

Study Background

- Climate change poses direct threats to coastal communities and requires an climate literate citizenry to generate and support solutions
- Socio-ideological contexts around climate change has stymied a united response to climate change-related coastal risks, but adolescents are better at parsing facts from socio-ideological contexts
- This led us to ask, *can we use adolescents to increase levels of climate change concern among their parents?*

The Theory of Intergenerational Learning

- The theory of intergenerational learning (IGL) posits that interactions between two generations can lead to the bidirectional transfer of knowledge, attitudes, and behaviors
- Conventional IGL research focuses on the parent → child direction, however, a child → parent transfer is possible (Table 1)
- IGL has never been empirically tested with climate change*

Table 1. Summary Table of Successful Child to Parent IGL

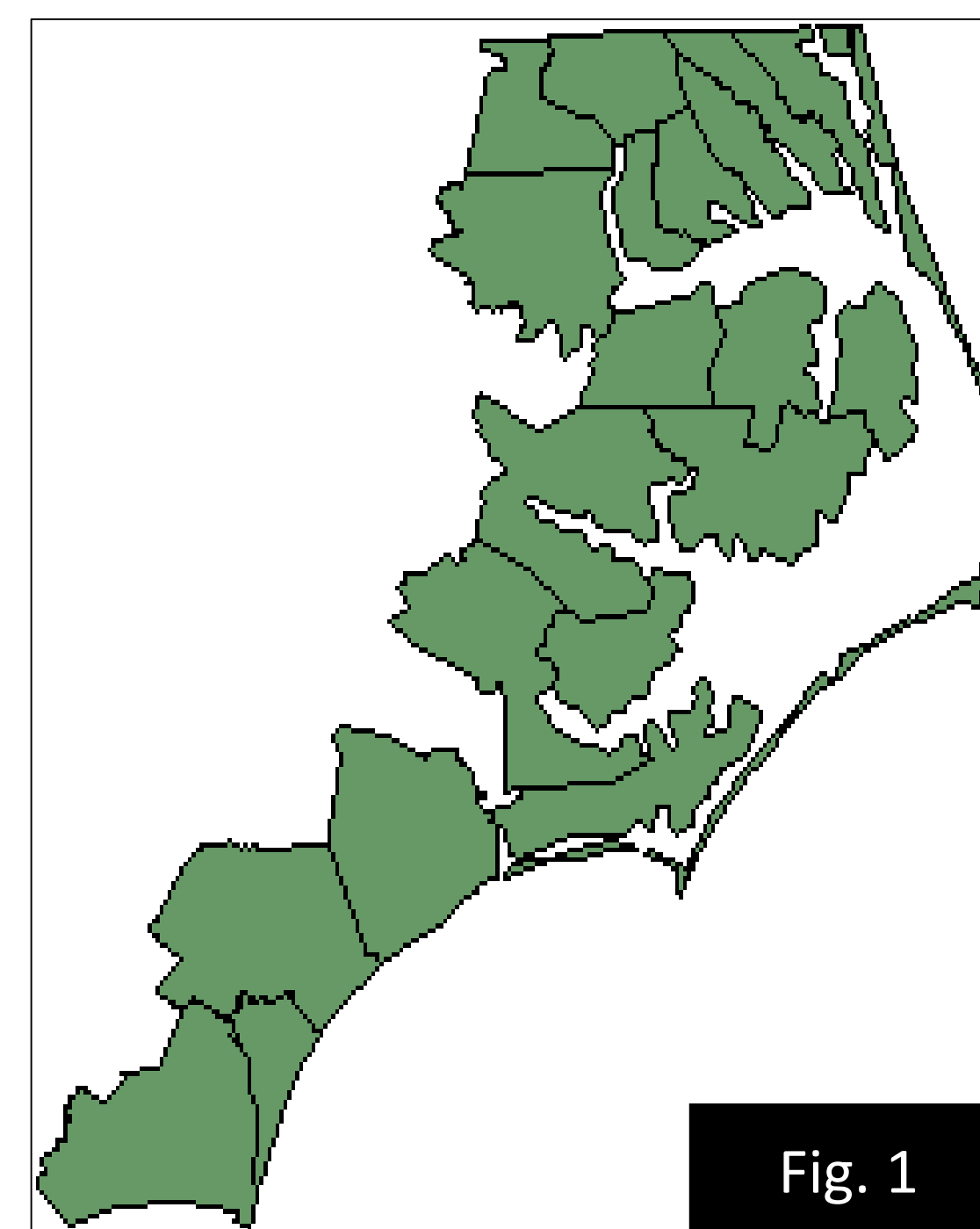
Topic	Knowledge	Attitude	Behavior
Marketing			X
Sexual Orientation	X	X	
Water/Land Conservation	X	X	
General Environmental Actions		X	X
Specific Plant/Animal Conservation			X
Native Knowledge	X		
Recycling		X	X

This Case Study

Overarching Research Objective:

Determine whether a middle school climate change curriculum designed to maximize IGL increases climate literacy among students *and* parents.

- Does climate change education impact children's climate change concern?
- Does climate change education impact parents' climate change concern through their children?



Study area: the 20 North Carolina Coastal Area Management Act (CAMA) counties in Figure 1

15 teachers associated with 23 classrooms were recruited and randomly assigned to treatment (n = 11) and control (n = 12) groups between 2016 and 2018

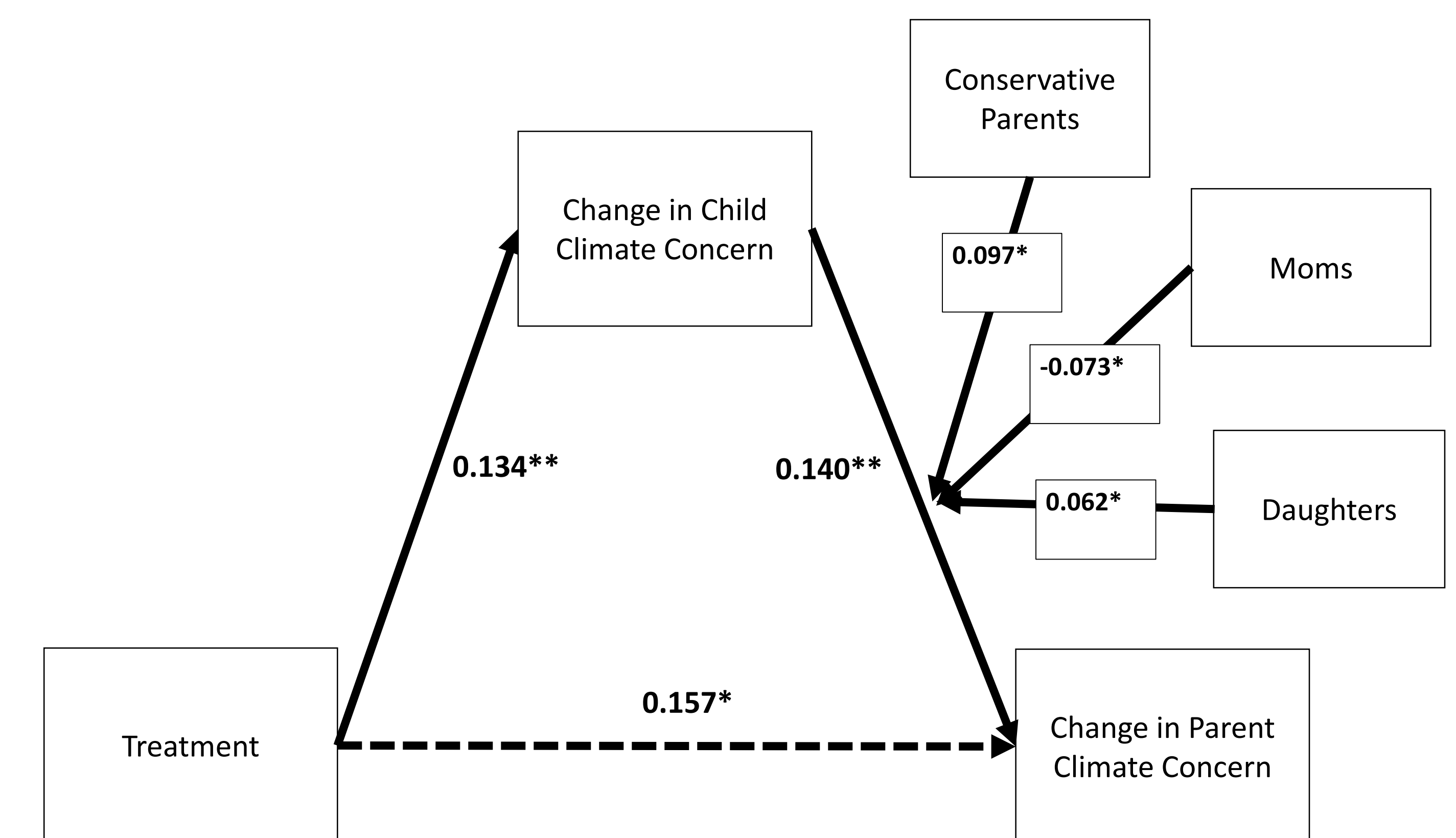
Curriculum designed to maximize IGL: hands-on field based project, interaction with parents, long-term, local issues, enthusiastic teachers

We trained treatment teachers in the curriculum in a 2-day professional development seminar during year one, and the trained the control teachers in year two. The curriculum was incorporated by just the treatment teachers in year one, and all teachers in year two.



Results

Final Model



The relationship between the treatment and change in parent climate concern was fully mediated by the child's change in climate concern.

Furthermore, the treatment was most effective with those parents who identified as conservative, male, or had a daughter.

Conclusions

- The success of CC education with adolescents may be due to an age-related window of influence.
- Child-to-parent IGL works in a climate change context, and may be a way to reach people that decades of social science research suggest may not be accepting of climate change
- Finally, in order to promote IGL in climate change contexts:
 - Follow IGL best practices
 - Encourage parental engagement
 - Authentically engage children
- Future research should extend into new ages and socio-cultural contexts