

Will Children Create Climate Change Concern among Denialists in the United States?

M. Nils Peterson¹, Danielle F. Lawson², Kathryn T. Stevenson²

¹Fisheries, Wildlife, & Conservation Biology Program, NC State University

²Department of Parks, Recreation, & Tourism Management, NC State University



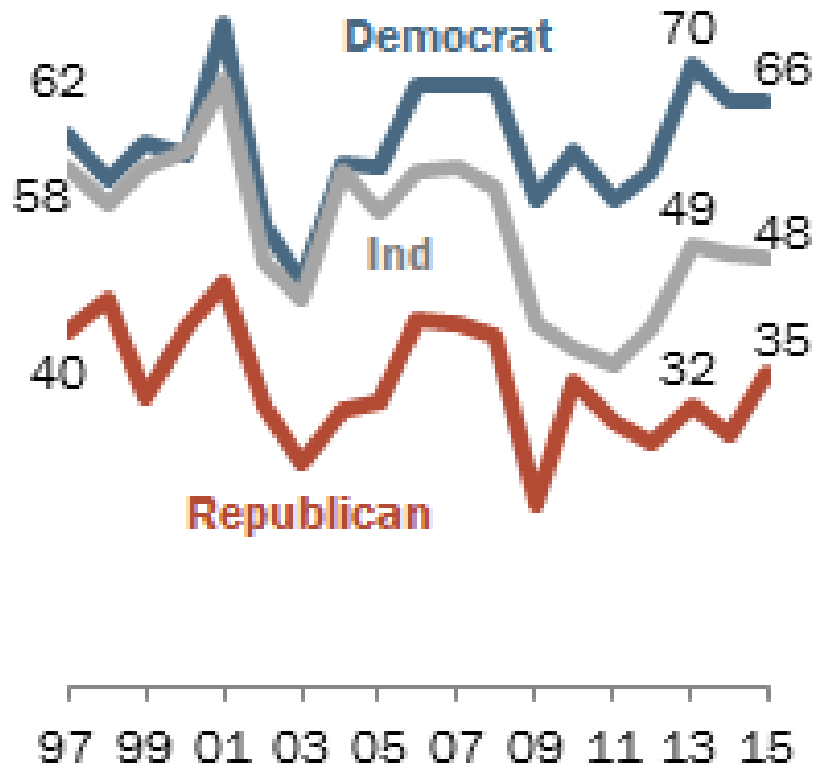


Pew Research
Center Study
Jan 7-11, 2015

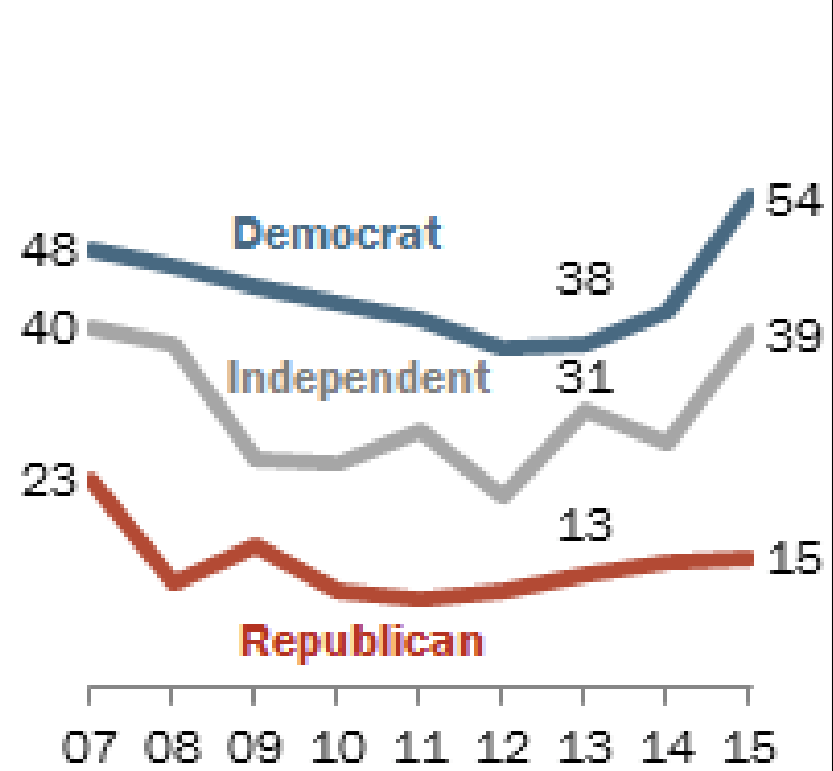
Partisan Gaps on Environment and Global Warming


% saying _____ is a top priority

Protecting the environment



Dealing with global warming





“
**CLIMATE
CHANGE
IS
REAL.**

...WE NEED TO SUPPORT LEADERS AROUND
THE WORLD WHO DO NOT SPEAK FOR THE
BIG POLLUTERS OR THE BIG CORPORATIONS.”

— LEONARDO DICAPRIO



“CLIMATE CHANGE IS A
PROBLEM WHICH CAN
**NO LONGER
BE LEFT TO
OUR FUTURE
GENERATIONS.**”

POPE FRANCIS
CATHOLIC LEADER, CHEMIST

Source: <http://bit.ly/1KBz731>

© 2013 Catholic Church England and Wales / Flickr / CC BY-NC-SA 2.0



@CLIMATEREALITY

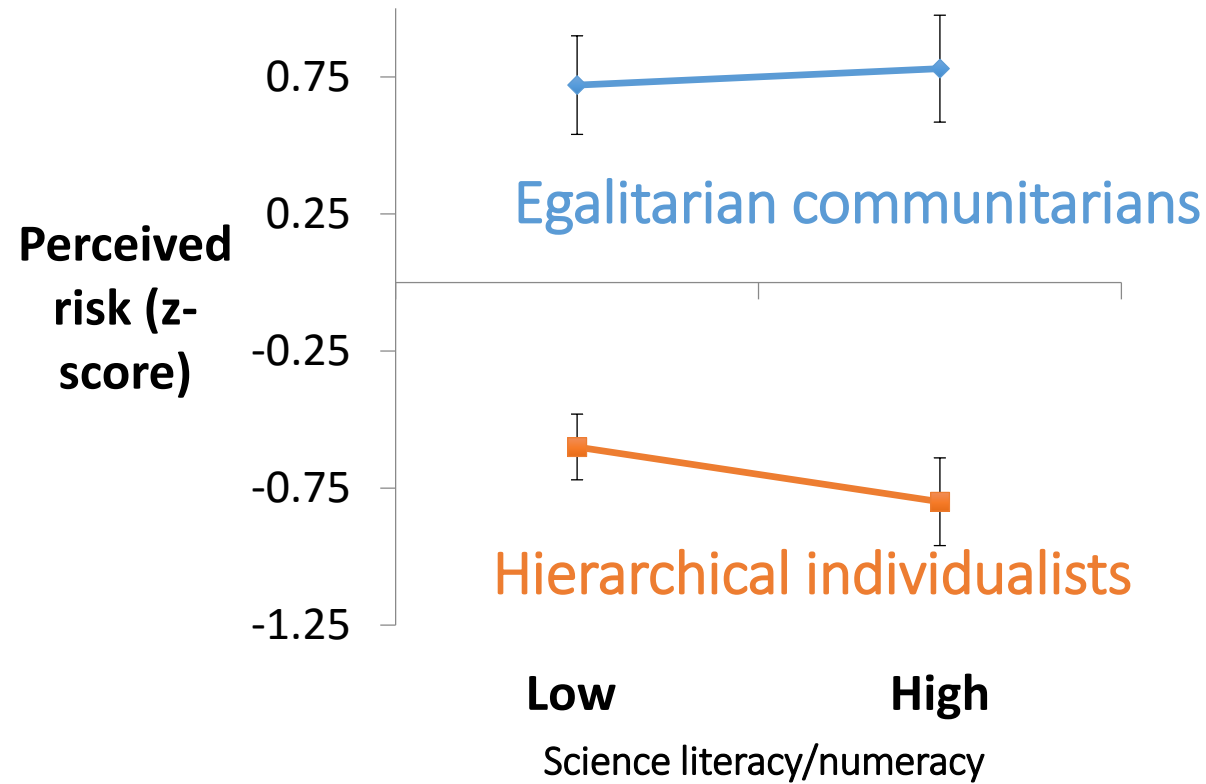


FACEBOOK.COM/CLIMATEREALITY

#POPEINDC

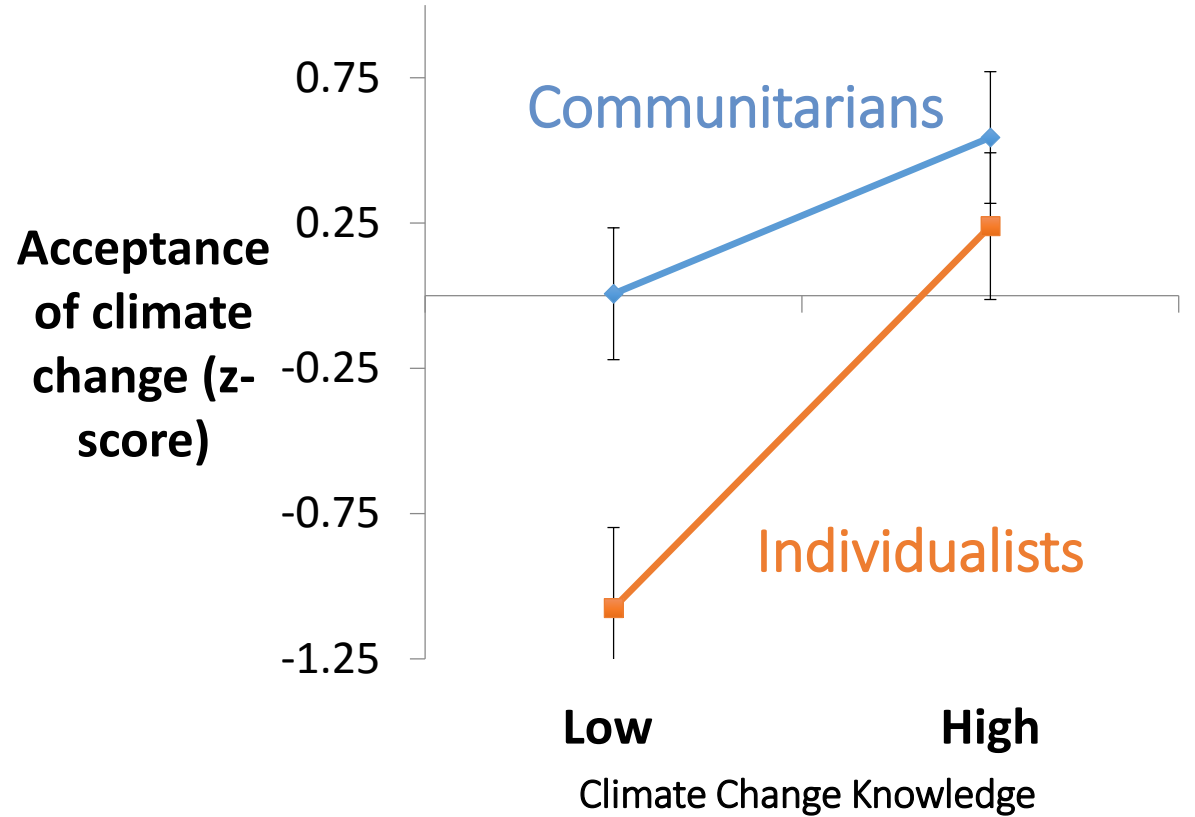


Adults



Kahan et al., 2012: Increase in scientific literacy → Increase in polarization

Children



Stevenson et al., 2014: Worldview has no effect at high levels of climate change knowledge

The Theory of Intergenerational Learning (IGL):

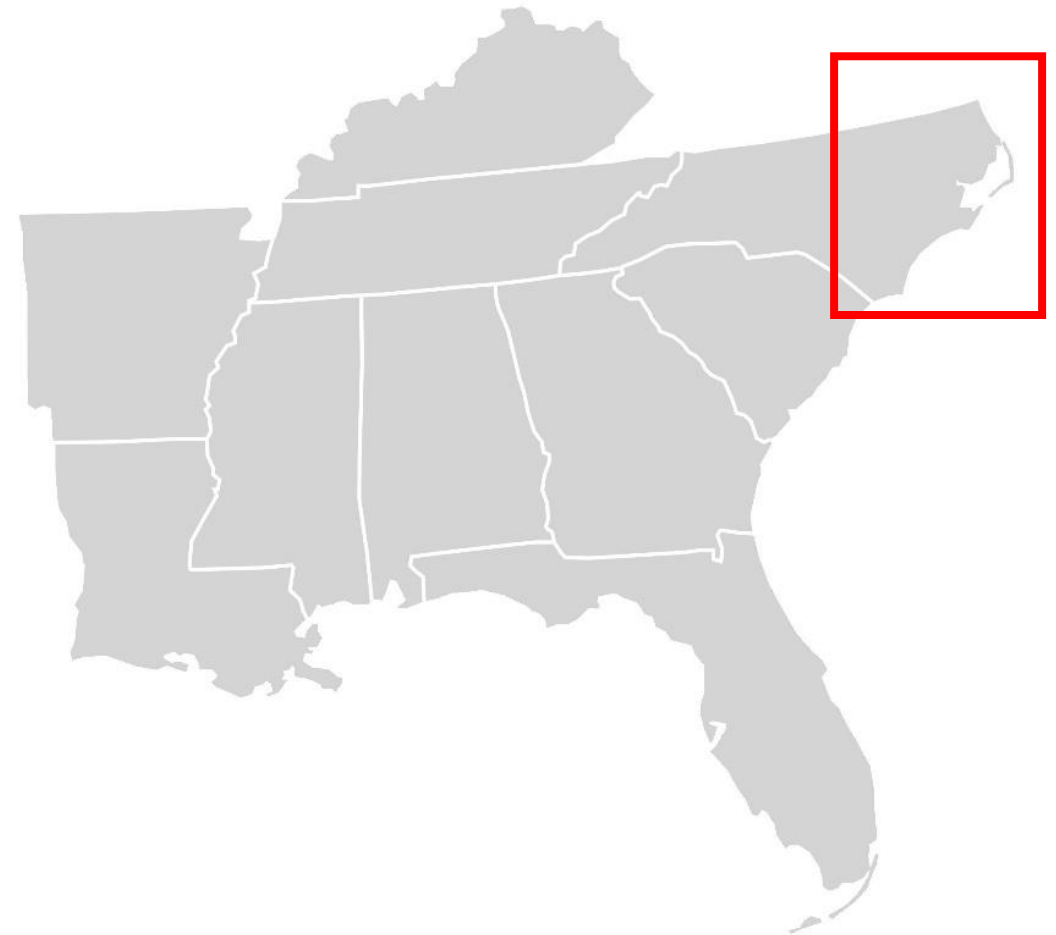
IGL can result in the bidirectional transfer of knowledge, attitudes and behaviors

Parent  Child

Child  Parent

Topic	Knowledge	Attitude	Behavior
Marketing			✓
Views on Sexual Orientation	✓	✓	✓
Specific Plant/Animal Conservation			✓
Recycling		✓	✓

Does climate change education increase climate change concern among children AND their parents through child-to-parent intergenerational learning?



Designing a Curriculum



[\(Lawson et al., 2018\)](#)

- At least five key principles should guide efforts to promote child-to-adult IGL in EE curricula
 - 1) Local Issues
 - 2) Longer term/in-depth
 - 3) Hands-on
 - 4) Enthusiastic Teachers
 - 5) Encourage Parental Participation

Wildlife, Weather, Climate & Change A Climate Literacy Module

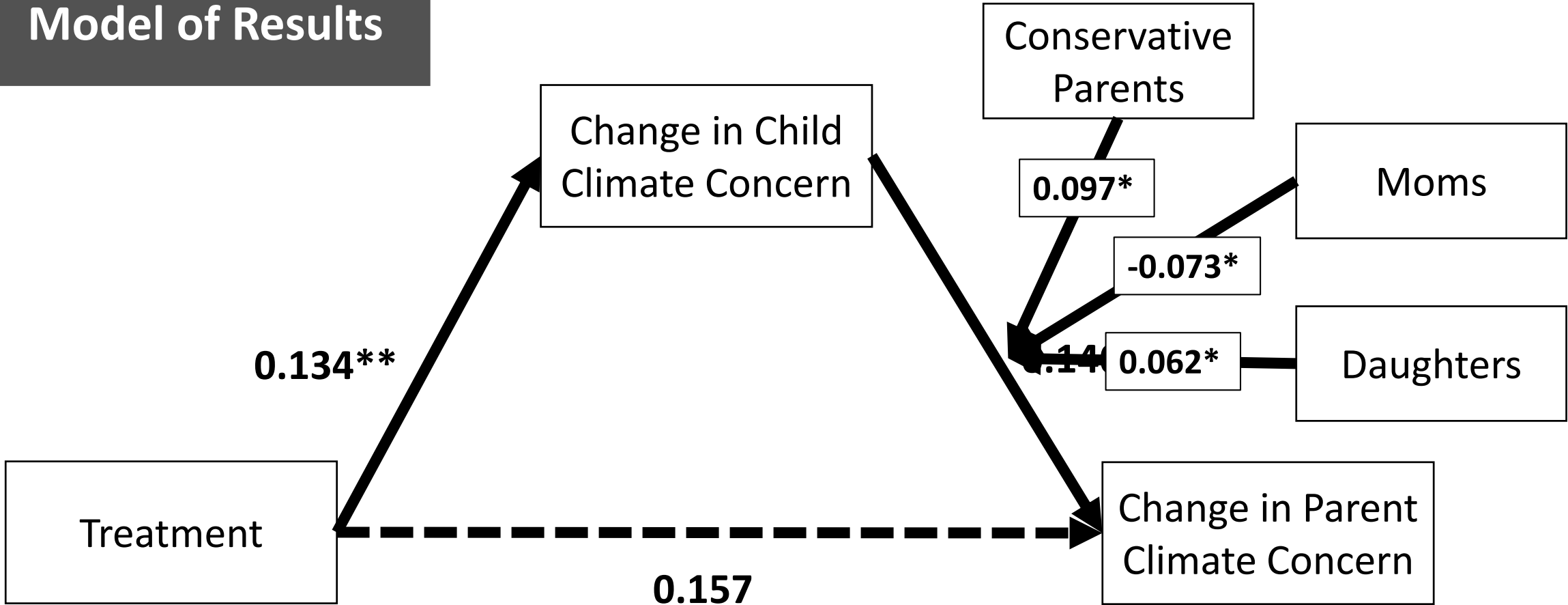


- Recruited 15 teachers and randomly assigned them into treatment & control groups (2016)
- Train teachers in intervention
- Weather, Wildlife, Climate, & Change Module
 - Includes service learning project
 - Long Term (year-round)
 - Local Issues
 - Encourages Parental Involvement



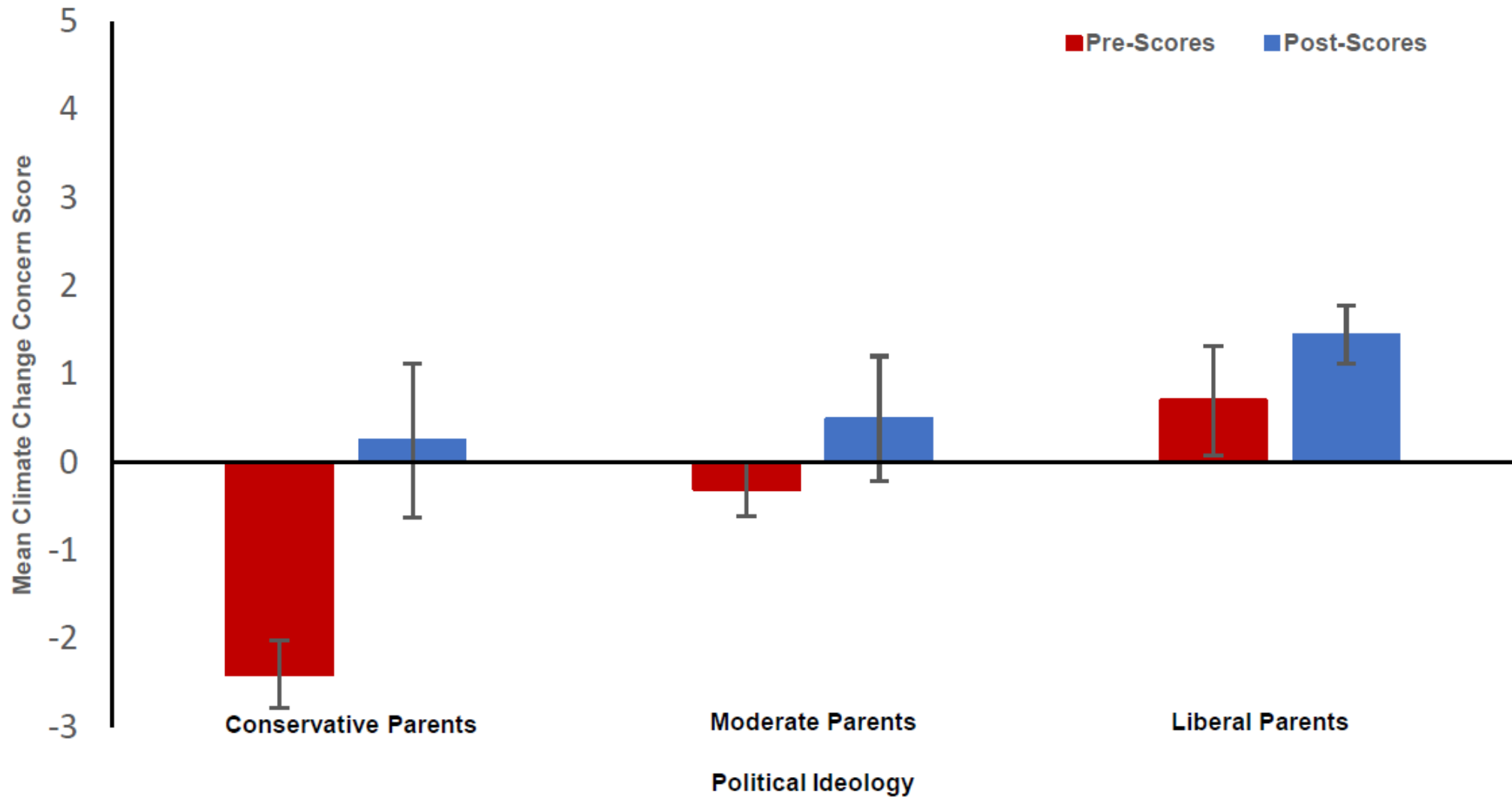
- Regression Predicting Parent Change in CC concern by:
 - Treatment
 - Pretest
 - Change in student CC concern
 - Demographics
- Random effects to account for family & teacher grouping
- Mediation Testing: Sobel-Goodman Analysis

Model of Results

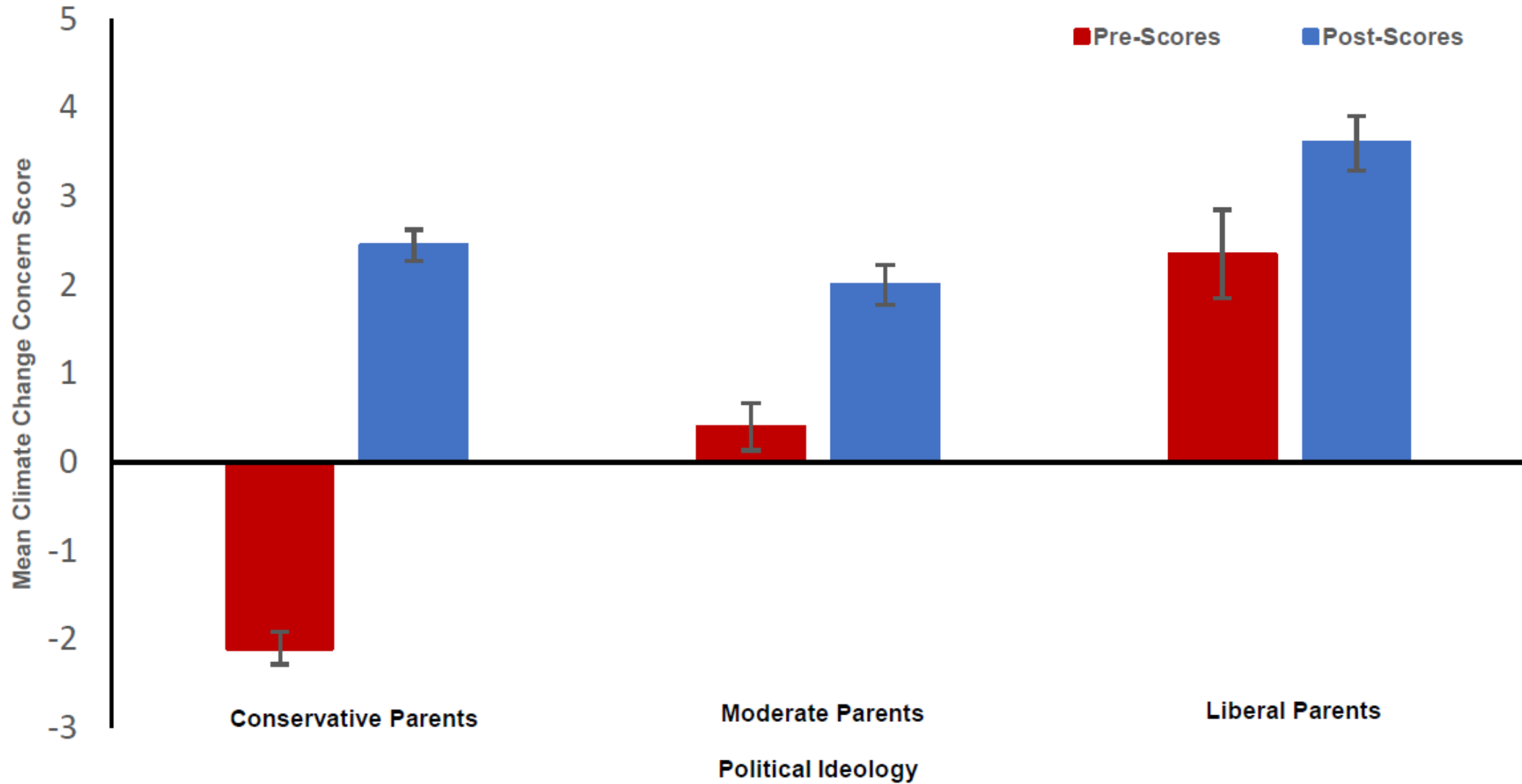


Additional Variables:
Pretest scores***, Treatment, Child/Parent Race, Parent Political Identity, Child/Parent Sex*, Level of Family CC Discussion*, Year**

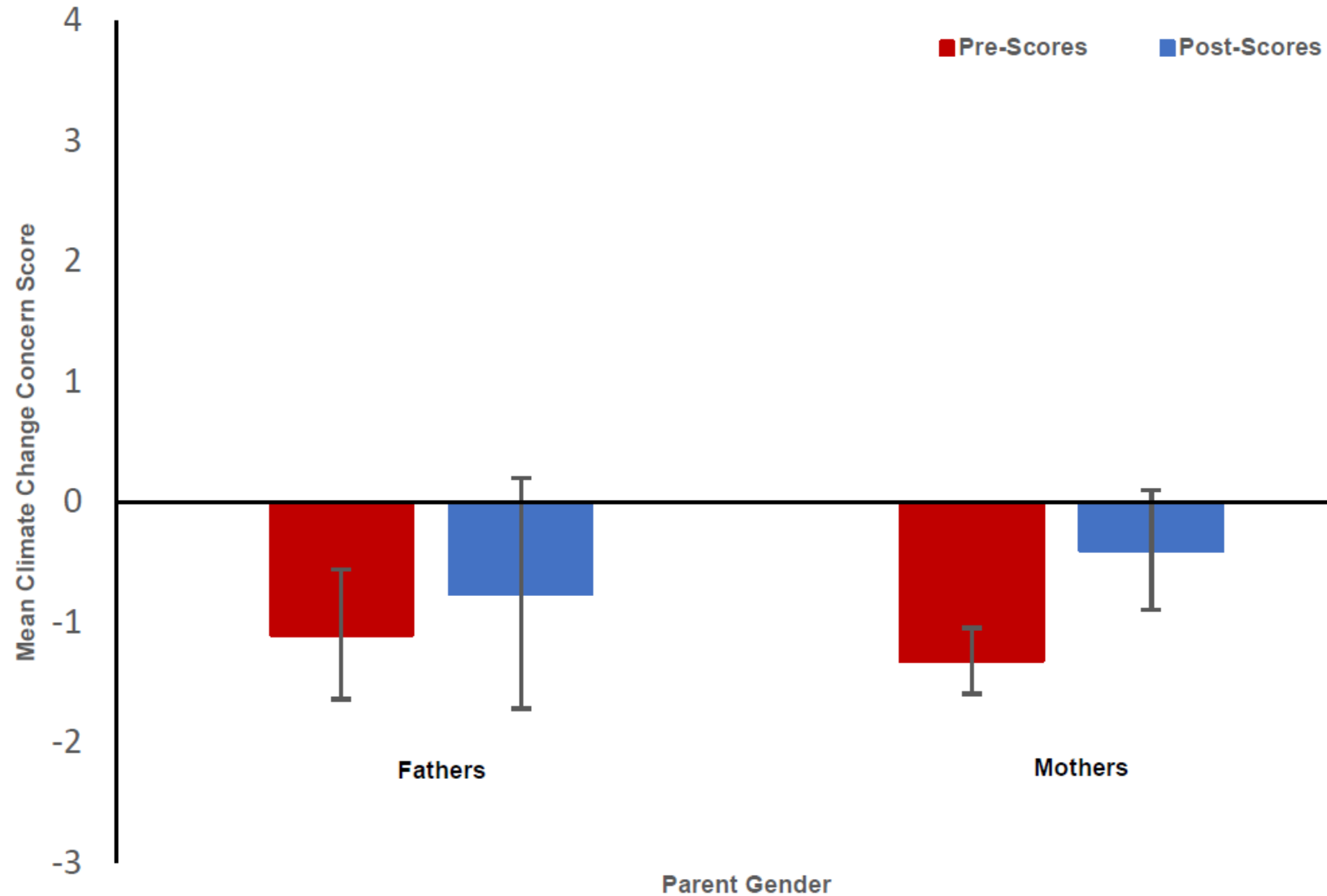
Change in climate concern as expected in control group across politics



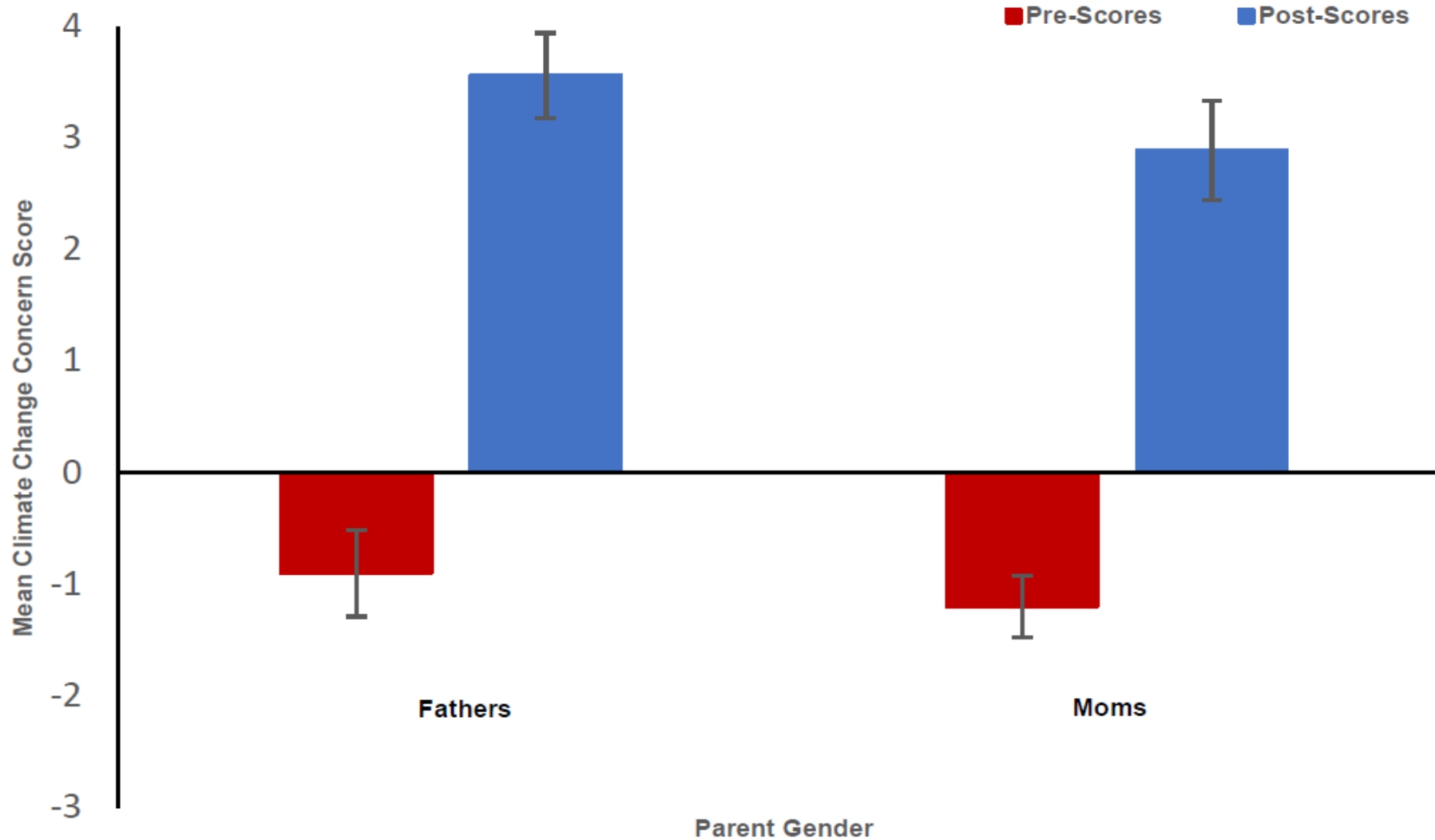
Conservatives have biggest jump in climate concern in treatment group



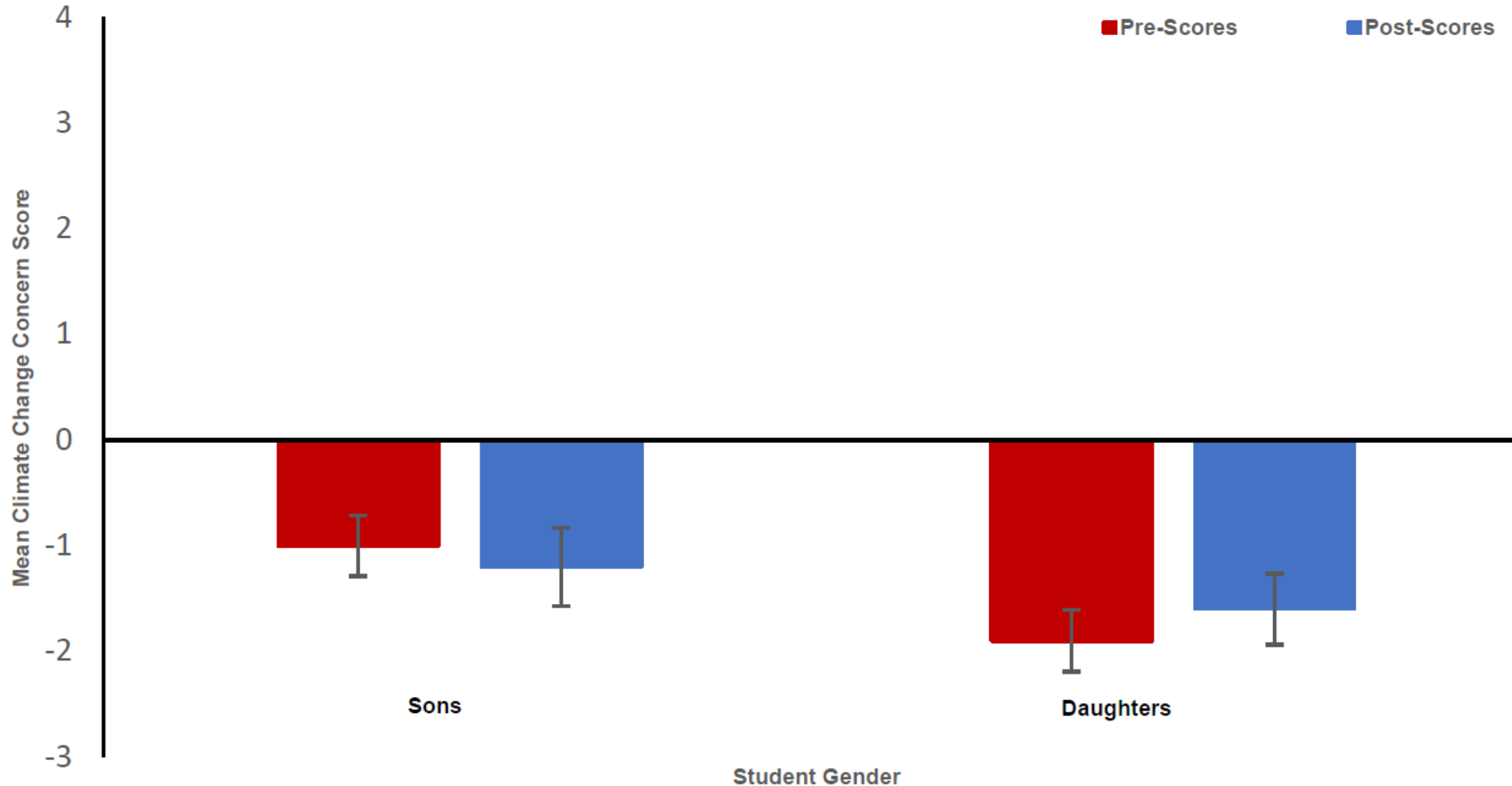
Similar changes in climate concern between moms and dads in control group



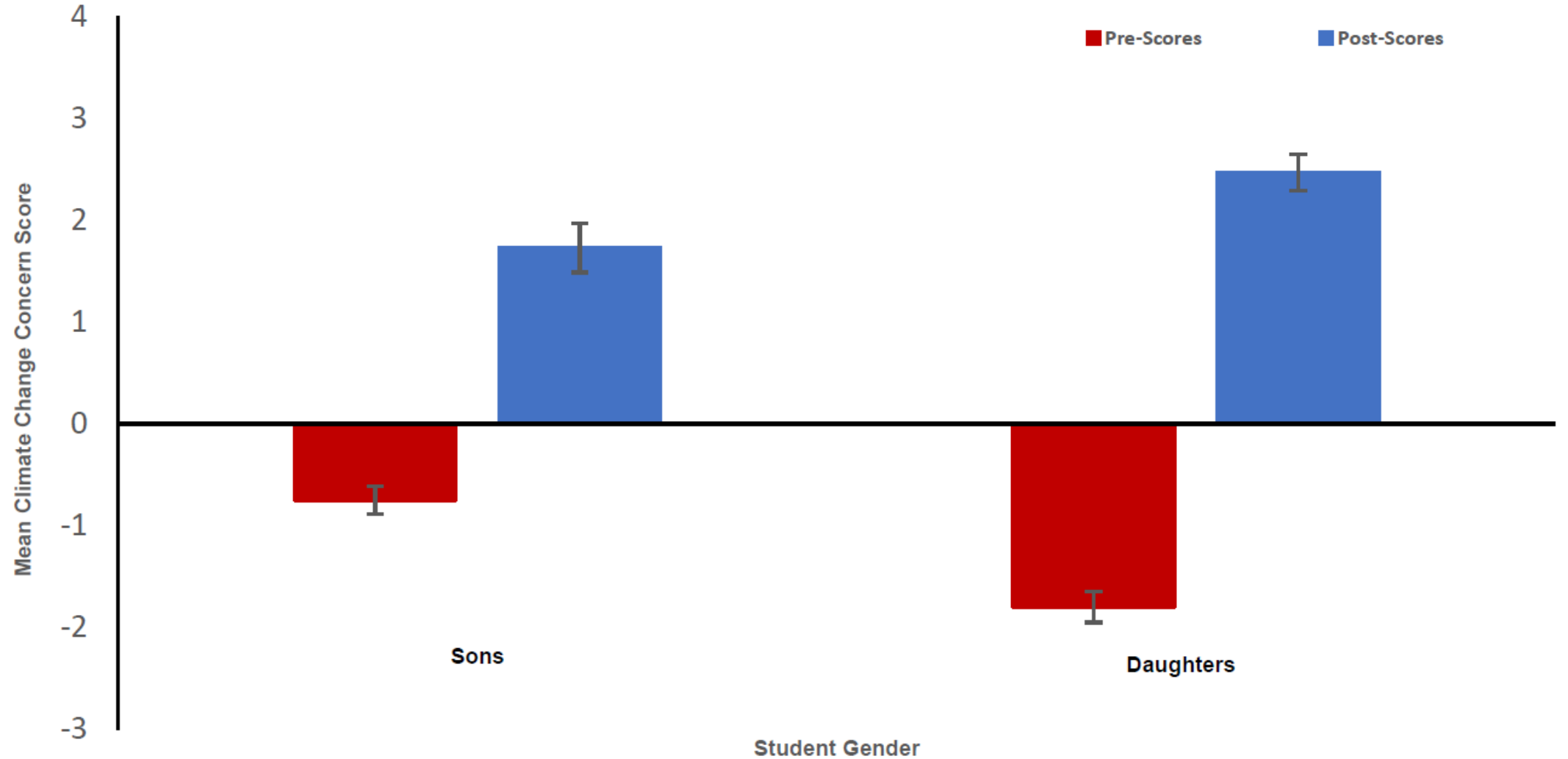
Dads have a slightly bigger jump than moms in climate concern in treatment group



Similar changes in climate change concern when information comes from sons vs. daughters in control group



Bigger jump in climate concern when information coming from daughters in the treatment group



- Child-to-parent IGL works in a climate change context
- Seems to overcome trends that decades of social science research on climate change perceptions have established, reaching men and conservatives and empowering girls
- *Authentically* engaging children is KEY

Conclusions



What Next?



- What comes next?
 - New ages
 - New cultures
 - New issues
 - Specific behaviors
 - Marine debris
 - Controversial wildlife
- Continuing to build theory

Citation

Lawson, D.F., Stevenson, K.T., Peterson, M.N., Carrier, S.J., Seekamp, E., & Strnad, R. (2019). How children can foster climate change concern among political conservatives and men. *Nature Climate Change*. In Press.



BEHAVIOR & SOCIETY

Children Change Their Parents' Minds about Climate Change

Study of students schooled on the issue showed them going on to shift their elders' attitudes

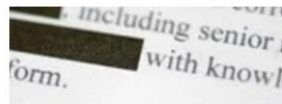
By Lydia Denworth on May 6, 2019



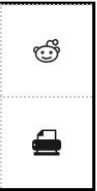
READ THIS NEXT



Rising Missi:
a City's Adap



Government
Silence Scie
in Detail



Predicting Child Climate Change Behavior

Control Variables:

- Child/Parent Sex
- Child/Parent Race
- Child/Parent Political Identity
- School Rural/Urban Status
- School Title I Status

Variable	B	β
Family Climate Change Discussion	1.070***	0.269
Parent Climate Change Behavior	0.370***	0.268
Child Climate Change Concern	0.479***	0.240
Parent Climate Change Concern	-0.037	-0.025
Constant	-4.255	
N	241	
R ²	0.272	

*** $p < 0.001$

Predicting Change in Parent Climate Concern

Additional Variables:

- Treatment
- Child/Parent Race
- Parent Political Identity

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Variable	B	β
Pretest Scores	-0.245***	-0.311
Child Change in CCC	0.815**	0.140
<u>Control Variables</u>		
Level of Family CC Discussion	0.399*	0.120
Year	0.123**	0.103
Child Sex	0.268*	0.108
Parent Sex	-0.676*	-0.104
<u>Family Dynamics Interactions</u>		
Child Change in CCC*Conservative Parents	0.126*	0.097
Child Change in CCC*Parent Sex	-0.107*	-0.073
Child Change in CCC*Child Sex	0.238*	0.062
Constant	2.486	
N	289	
R ²	0.297	