



# Can the Construction of Ecological Civilization Promote the Transformation of the Green Lifestyles of Residents? Evidence from China's Ecological Civilization Pilot Zone

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## Introduction

- The report of the 20th National Congress of the Communist Party of China claimed that green lifestyles and production methods should be broadly established.
- The transformation of green lifestyles is relatively lagging behind.
- China is vigorously promoting the construction of ecological civilization (EC).
- The transformation of green lifestyles is an essential part of ecological civilization construction in China and plays an important role in achieving China's ambitious goals of carbon peaking and carbon neutrality.
- It is still unclear how to promote the transformation of green lifestyles of residents in China.
- We explore the effect of the EC construction on the green transformation of lifestyles of residents, and seeks to answer the following important questions:

- (1) Has the construction of ECPZ promoted the transformation of green lifestyles among residents?
- (2) What is the mechanism behind this impact?
- (3) Is this impact heterogenous across different regions?

## Theoretical framework

### Ecological civilization construction and green lifestyle

**H1:** The construction of ECPZ can promote the transformation of green lifestyles of residents.

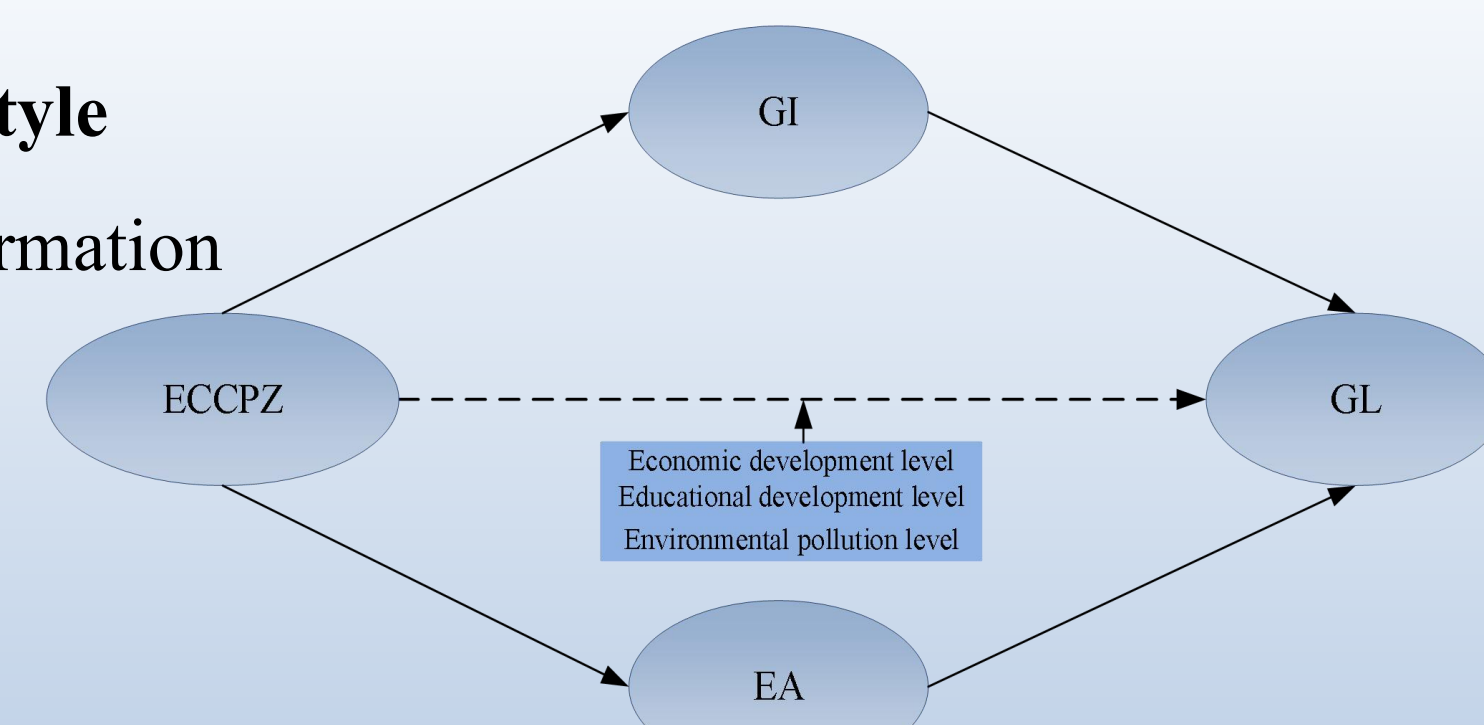


Fig.1 The framework of this paper

### Ecological civilization construction and environmental awareness

**H2a:** The construction of ECPZ can promote the formation of green lifestyles by enhancing residents' environmental awareness.

### Ecological civilization construction and green innovation level

**H2b:** The construction of ECPZ can promote the formation of green lifestyles by improving the green innovation level of the pilot zones.

## Data and methods

Table1. Descriptive statistics for main variables

Type	Name	Explanation	Mean	S.D.	Max	Min
Explained variable	GL	Green lifestyle	0.367	0.130	0.869	0.180
Explanatory variables	Treat	Whether the region is an ecological civilization experimental zone	0.133	0.340	1	0
	Time	Whether ECP policy has been implemented	0.058	0.233	1	0
Mediator variable	EA	Residents' environmental awareness	4.586	0.433	5.372	2.878
Control variables	GI	Green innovation level	7.445	1.405	10.72	2.890
	Technology	S&T innovation capacity	0.005	0.003	0.014	0.001
	Industry	Industrial structure	0.427	0.088	0.590	0.158
	FDI	Foreign direct investment	6.781	1.437	10.72	3.343
	Income	Income level	10.35	0.328	11.32	9.615
	Population	City total population	8.207	0.736	9.448	6.342

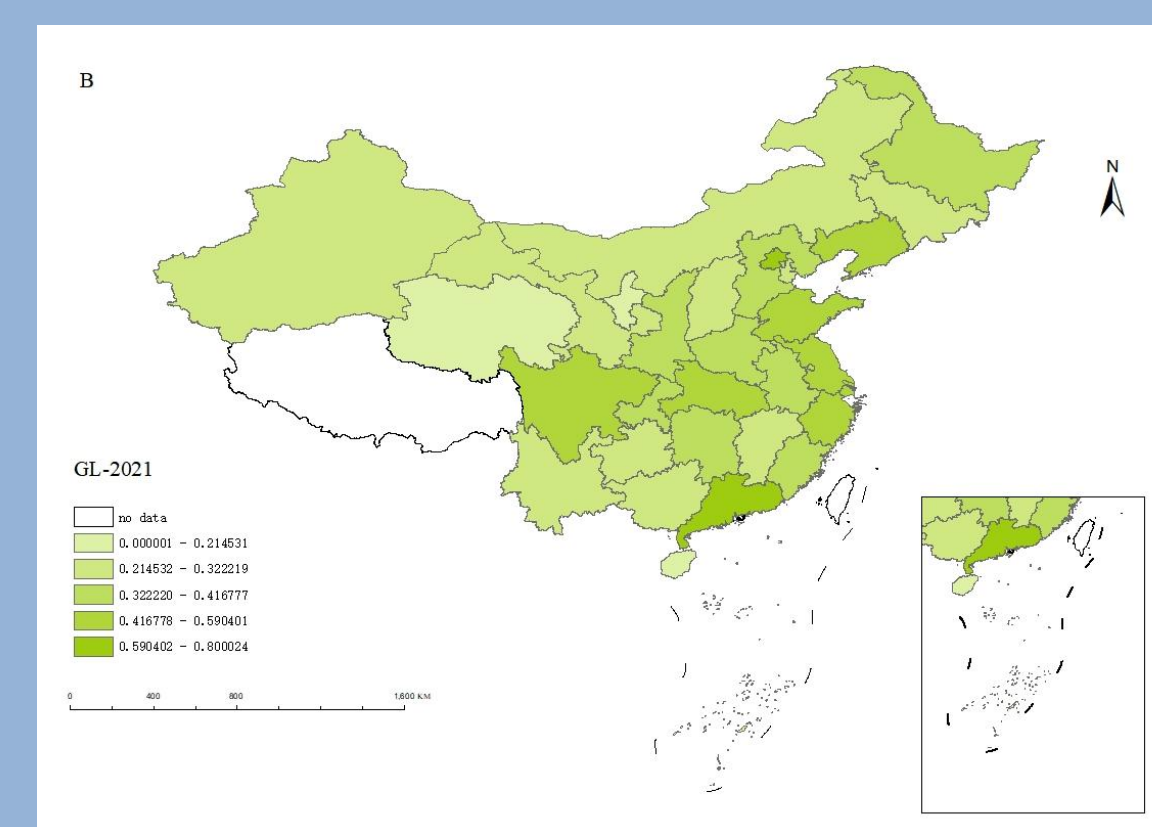


Fig.2 The GL index levels in 2021

## Results

### Results analysis

- The construction of ECPZ encourages residents to form green lifestyles, verifying hypothesis H1.
- The construction of ECPZ helps enhance the ecological environment awareness of local residents, thereby promoting the formation of green lifestyles, thus verifying Hypothesis H2a.
- The above results show that the ECPZ improves the GI level of in pilot provinces, thereby promoting the formation of green lifestyles among its residents, thus verifying Hypothesis H2b

Table.2 Benchmark Regression

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	GL	GL	GL	GL	GL	GL
Treat*Time	0.034** (2.11)	0.042** (2.17)	0.052** (2.40)	0.049** (2.41)	0.049** (2.31)	0.051** (2.33)
Time fixed effects	YES	YES	YES	YES	YES	YES
Individual fixed effects	YES	YES	YES	YES	YES	YES
Constant	0.385*** (60.16)	0.407*** (27.41)	0.560*** (5.28)	0.508*** (4.21)	1.142 (0.66)	2.049 (0.98)
R <sup>2</sup>	0.582	0.592	0.608	0.612	0.613	0.619
Observations	330	330	330	330	330	330

Table.3 Mechanism analysis

Variable	(1)	(3)
	EA	GI
Treat*Time	0.030' (1.78)	0.199* (2.00)
Control variables	YES	YES
Time fixed effect	YES	YES
Individual fixed effects	YES	YES
Constant	1.926 (0.96)	-5.987 (-0.67)
N	330	330
R <sup>2</sup>	0.932	0.941

### Robustness test

- Counterfactual test results
- Parallel trend test results
- Placebo test estimation coefficient
- PSM-DID
- Excluding the impact of other policies

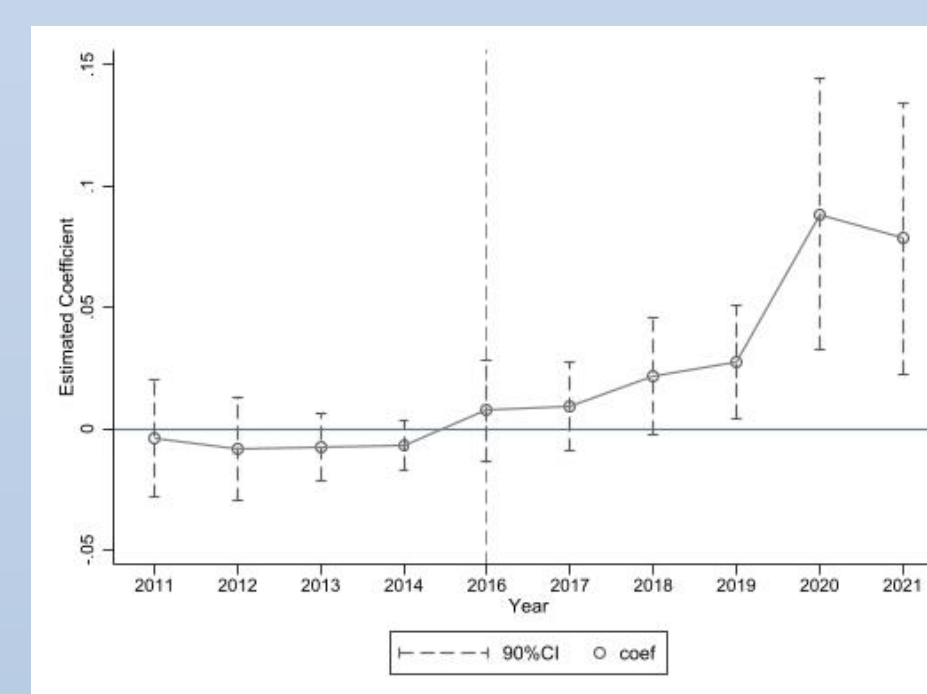


Fig. 3. The parallel trend test results

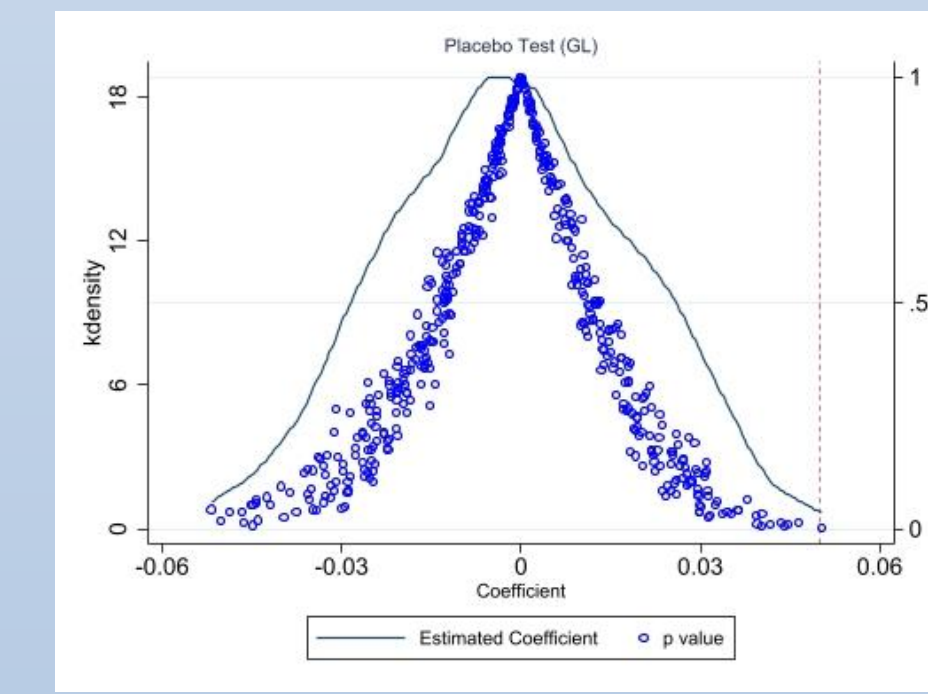


Fig. 4. Placebo test estimation coefficient

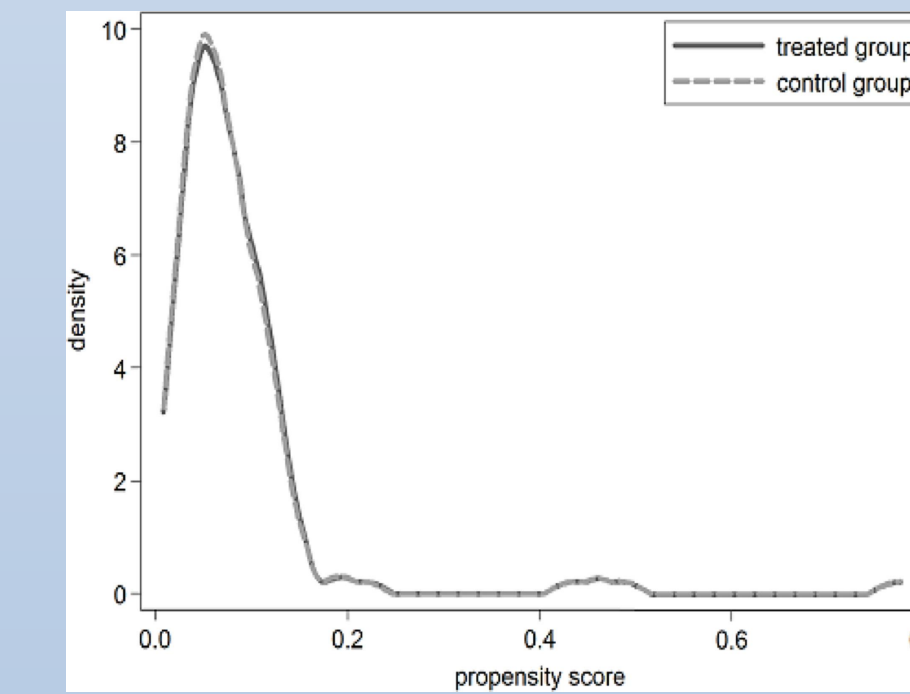


Fig. 5. Propensity score

### Heterogeneity analysis

- The construction of ECPZ has the greatest promoting effect in the eastern region, followed by the western and central regions.
- The policy's promoting effect is stronger on areas with severe environmental pollution.
- The ECPZ has a more significant promoting impact on regions with higher educational level.

Table.4 Heterogeneity analysis

Variables	Level of economic development			Pollution level		Level of educational development	
	Eastern	Central	Western	High-pollution level	Low-pollution level	High level	Low level
	GL	GL	GL	GL	GL	GL	GL
Treat*Time	0.081** (2.32)	0.016' (2.13)	0.027* (1.88)	0.054* (1.92)	0.051* (1.79)	0.136* (1.82)	0.008 (0.56)
Control variables	YES	YES	YES	YES	YES	YES	YES
Time fixed effects	YES	YES	YES	YES	YES	YES	YES
Individual fixed effects	YES	YES	YES	YES	YES	YES	YES
Constant	9.150** (3.22)	0.822 (0.25)	0.355 (0.25)	2.413 (0.99)	2.008 (0.62)	6.804** (2.44)	-1.759 (-0.90)
R <sup>2</sup>	0.830	0.876	0.577	0.768	0.578	0.751	0.676
Observations	110	66	121	165	165	165	165

## Conclusions

### Conclusions

- (1) The construction of ECPZ has significantly promoted the transformation of green lifestyles among residents in China. The transformation of green lifestyles is relatively lagging behind.
- (2) The construction of ECPZ mainly promotes the green formation of lifestyles of residents by enhancing their environmental awareness and improving the green innovation level in the region.
- (3) In areas where economic and educational development are more advanced, the construction of ECPZ has a greater effect on the transformation of green lifestyle.

### Policy recommendation

- First, the government must further strengthen support for the pilot zones, gradually expand the scope of policy pilot projects, and scientifically promote the construction of EC.
- Second, the government is expected to increase environmental publicity efforts, cultivate residents' low-carbon awareness, and widely promote green lifestyles.
- Third, the administration ought to further foster the promoting role of GI in the ECPZ.
- Finally, the government is advised to adopt differentiated environmental policies tailored to promote the transformation of lifestyles.

### Policy recommendation

- On the one hand, given the continuous enrichment of data related to residents' lives in the future, the measurement indicators for green lifestyle used in this study can be improved to become more comprehensive.
- On the other hand, considering the continuous disclosure of data at the city and county levels in the future, the sample size can be further expanded, and research can be deepened to obtain richer and more detailed research results.