

# HJA Day Experiences: Examining Learning Outcomes at an Adult Science Education Event

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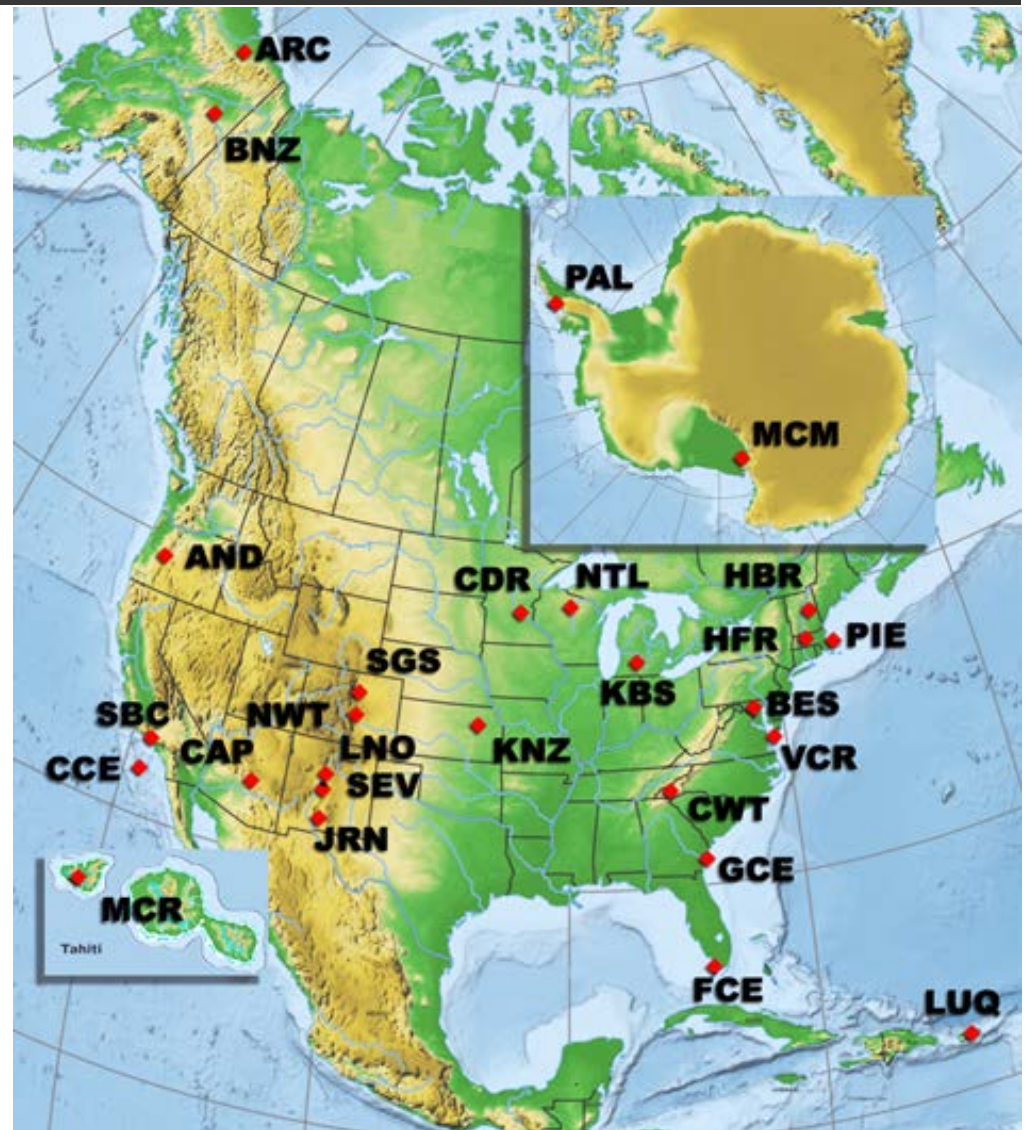
Western Forestry Graduate Research Symposium

Oregon State University

April 27, 2015

# Background

- ▣ HJA Day
  - ▣ Showcase research and educational programs
- ▣ HJ Andrews Forest
  - ▣ Long Term Ecological Research Network
- ▣ HJA Day structure
- ▣ Gap
  - ▣ Participant experiences
  - ▣ Unique learning setting



# Purpose of Study

- Understand adult learning experiences in a new setting
- “Best practices” for crafting a successful learning environment at HJA Day



# Research Questions

- ▣ Who are the participants?
- ▣ What are their experiences?
  - ▣ What outcomes result from HJA Day?
  - ▣ What factors lead to those outcomes?
  - ▣ How do those factors and outcomes relate?



# Research Methods

- ▣ Mixed-methods
  - ▣ Pre & post survey
- ▣ 136 participants
- ▣ 76 surveys returned
  - ▣ Response rate
    - ▣ 56% for each survey
  - ▣ Sampling error
    - ▣ 7.5% at 95% CI





# Who are the participants?

- ▣ Participants
  - ▣ Ages 19-81: average 41
    - ▣ OSU faculty, USFS staff, local citizens, students
  - ▣ 35% attended previously
  - ▣ 60% visited the forest in the past
    - ▣ Perform research (57%)
    - ▣ Visit the forest (36%)
    - ▣ Attend another program (34%)
- ▣ Goals (choose more than one)
  - ▣ Learn (85%)
  - ▣ Network (70%)
  - ▣ Spend a day in nature (66%)
  - ▣ Free food (27%)

*I've only missed two of these since 1998.*

*I've been engaged for a number of decades.*

# What are the outcomes and factors?

Qualitative  
**Outcomes**  
& **Factors**

Appreciation  
& Enjoyment

Knowledge  
Gain &  
Application

Teaching /  
Learning Style  
Preference

People &  
Networking

Event  
Structure

Overall  
Appreciation

Overall  
Satisfaction

Perceived  
Knowledge  
Gain

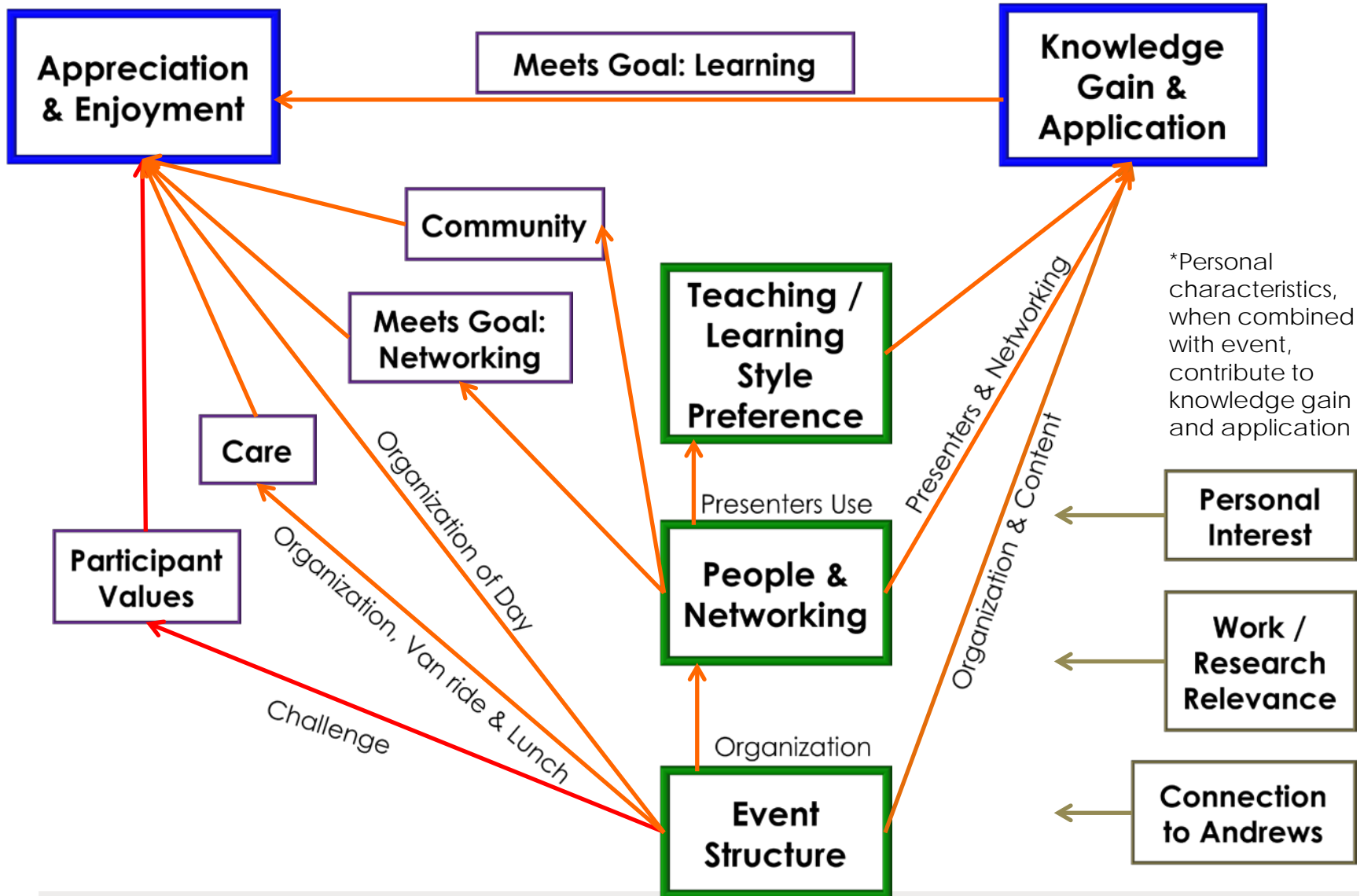
Change in  
Thinking

Fieldtrip  
Presenter

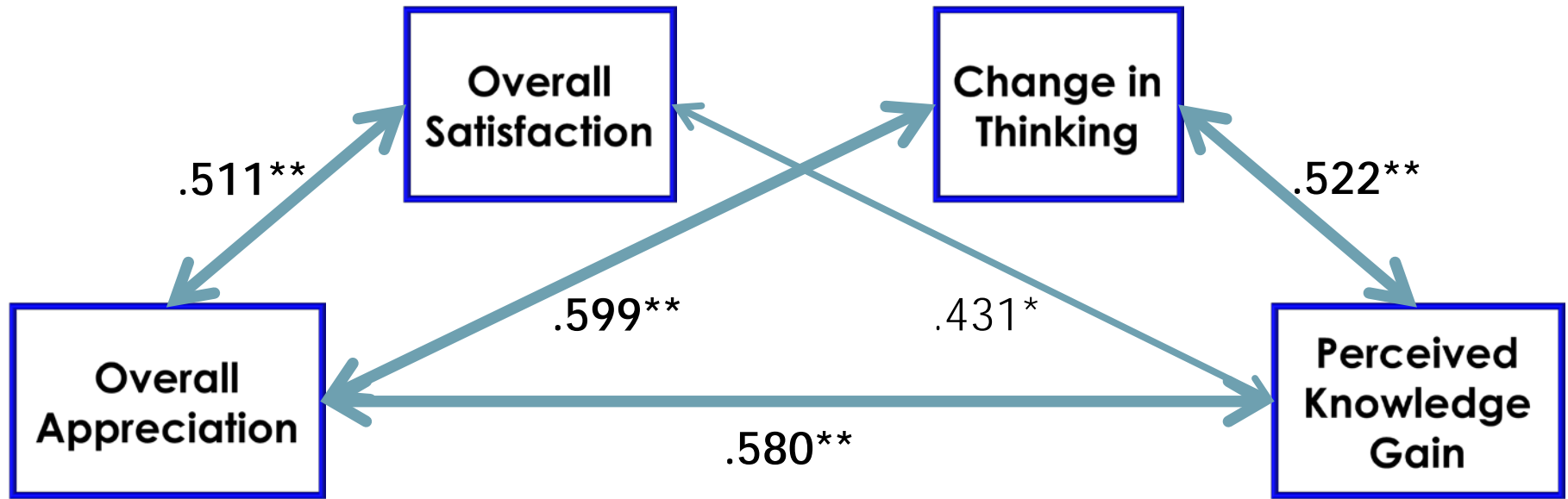
Fieldtrip  
Structure

Quantitative  
**Outcomes** &  
**Factors**

# How do the outcomes & factors relate?



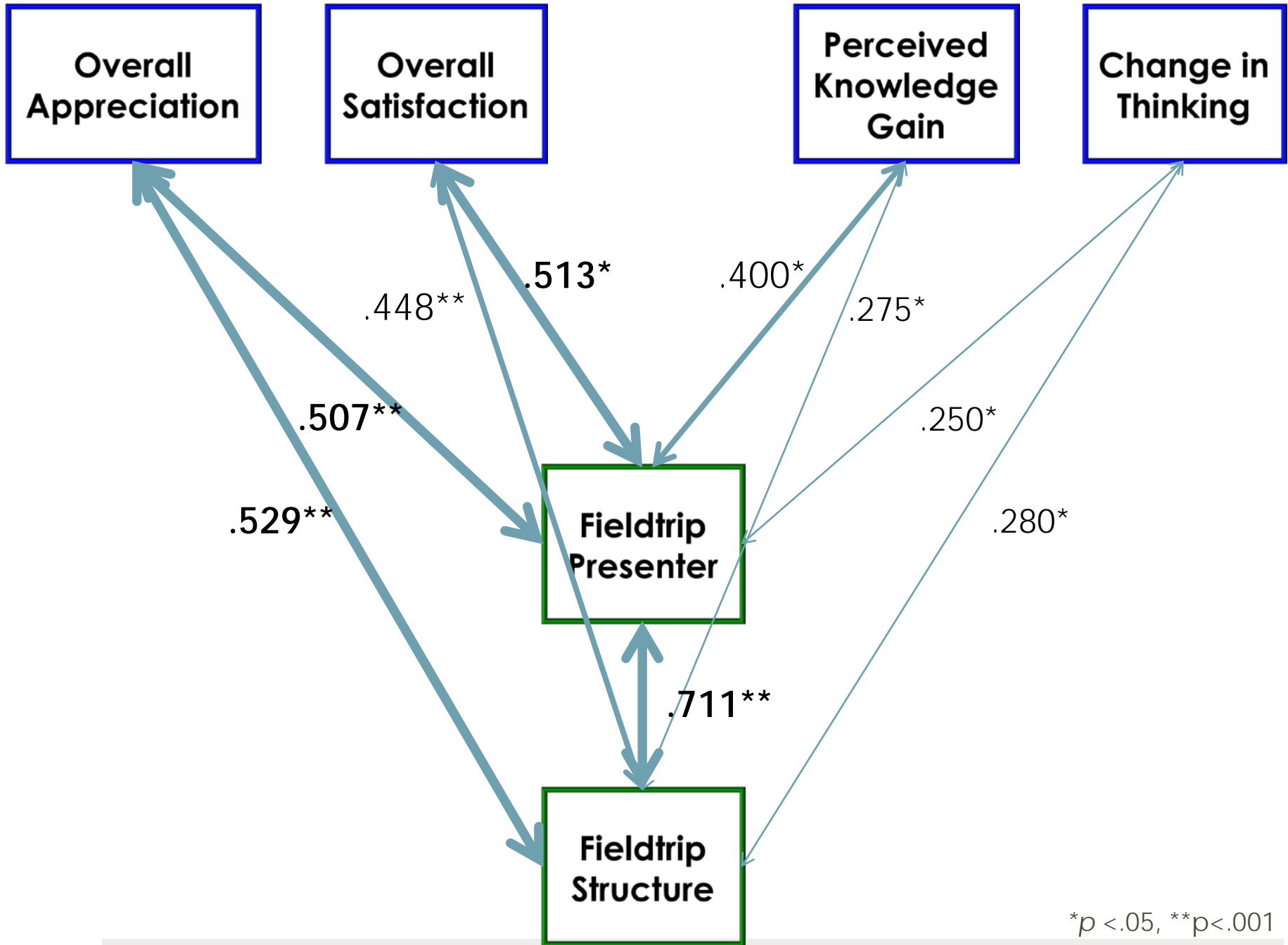




Fieldtrip  
Presenter

Fieldtrip  
Structure

\* $p < .05$ , \*\* $p < .001$



# Discussion

## Change in thinking

- Not related to satisfaction
  - Participants already well-versed in topic
  - Adding knowledge vs. changing views
- Need to determine HJA Day objectives

*Am 64, so one day's experience won't much affect how I view science, etc.*



# Discussion

## Perceived Knowledge Gain

- ▣ Moderately linked to satisfaction
- ▣ Surprising: #1 goal was to learn

## Knowledge Gain & Application

- ▣ Deeper learning (Biggs, 2003)
- ▣ Follows adult learning theory
  - ▣ Problem-centered approach
  - ▣ Integrate new knowledge with past knowledge (Knowles, 1989)

*So many facts and so much cool information! Just walking around and hearing about things from different people was awesome. I learned so much!*

*I will use some of what I learned to inform my work.*



# Discussion

## Appreciation

- Related strongly to all outcomes

## Appreciation & Enjoyment

- Comments about people
  - Connection to Andrews
  - Sense of community and care
  - Reciprocity and relationship maintenance

(Dainton et al., 2003)

*I am in love with HJA. I truly enjoyed every minute of my experience there. Thank you!*

*Our presenter is full of wonder and joy and fun to be on the trail with.*

*The forest is beautiful and it's a real pleasure to be able to spend time at the HJA. I rode the van both ways – I really appreciated not having to drive and our van driver was fun and informative. The food was outstanding. I think the way you staggered the tours was smart and I never felt rushed or lost.*



# Conclusion

- Appreciation, sense of community & care were major findings that we didn't anticipate
- Informed future HJA Day planning and is useful for event planners and adult educators with similar programs
- Examine the needs of adult learners and what leads to positive learning outcomes
  - to support adult learners' lifelong learning goals

# Thank you

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# Variables

- ▣ Satisfaction with fieldtrip presenter
- ▣ Satisfaction with fieldtrip characteristics
- ▣ Perceived knowledge gain
- ▣ Change in thinking
- ▣ Overall appreciation
- ▣ Overall satisfaction



# Satisfaction with Fieldtrip Presenter

- Please rate your experience with the following elements of the afternoon fieldtrip:
  - Professionalism of the speakers
  - Clarity of the speakers' presentation
  - Enthusiasm of speakers
  - Information provided by speakers
  - Amount of time allocated to discussion or questions
  - Speakers' response to questions
  
- To what extent do you agree or disagree with the following statements about the afternoon fieldtrip?
  - The speakers' presentations were interesting.
  - The speakers' presentations were thought-provoking.
  - The speaker effectively explained complex issues.

# Satisfaction with Fieldtrip Characteristics

- Please rate your experience with the following elements of the afternoon fieldtrip:
  - Time of day
  - Climate
  - Length
  - Number of participants
  - Topics covered
  - Activities
  - Organization
  - Ability to hear speakers
  - Ability to see speakers

# Perceived Knowledge Gain

- To what extent did HJA influence any of the following for you?
  - Increased my knowledge about programs at the Andrews Forest.
  - Increased my knowledge of specific scientific topics.
- Final Thoughts
  - I learned something new at HJA Day.

# Change in Thinking

- HJA Day changed the way I think about:
  - The complexity of problem-solving
  - The connection of science with policy
  - Forest management
  - My fieldtrip topic
  - Past knowledge
  - Research
  - Science

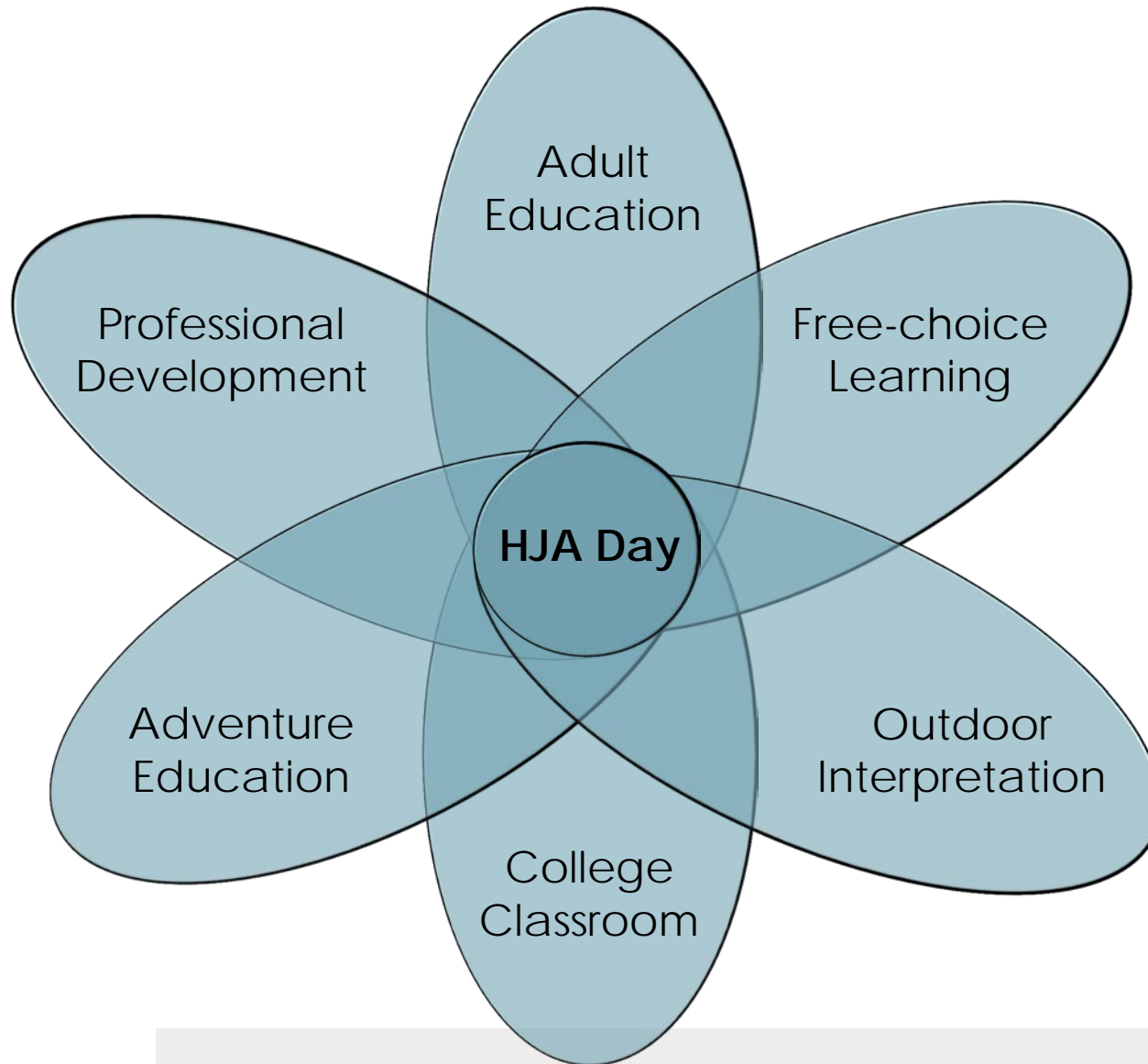
# Overall Appreciation

- To what extent did HJA influence any of the following for you?
  - Enhanced my appreciation for the Andrews Forest site.
  - Enhanced my appreciation for the Long-Term Ecological Research program.
- As a result of participating in HJA Day, I gained an appreciation of:
  - HJ Andrews Forest
  - Research conducted at the HJ Andrews Forest
  - Researchers
  - Research topics covered at HJA Day
  - Nature

# Overall Satisfaction

- Overall, how satisfied are you with your experiences at HJA Day?

# Literature



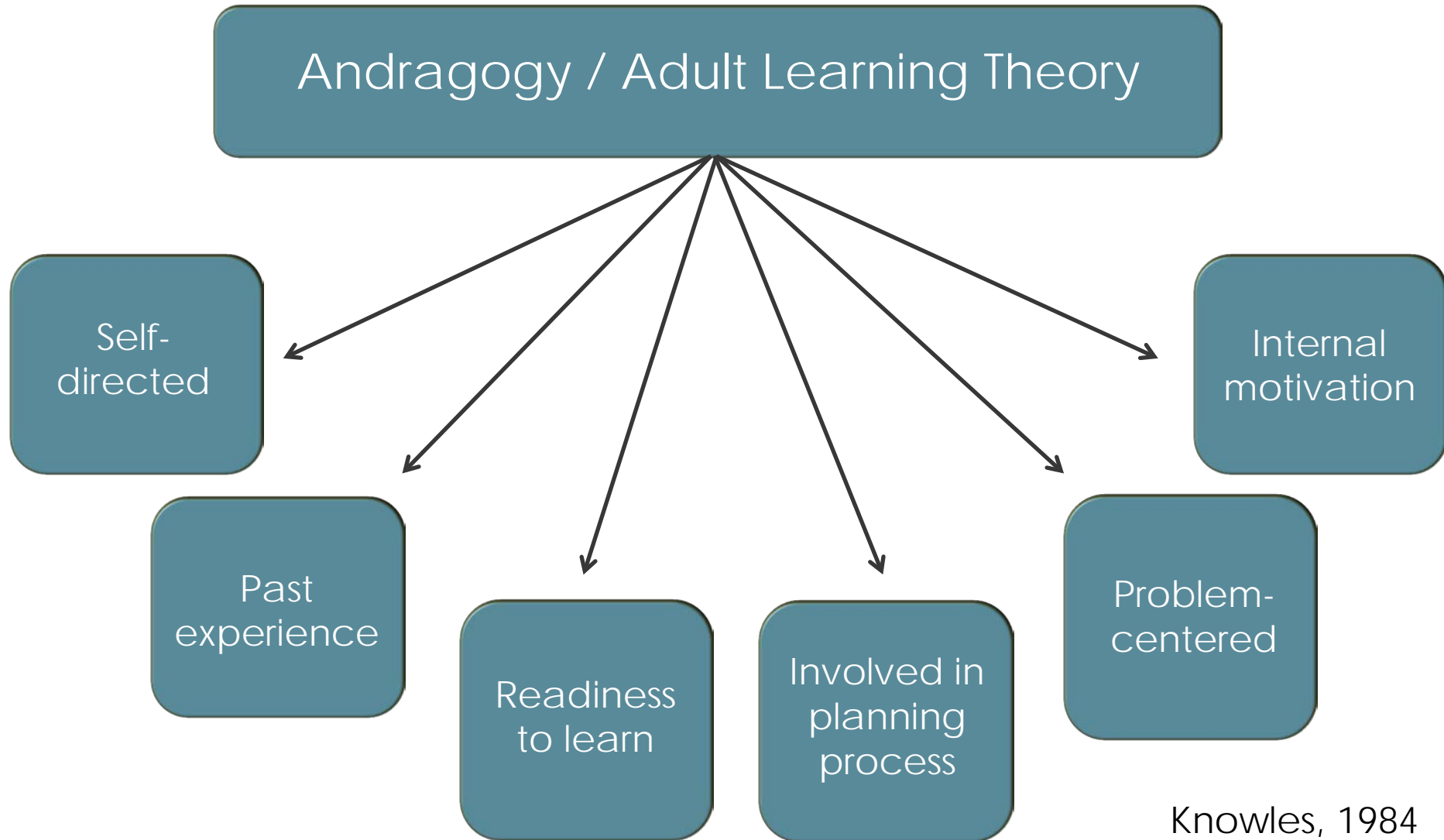
**Before** we work towards communicating science effectively, we need to know **why** adults care to listen, **what** they are interested in, **where** they prefer to learn about science, and **how** they remain engaged in lifelong learning.

(Falk, Storksdieck & Dierking, 2007)

Interpretation, when done well, can **shape attitudes, foster appreciation** of place and **influence behavior change**.

(Ham, 2013)

# Theoretical Framework



Knowles, 1984





# Literature

- ▣ Increasing demand for all types of adult education (Noel-Levitz, 2013)
- ▣ Adults need educational programs that allow flexibility in meeting their learning goals (Noel-Levitz, 2013)
  - ▣ Non-formal learning settings allow autonomy while also meeting needs
- ▣ Meeting needs and goals of learners helps students achieve successful outcomes (Storksdieck, Ellenbogen & Heimlich, 2005)
  - ▣ Find new ways to enhance the learning environment (Nesbit, Dunlop, & Gibson, 2007)

# Mixed-Methods

- ▣ Qualitative: Conventional Content Analysis
  - ▣ Inter-rater reliability of 88%
- ▣ Quantitative: Statistical Package for the Social Sciences (SPSS)
  - ▣ Reliability analysis  $>.60$ 
    - ▣ New variables

Perceived  
Knowledge  
Gain

Overall  
Satisfaction

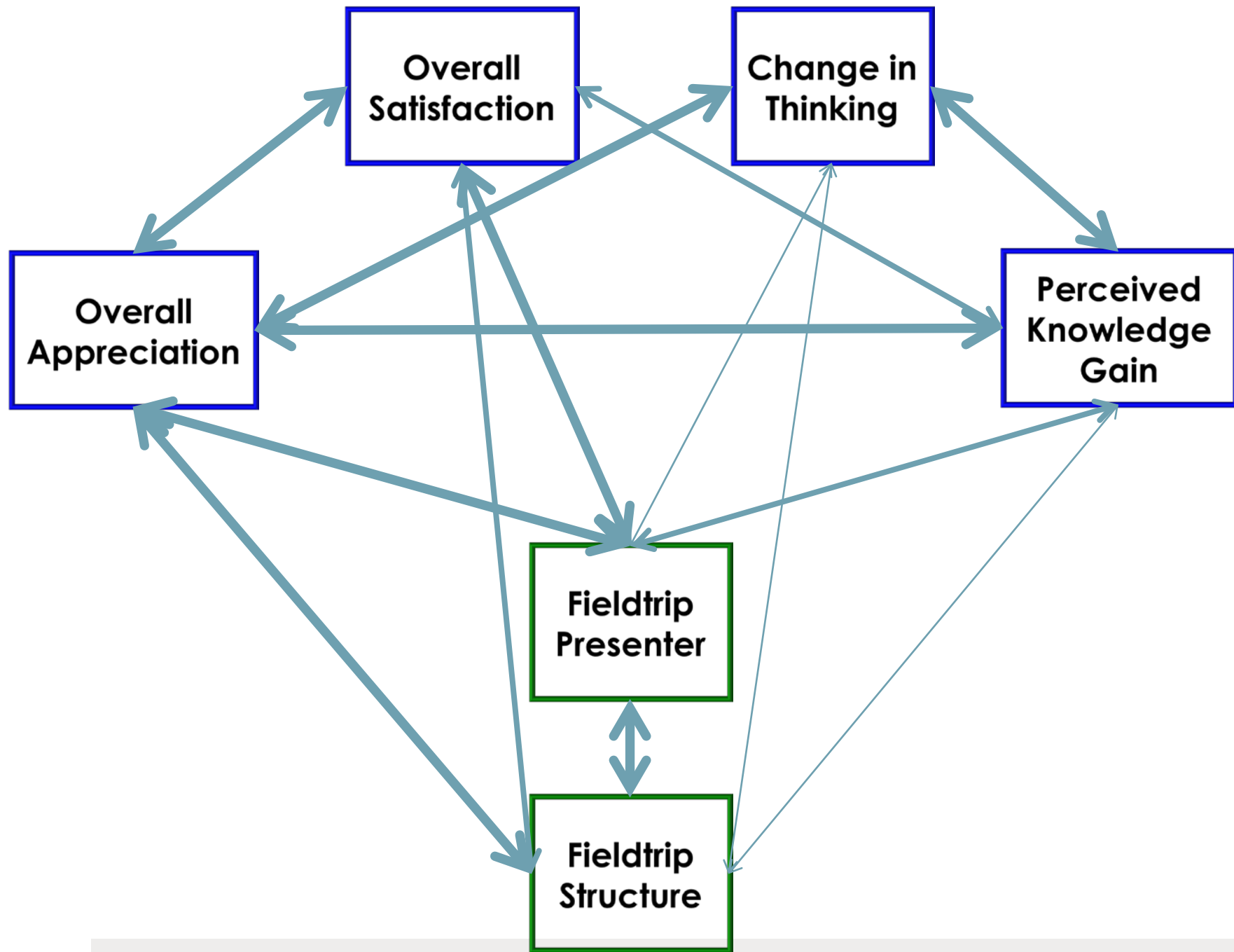
Overall  
Appreciation

Change  
in  
Thinking

Fieldtrip  
Presenter

Fieldtrip  
Structure

- ▣ Spearman Rho correlations
- ▣ Non-parametric analysis



# Discussion

## Overall Satisfaction

- ▣ Fieldtrip presenter
- ▣ Appreciation
  - ▣ Many comments about presenter
  - ▣ Important aspect of event

