

Bases for Acceptance of Wildlife Management Actions:

Mountain Lions at the Urban- Wildland Interface

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The Nittany lion

(*Puma concolor nittanyi*)



I. Acknowledgments

- Project sponsored by the Colorado Division of Wildlife
- Project leader, Michael J. Manfredo, CSU

II. Apologies

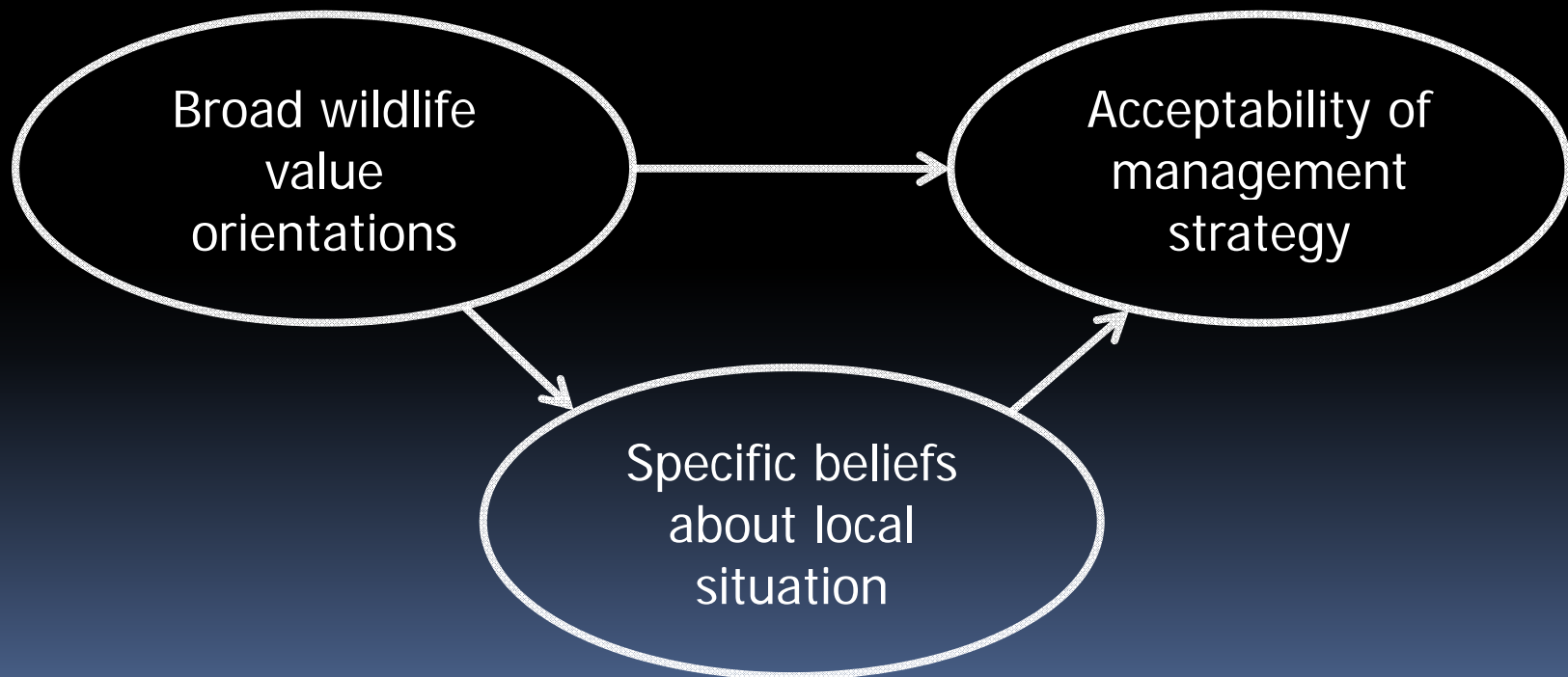
- Data was collected in 1995
- One might consider it out-of-date
- I prefer to think of it as well-aged

Mountain lions at Colorado's urban-wildland interface

- Human-lion interaction increased during 1980s and 1990s
- After a human fatality, Manfredo and I surveyed residents about management preferences and related values and beliefs
- Today, Shen and I re-visit the acceptability of long-term management strategies

Cognitive hierarchy perspective

- Suggests acceptability of management strategies will be influenced by two levels of beliefs



Acceptability of five management strategies

- Increase opportunities to hunt mountain lions
- Increase opportunities to hunt mountain lions' primary prey
- Conduct controlled mountain lion hunts with specially trained hunters
- Develop ways to reduce mountain lions' reproductive capacity
- Restrict residential development in mountain lion habitat

Wildlife value orientations

- Broad beliefs in three related domains
- Wildlife use
 - “Humans should manage wildlife populations so that humans benefit”
- Hunting
 - “Hunting helps people enjoy the outdoors in a positive manner”
- Wildlife rights
 - “The rights of wildlife are more important than human use of wildlife”

Fulton et al., 1996

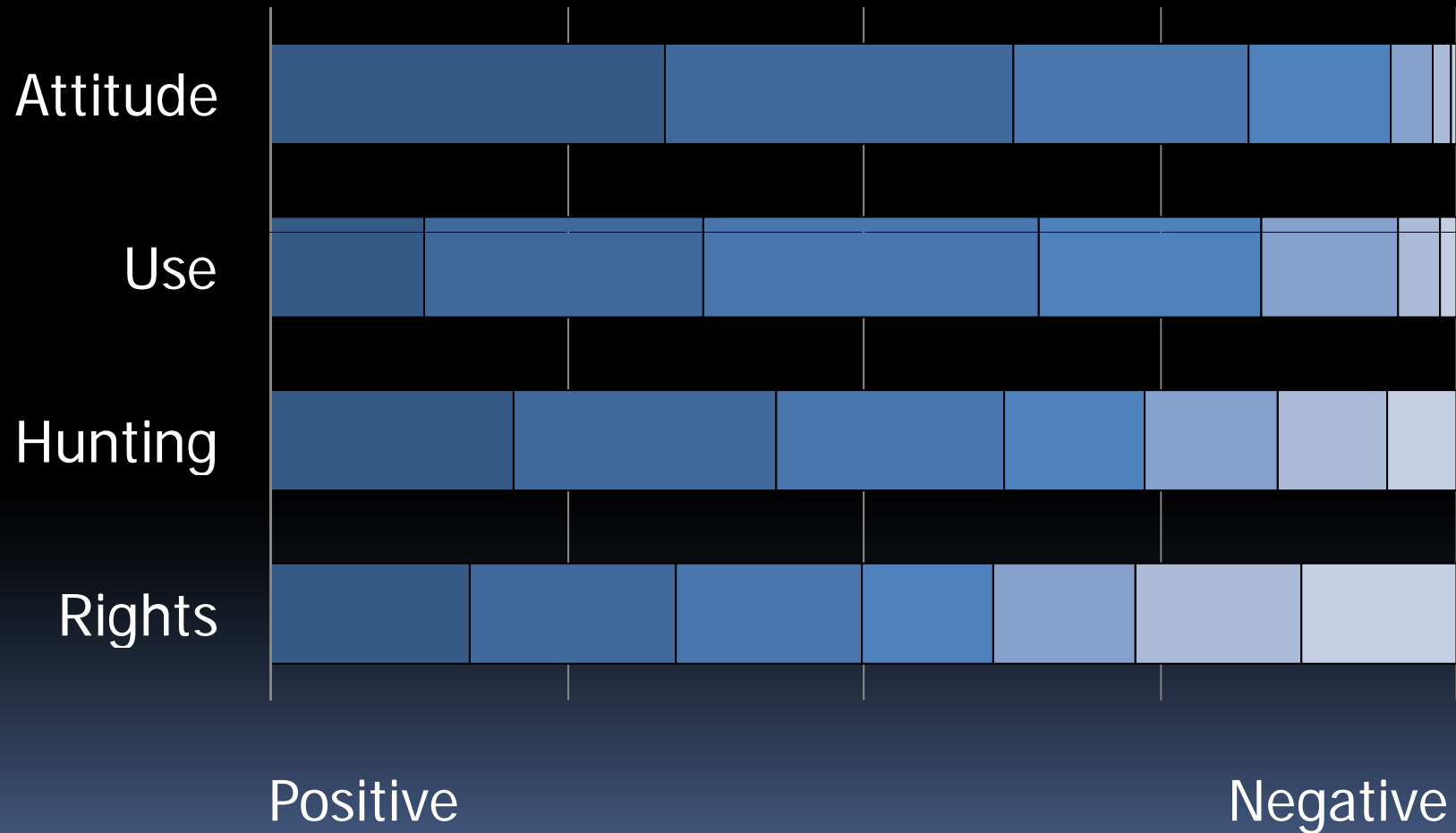
Specific beliefs about Front Range situation

- Mountain lions keep the deer population lower
- I may never see a mountain lion in the wild, but it is important to me to know that they exist
- Mountain lions pose no real risk to people living near them
- Mountain lions pose no real risk to pets living near them
- Living near people poses no real risk to mountain lions
- Mountain lions are a sign of a healthy environment
- Mountain lions are endangered in Colorado
- Where mountain lions live near people, mountain lion attacks on people are common
- There are too many mountain lions in the Front Range area
- There are too many deer in the Front Range area

Study population & survey

- Study population
 - Adults in Denver, Colorado Springs, Boulder metropolitan area
 - Sampled by household
- Mail survey with 3 waves
- Response
 - Overall response rate = 59%; n = 2,668

Respondents' attitudes and WVOs



Structural equation modeling

1. Background analyses

- Evaluated WVO composite variables
- Tested for invariance in WVO domains between men and women

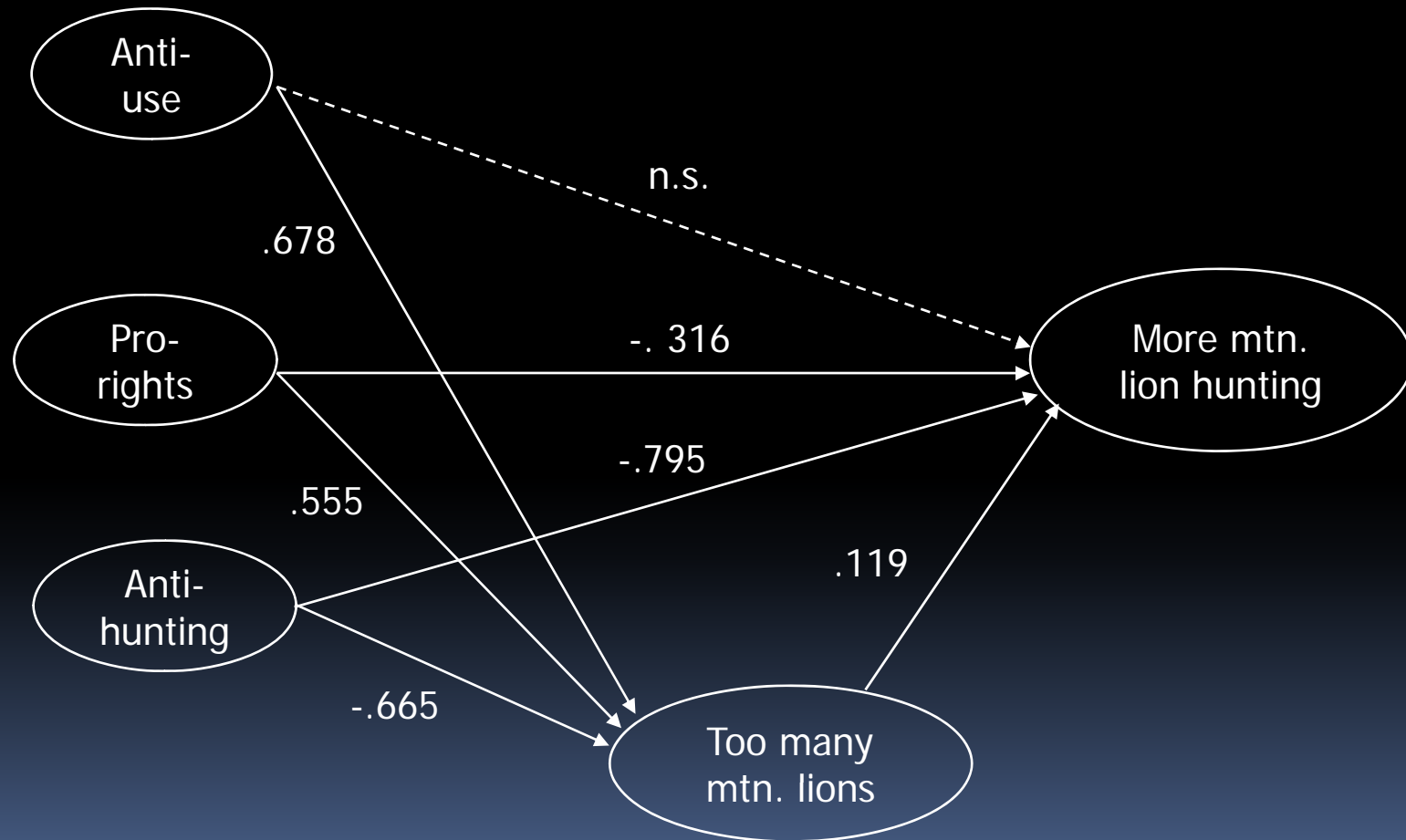
2. Tested predictive power of situational beliefs

3. Tested cognitive hierarchy model

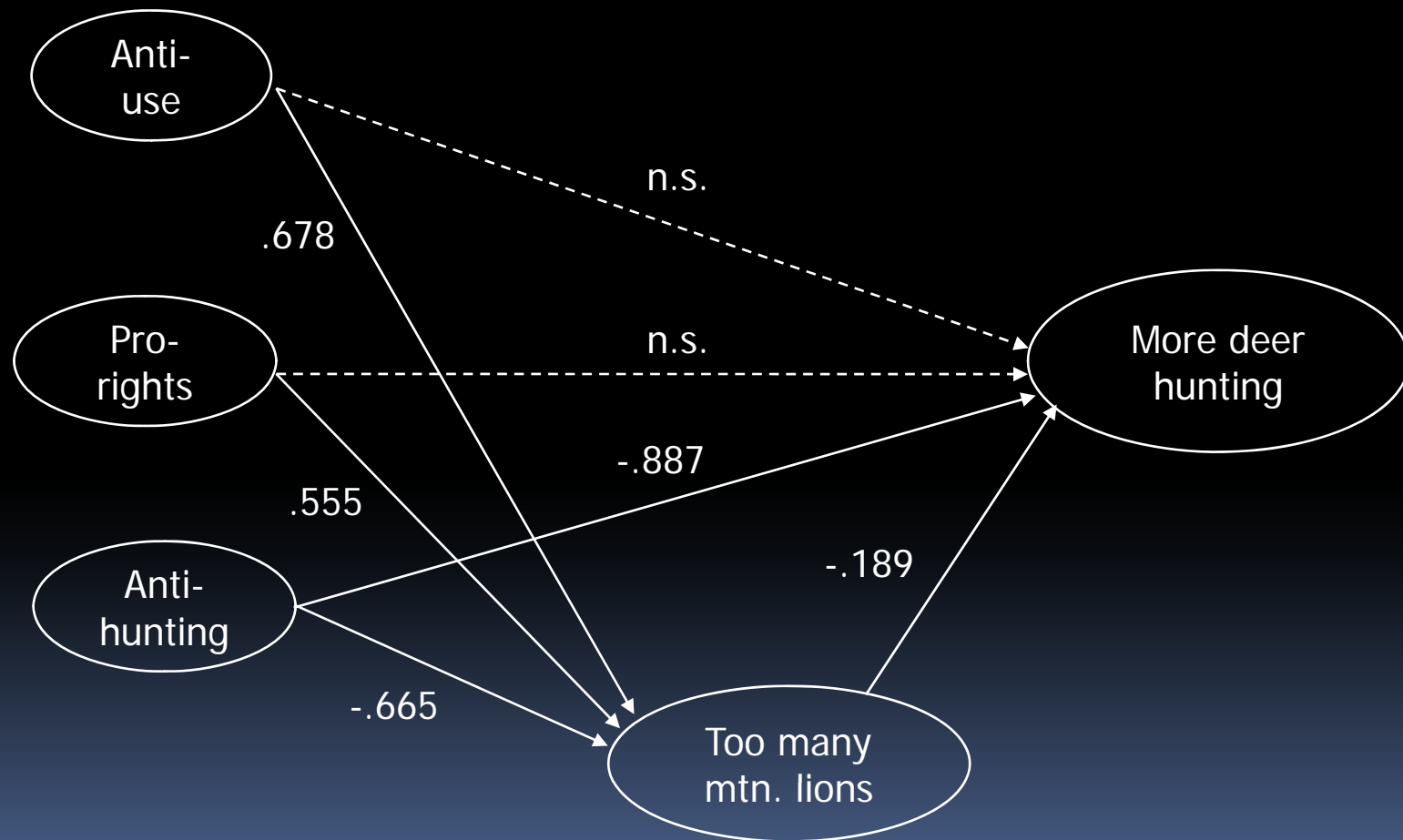
Most predictive situational beliefs

- Mountain lions keep the deer population lower
- I may never see a mountain lion in the wild, but it is important to me to know that they exist
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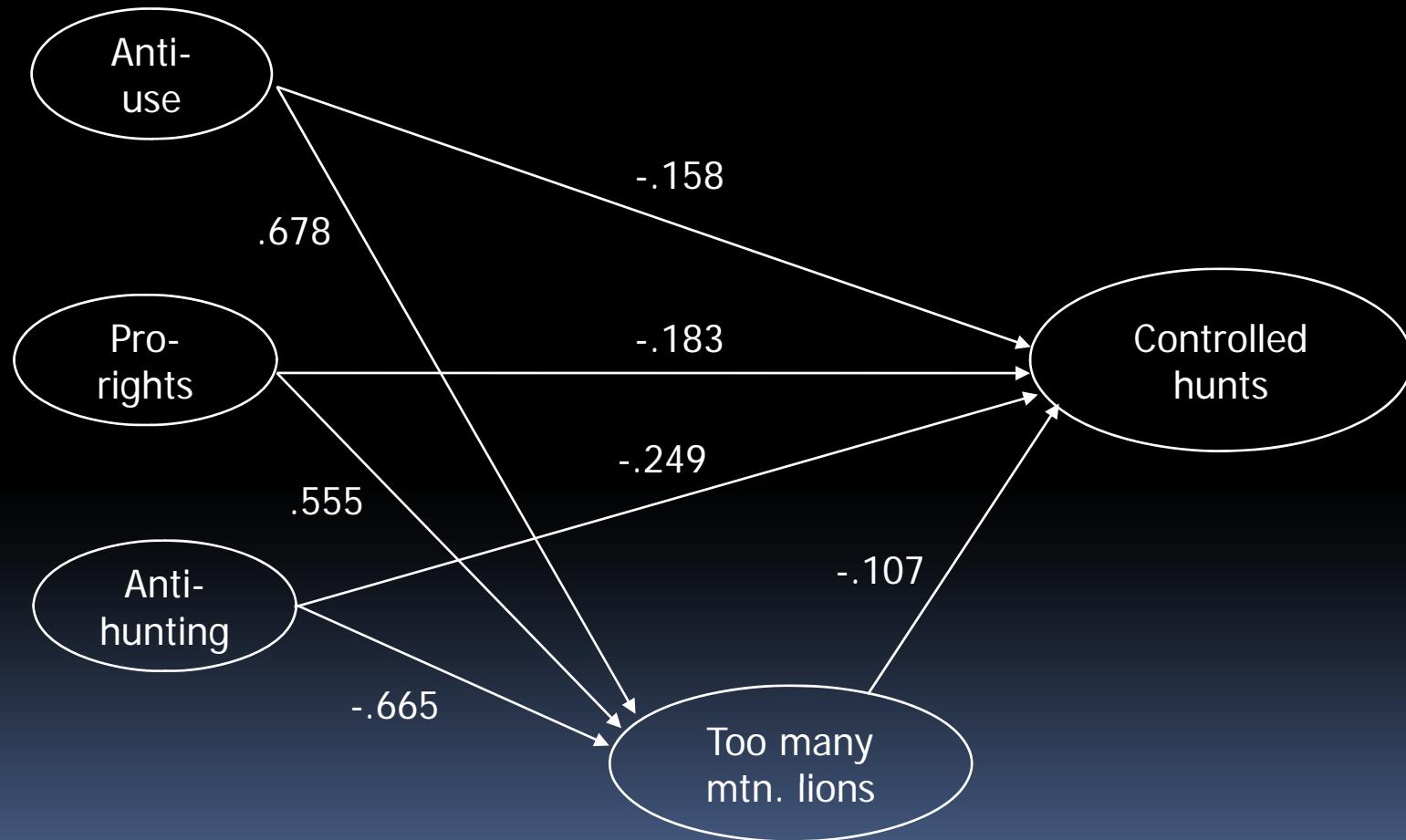
Cognitive hierarchy model 1: More mountain lion hunting



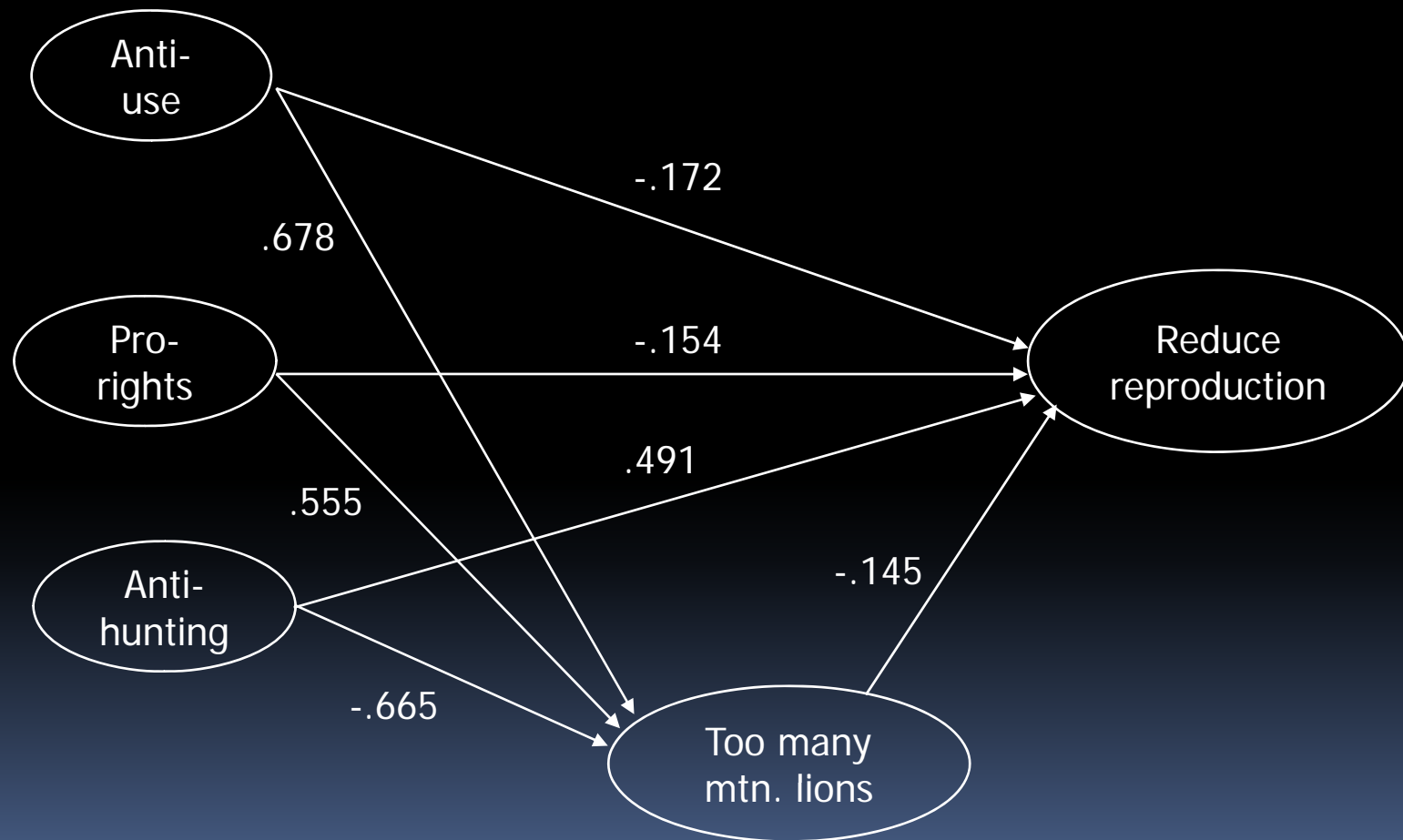
Cognitive hierarchy model 2: More deer hunting



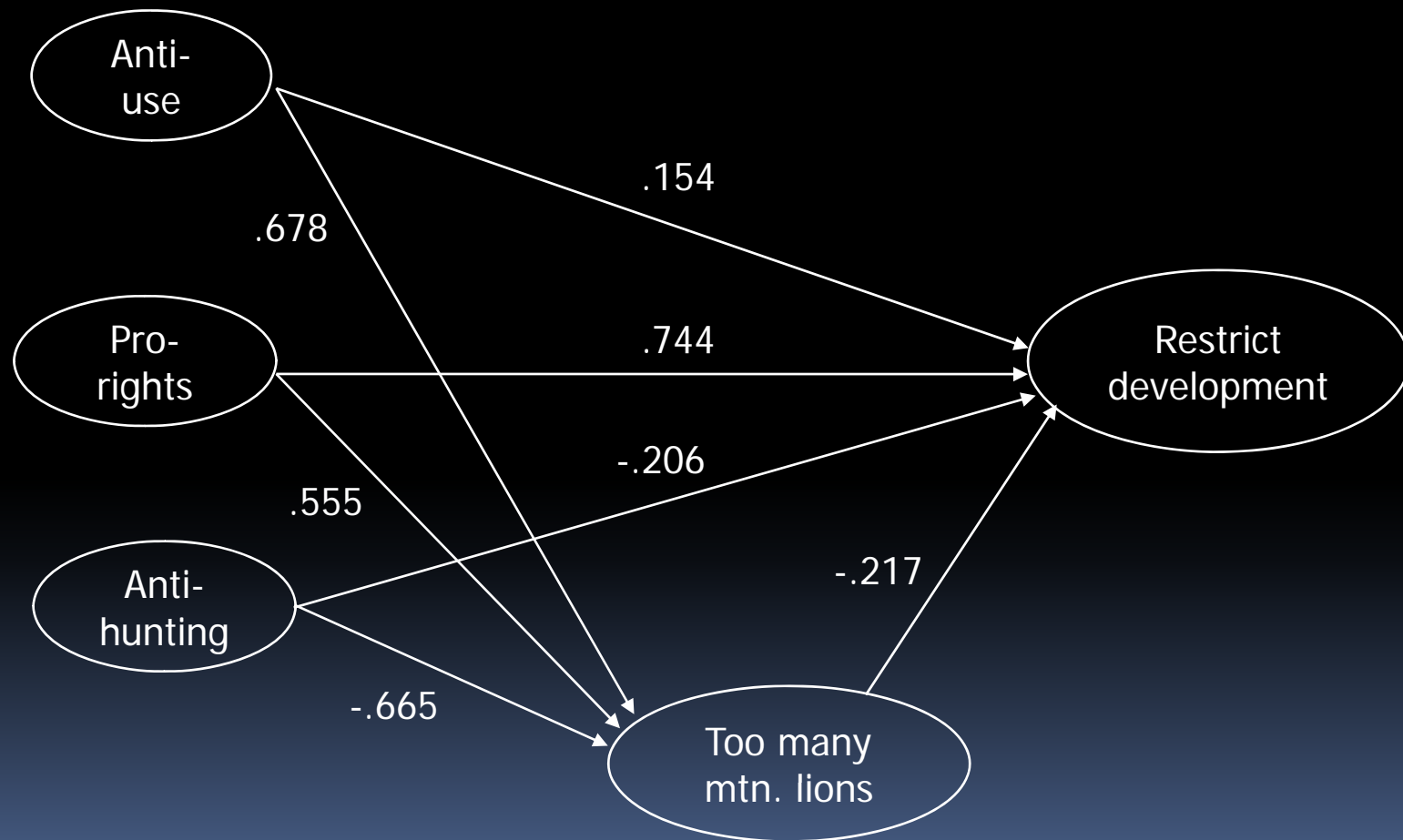
Cognitive hierarchy model 3: Controlled hunts



Cognitive hierarchy model 4: Reduce reproductive capacity



Cognitive hierarchy model 5: Restrict residential development



Conclusions

- WVOs and situational beliefs both influence acceptability of management strategies
 - Acceptability influenced by multiple beliefs at differing levels of specificity
 - Consistent with cognitive hierarchy perspective
- Direction of relationship not always obvious
- Simplistic measurement may be misleading
- Simplistic communication with stakeholders may have limited effectiveness