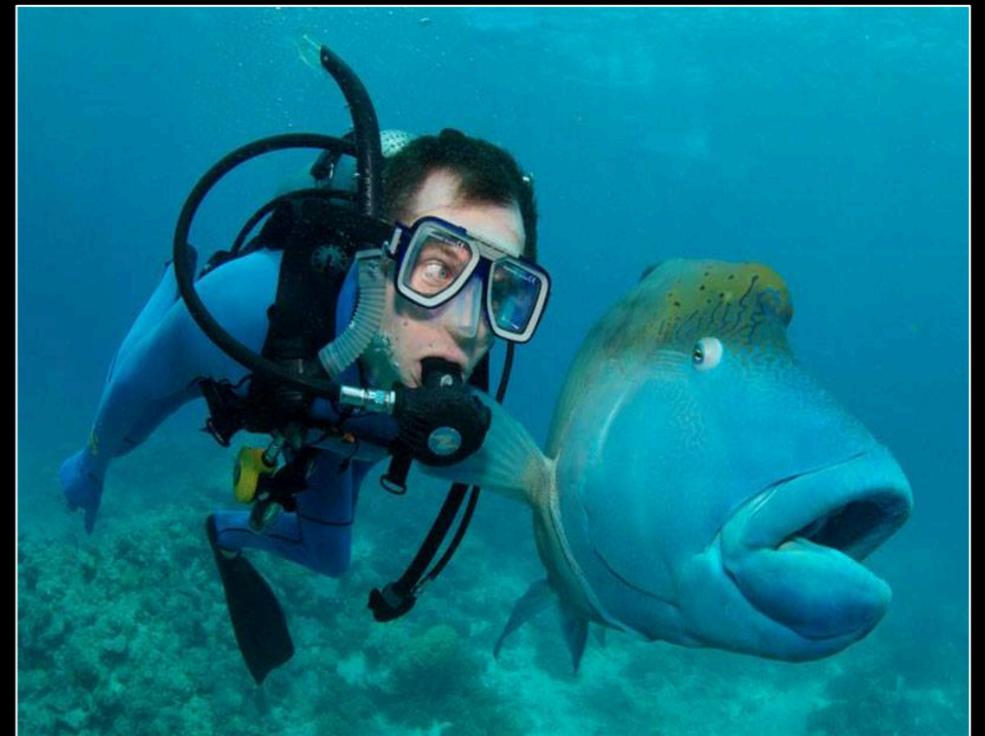
- **Obligations**
 - Learned as one faces sanctions from group
- **Sanctions**
 - Punishments/rewards for violating/conforming to norms
 - Formal, informal, or internal

Use of Norm Power in Management

If strong norm power exists, then desirable behavior is regulated/enforced among a group 👍

Norm Power can be used to:

- Monitor behaviors
- Assess the needs for
 - Communication & outreach
 - Management action or formal regulation
- Promote ocean stewardship



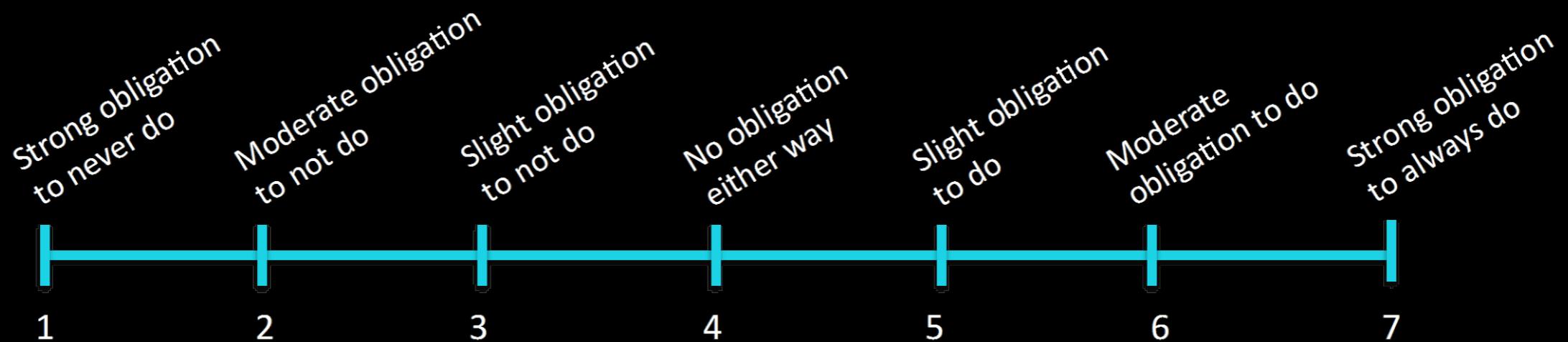
Example: Coral Reef Behaviors

- Florida Reef Resilience Program, 2008 study
- On-site intercept sampling
- Mail survey methodology (Dillman, 1978)
 - Response rate = 57.9%
- Sample of non-residents ($N = 1,417$):
 - Snorkelers ($n = 548$) & SCUBA divers ($n = 869$)



Norm Power Measures

“Please indicate the extent to which you believe all [snorkelers/divers] have an obligation to do...”



“Imagine that you did the following at a coral reef and others saw you. How embarrassed would you feel?”



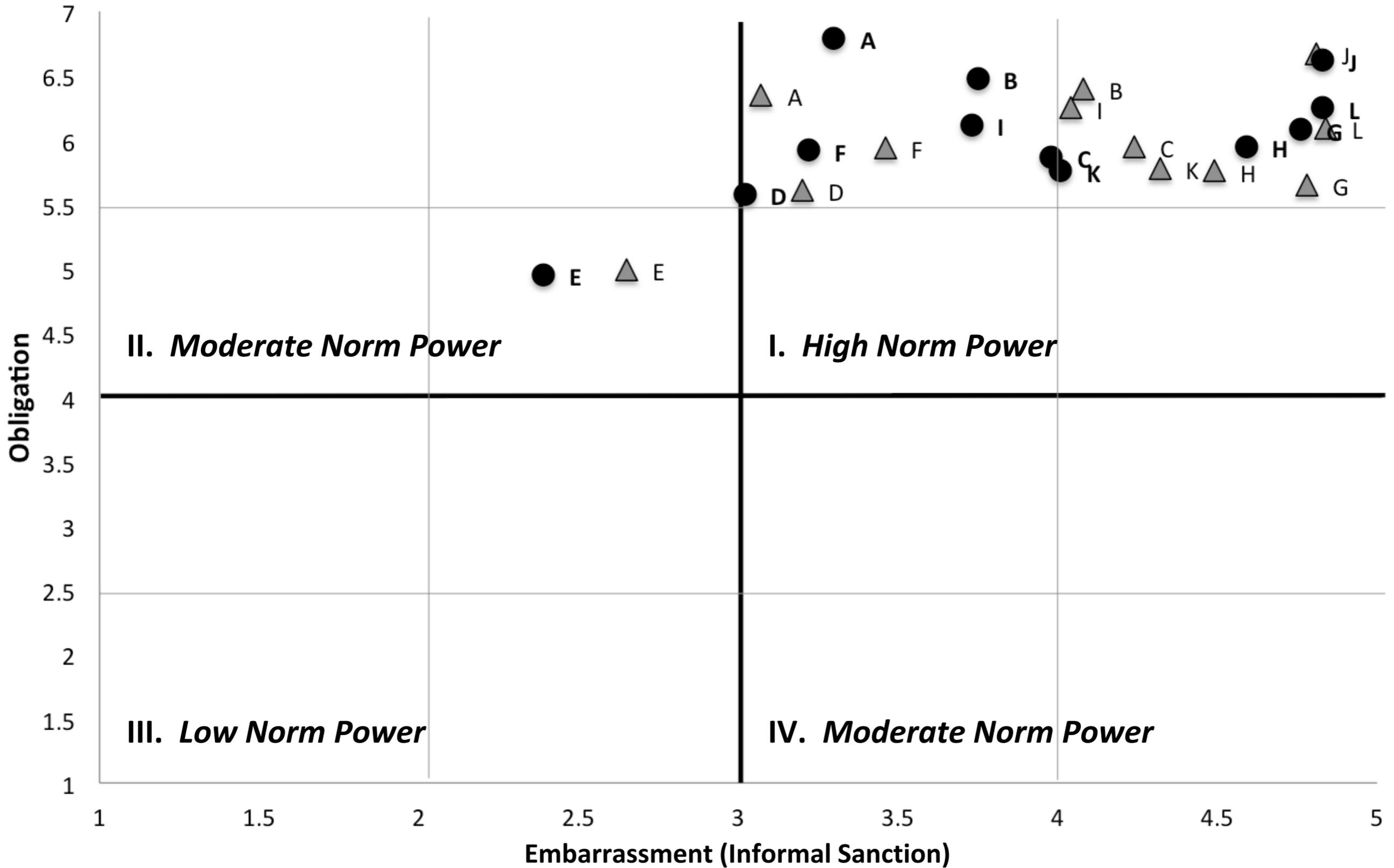
Norm Power Results

Coral Reef Behaviors	Snorkelers (\bar{X}_{NP})	SCUBA Divers (\bar{X}_{NP})
A. Maintain buoyancy control	19.90	22.62
B. Tell others not to touch corals	26.38	24.65
C. Not operate boats in shallow reef areas	25.58	23.95
D. Not feed fish	19.32	17.98
E. Not swim close to marine mammals	14.34	12.76
F. Not touch marine mammals	21.66	20.00

Norm Power Results

Coral Reef Behaviors	Snorkelers (\bar{X}_{NP})	SCUBA Divers (\bar{X}_{NP})
G. Pick up garbage from the sea floor	27.08	29.07
H. Operate boats \geq 100 ft. from a dive flag	26.15	27.57
I. Not take pieces of dead coral	25.83	23.64
J. Not break off pieces of live coral	32.21	31.98
K. Leave shells in original conditions on a reef	25.61	23.98
L. Tell others not to anchor boats on coral	29.67	30.37

Norm Power of Non-resident Snorkelers and SCUBA Divers in the Florida Keys

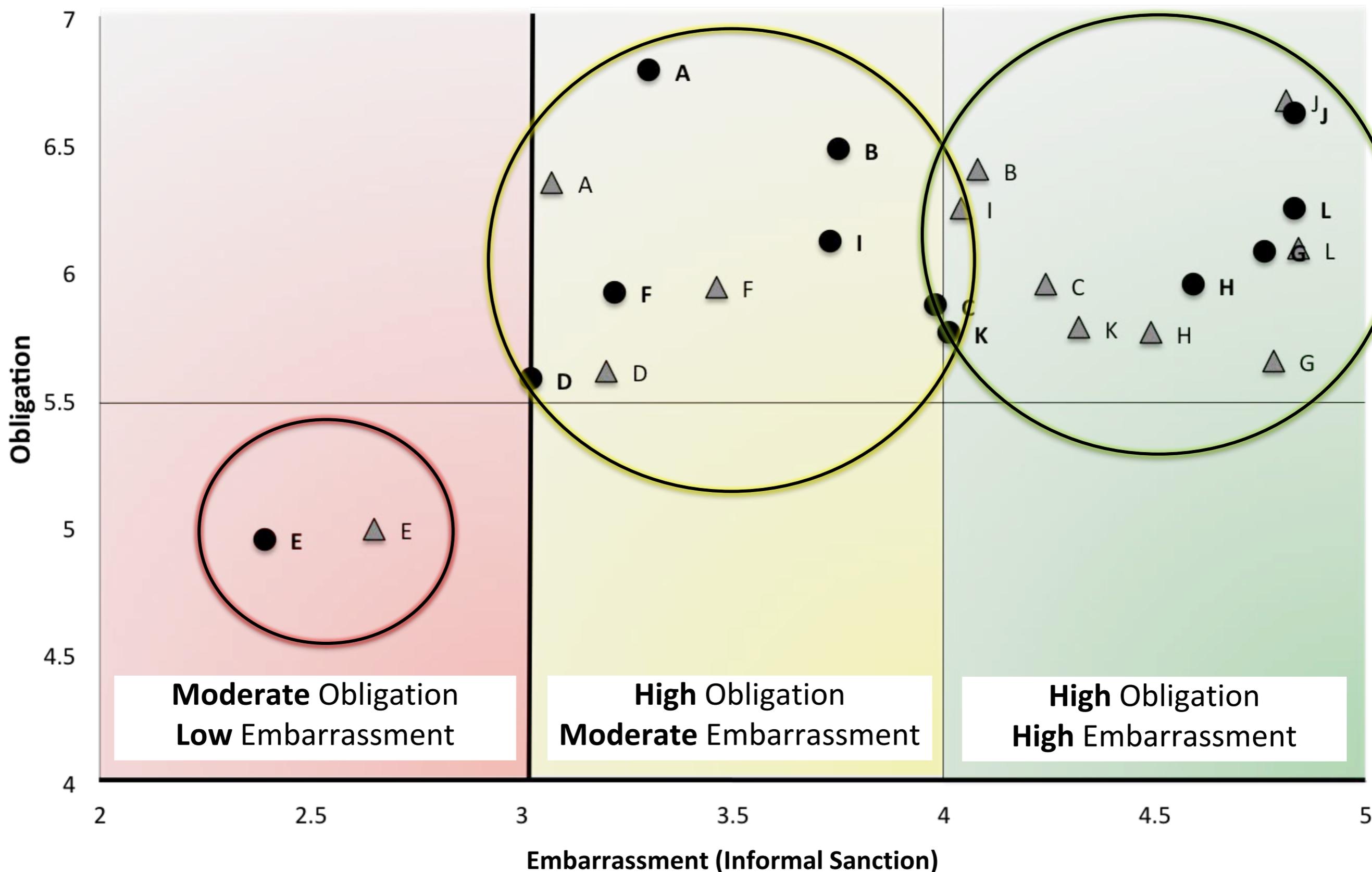


Obligation: 1 = Strong obligation to never do, 4 = No obligation either way, 7 = Strong obligation to always do

Embarrassment: 1 = Not at all embarrassed, 3 = Moderately embarrassed, 5 = Extremely embarrassed

▲ Snorkelers ● Divers

Moderate to High Norm Power among Non-resident Snorkelers and SCUBA Divers



▲ Snorkelers ● Divers

Discussion

- 1. Desirable behaviors are “policed” among groups**
 - Norms are internalized, legitimized
 - Consistent with established regulations & programs
 - No need for further management action
- 2. Monitor: feeding fish; touching marine mammals**
 - Obligations are strong
 - May need to increase informal sanctions
- 3. Address: swimming close to marine mammals**
 - Enhance sense of obligation
 - Increase informal sanction

Take Home Messages

1. Use norm power to monitor behavior & to assess needs for management action

Strong: behavior is regulated among group

→ Current management actions are okay

Weak: behavior may need attention

→ Enhance obligation &/or sanction

2. Communication & Outreach

- Use messages that are *relevant & meaningful*
- Promote stewardship by instilling a sense of obligation
- Make use of people's inclination to voluntarily conform

An underwater photograph showing a group of divers in the upper half and a sea turtle swimming over a coral reef in the lower half. The water is clear and blue. The turtle has a patterned shell and is swimming towards the left. The divers are scattered in the background, some looking towards the camera.

THANKS!

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