

# A quantitative tool to assess local preference for the conservation of Important Plant Areas (IPAs) :

## A Case Study of Sannine- Kneisse IPA in Lebanon

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Nature Conservation Center | NCC  
مركز حماية الطبيعة



Photo by Moustapha Itani





## The Case of Lebanon

**17 Protected Areas**

**3 Biosphere Reserves**

**26 Important Plant Areas**



# PROBLEMATIC

IPAs fall between mixed **private-public** landownership and can form part of a **protected or unprotected** site.

For IPAs that are **not formally protected**, it is important to implement an **effective conservation plan**.



Off-roading tourism near cedar reserve

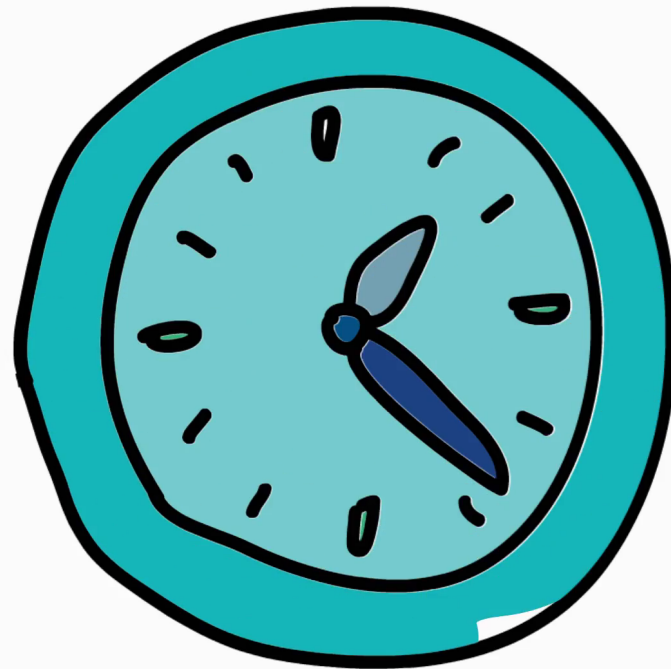
# Avoiding the “paper park” phenomenon

- Understand the dynamic nature of local people’s perception (MacKenzie et. al, 2017)
- Involve local residents in the decision making process and **match their expectations** with the developed management approach (Anfrade & Rhodes, 2012)





Pairing **quantitative** data collection with **qualitative**





# STUDY OBJECTIVES

**Part 1:** Develop a survey that can give us a baseline overview of **how** local people prefer nature to be protected

**Part 2:** Understand what **drives people to behave ecologically** and how does their overall environmental profile influence their conservation management preferences



1a - Strict nature Reserve

1b- Wilderness area

II - National park

III - Natural monument or feature

IV - Habitat/species management area

V - Protected landscape/seascape

VI - Protected area with sustainable use of natural resources

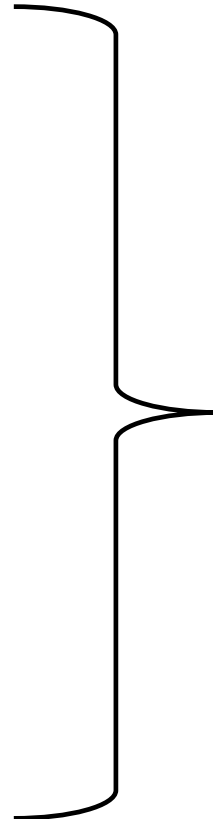
**The developed survey  
was based on IUCN  
Protected Area  
Management  
Categories**





# PA CATEGORIES

- 1a - Strict nature Reserve
- 1b- Wilderness area
- II - National park
- III - Natural monument or feature
- IV - Habitat/species management area
- V - Protected landscape/seascape
- VI - Protected area with sustainable use of natural resources

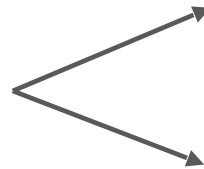


# EXTRACTED ATTRIBUTES

- Type of human intervention
- Type of management
- Function for public use
- Visitation regulation

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# REGULATION OPTIONS

**No intervention** (free of modern infrastructure like roads and trails)

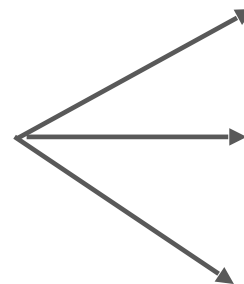
**Minimal intervention** (presence of attendant infrastructure)



## EXTRACTED ATTRIBUTES

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## REGULATION OPTIONS



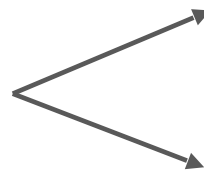
**Traditionally managed** using local traditions

**Sustainably managed** so that use of resources is permitted

**No management** so that nature is left untouched by humans

## EXTRACTED ATTRIBUTES

Type of human intervention
Type of management
Function for public use
Visitation regulation



## REGULATION OPTIONS

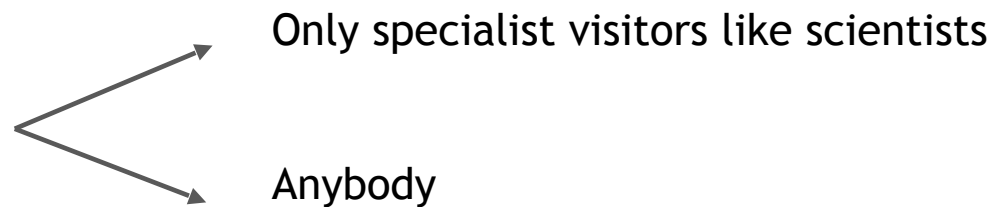
Tourism and educational activities

Scientific research

## EXTRACTED ATTRIBUTES

Type of human intervention
Type of management
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Visitation regulation

## REGULATION OPTIONS





# METHOD

Survey administered to **778 participants** from **13 different high schools** located in the surrounding villages of the IPA.

Ages ranged from **14-18 years old**, with **43% females and 54% males**.

3 pilot tests were ran prior to data collection and amendments were made accordingly



Students from a high school in Hammana

# WHY YOUTH?

- Often sidelined in conservation planning
- Represent prospects for future nature conservation
- May highlight a need for environmental education programs in local schools and insight on how to design them



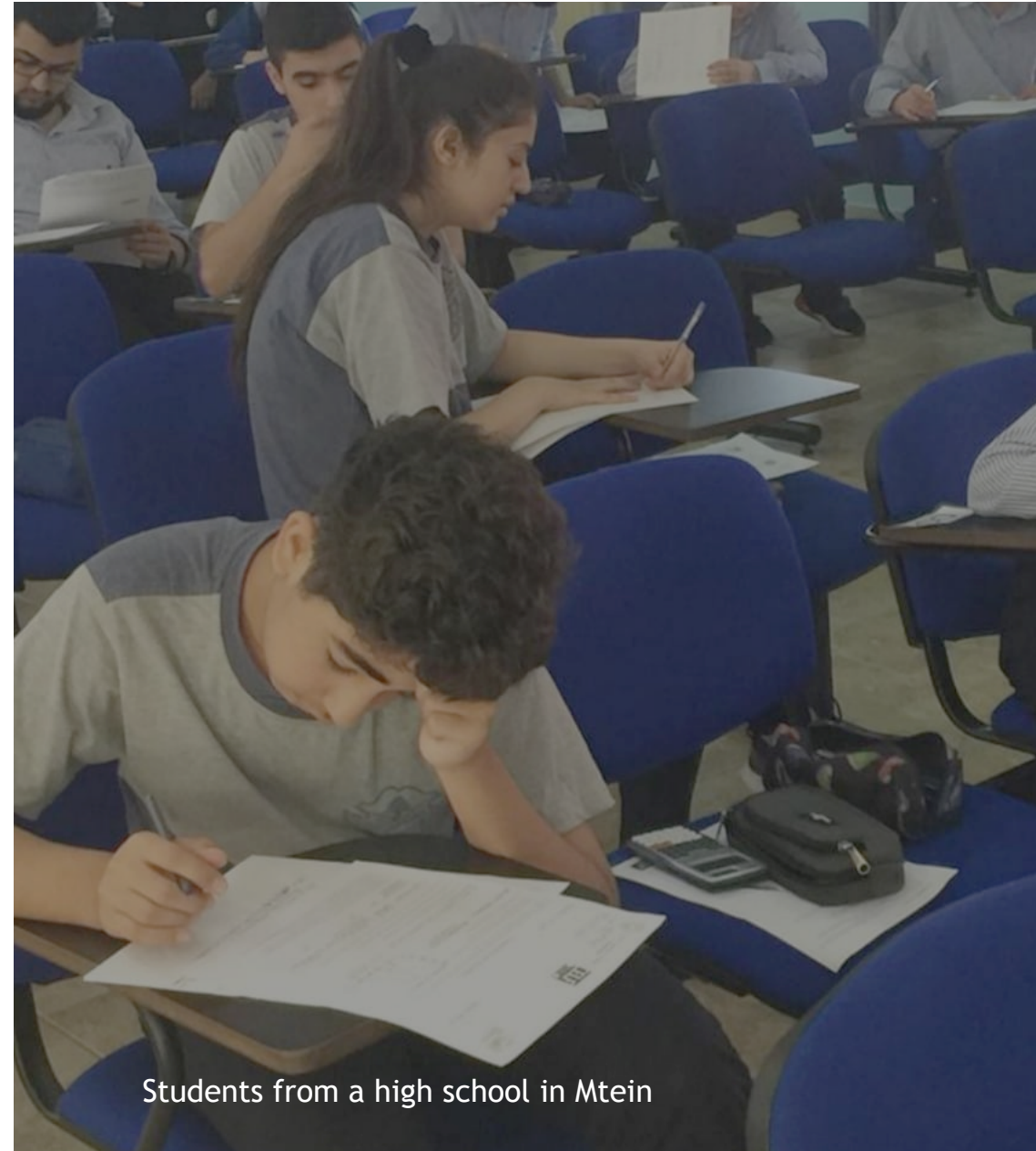
Photo by Wassim Kays

# INSTRUMENTS

**Tool 1** - Summary of each PA management category simplified and translated into arabic

**Tool 2** - 4 multiple choice questions that address the attributes found across the PA categories

**Tool 3** - Constructs that measure participant's environmental profile



Students from a high school in Mtein



# Tool 1

1 Strongly like	2 like	3 neutral	4 dislike	5 strongly dislike
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## *Instructions:*

*Imagine that there is a natural area next to where you live that is rich in biodiversity. This area may or may not contain important natural monuments (for example, an ancient tree or a cave). This area is currently not protected and there are no regulations regarding construction or use of natural resources. If this land were to become legally protected, which form of protection do you like? Please rate each option by circling an answer.*

**Category I:** In this form of protection, you will not be able to visit the area nor live there because the area is protected for biodiversity and scientific research.

**Category II:** In this form of protection, you can visit the area but because its natural character is important, you can only practice traditions and customs that contributed to the current character. Other activities that would change this landscape would be limited

**Category III:** In this form of protection, the area is open for tourists but you must abide by the protection regulations because it contains important habitats and species

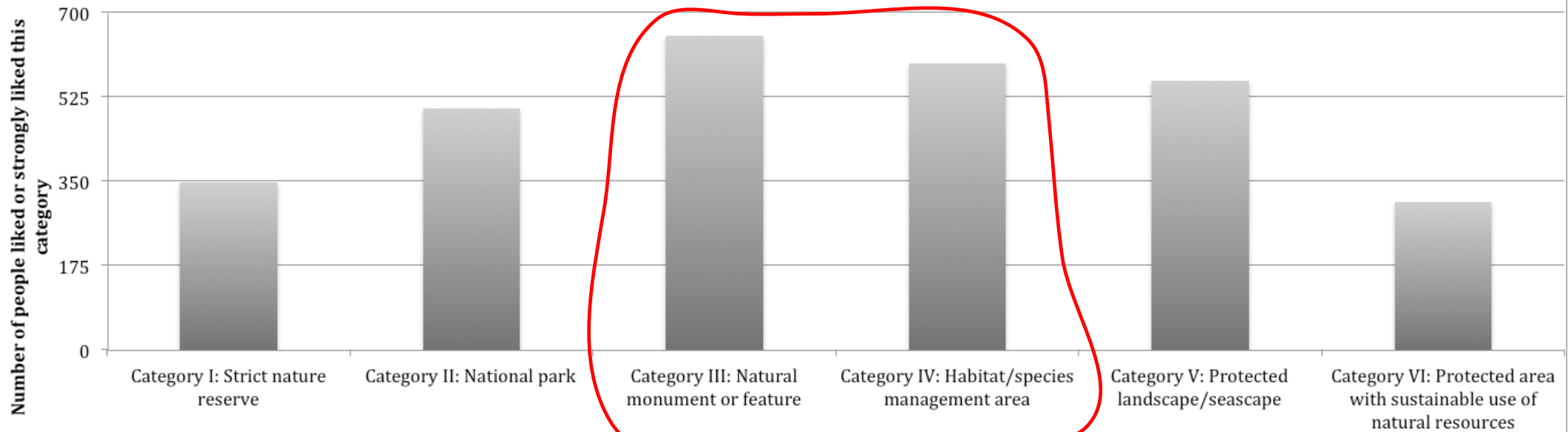
**Category IV:** In this form of protection, you can visit the area, but what you can do is restricted because the area is actively managed to conserve species or habitats.

**Category V:** In this form of protection, you can visit the area but because the area contains a natural monument, what you do will be limited to ensure the preservation of the natural monument.

**Category VI:** In this form of protection, you can visit the area and may use the resources of the area sustainably in order to protect the land's ecosystems and habitats.

# FINDINGS - Tool 1

Preference for Protected Area Category



# Tool 2

## *Instructions:*

*To protect this natural area near your village, there are different rules that could be followed. Kindly read the questions below and pick the answer you like best.*

### **1. What kind of human intervention should the natural area have?**

- No intervention so that the area is free of modern infrastructure (like roads and trails)
- Minimal intervention so that the area allows for attendant infrastructure

### **2. How should the land be managed?**

- It should be traditionally managed using local traditions
- It should be sustainably managed so that the extraction of the resource is done in an eco-friendly way
- There should be minimal or no management, so that the area is left untouched by humans

### **3. What function should the land serve for public use?**

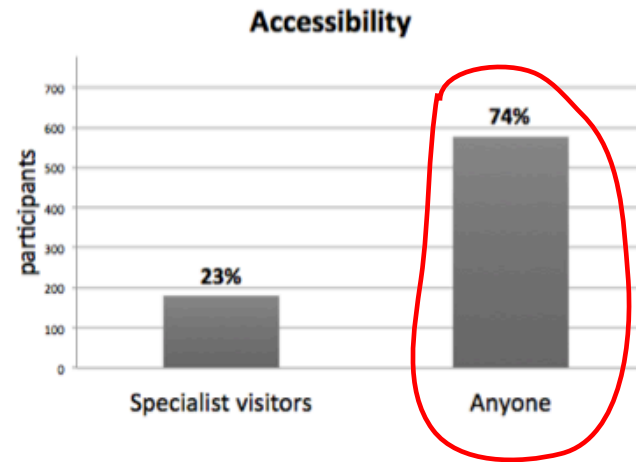
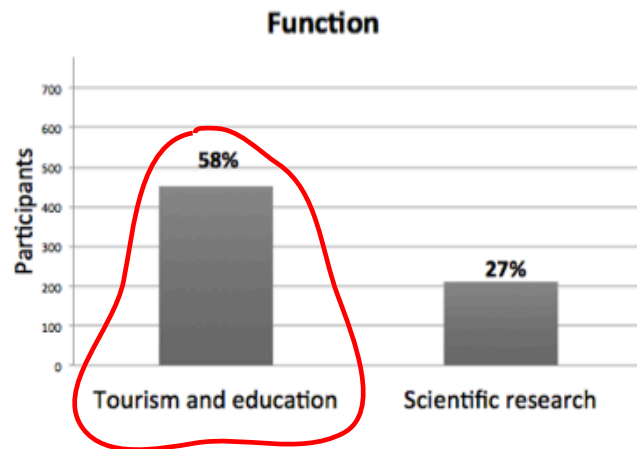
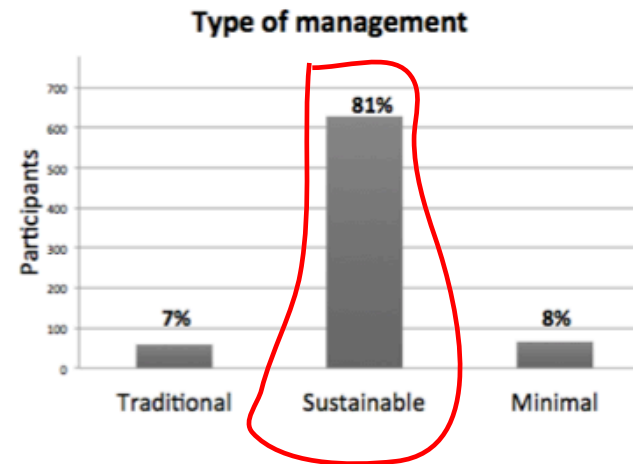
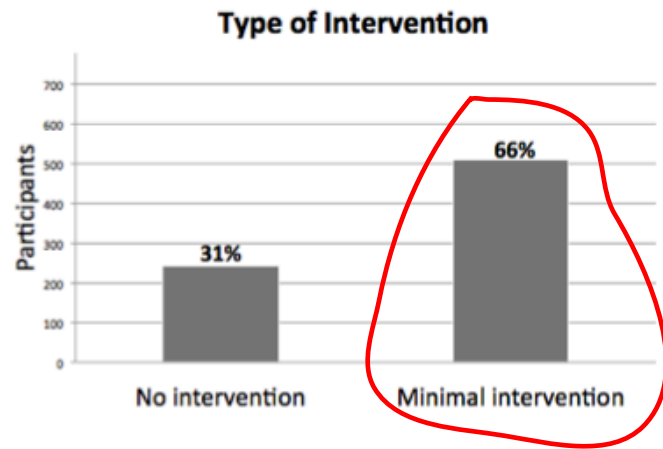
- Tourism and educational activities
- Scientific research

### **4. Who should be able to visit the site?**

- Only specialist visitors like scientists and self-reliant travelers
- Anyone



# FINDINGS - Tool 2



# Tool 3 - Measuring Environmental Profile

## Nature connection

“ I feel joy just being in nature”

“I often feel a sense of awe and wonder when I am in unspoilt nature”

*Perkin's (2010) 'Love and Care for Nature'*

**Frequencies of activities done in nature** (hiking, camping, wild herb picking...)

## Self-reported Ecological behavior

“I turn off the lights when no one is in the room”

“To save water, I do not leave the water running when I brush my teeth”

*Collado et. al (2015) 'Children's self-reported ecological behavior'*

# Tool 3 - Measuring Environmental Profile

**92%** reported a strong connection to nature.

**33%** reported frequent contact with nature

**87%** agreed that they engage in the listed ecological behavior.

Predictors of the self-reported ecological behavior



**8.3%** explained by  
spending time in nature

**36%** explained by nature connection



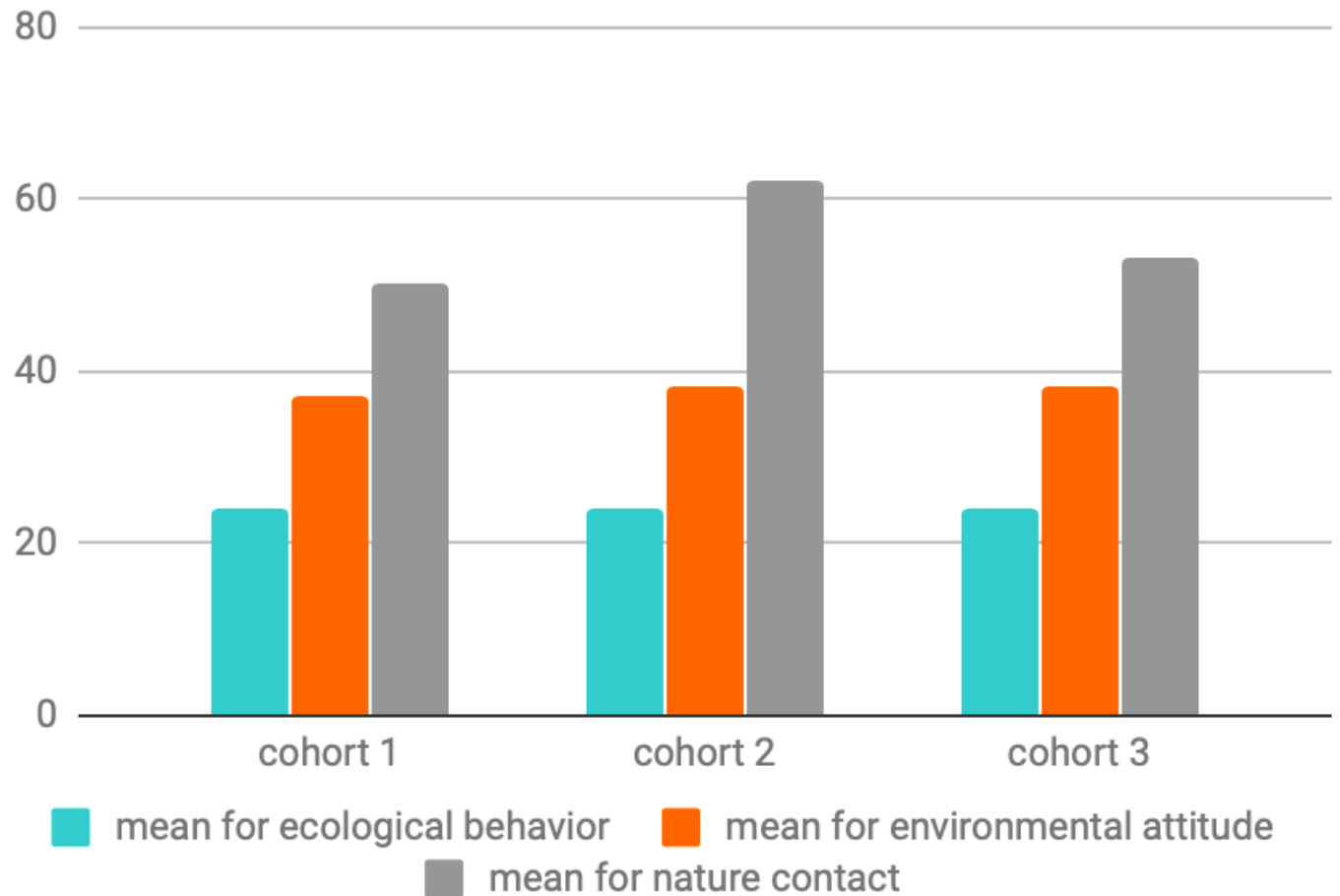
Type of human intervention

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Comparing social characteristics



# Food for thought

- Can encouraging nature appreciation be a means to make people more **environmentally protective**
- Design conservation strategies to fit within **existing value structures** as oppose to deliberately trying to change people' values







Thank you !