

Air Pollution, Resilience and Prosocial Behavior in Chinese Adolescents: The Moderating Role of Family and School Support

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Background

Air pollution has been widely recognized as a pivotal factor threatening the health as well as the behavior of adolescents. Among which, adolescent's **prosocial behavior** has obtained scholars' attention. However, current studies do not provide rationales regarding the specific underlying mechanism, leading to our insufficient understanding of such a negative relationship.

Primary goals

First, this study explores whether adolescent resilience mediates the effect of air pollution on prosocial behavior.

Second, this study investigates whether this mediation effect of resilience is contingent on asset factors, which relate to family and school support (See Figure.1.).

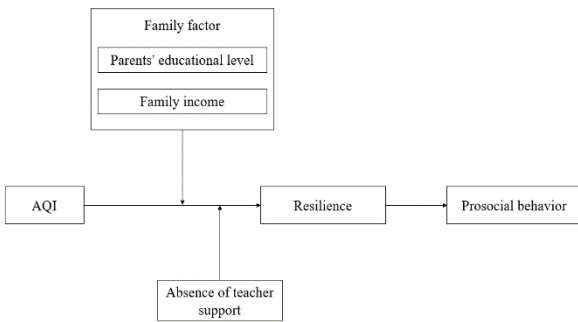


Figure.1.

Methodology

This paper conducted a three-year survey of junior high school students in Shenzhen to test research arguments. Overall, 1,301 students participated in all three waves of the survey.

We adopted the measurement scales for most of our constructs from the existing literature. All the scales showed acceptable reliability.

This study followed Baron and Kenny (1986) to test the mediation effect. In addition, we adopted ordinary least squares (OLS) analyses to test the moderation effect.

Results

1. Mediation effect

Variables	Coef.	SE	T-value	P-value	95% Conf. Interval	Adj-R ²
Step1						
Prosocial behavior						
AQI	-0.0643	0.0201	-3.21	0.001	[-0.1037 -0.0250]	0.1324
Step 2						
Resilience						
AQI	-0.0759	0.0191	-3.98	0.000	[-0.1134 -0.0385]	0.2134
Step 3						
Prosocial behavior						
AQI	-0.0311	0.0183	-1.70	0.089	[-0.0669 0.0047]	0.2830
Resilience	0.4377	0.0153	28.61	0.000	[0.4077 0.4677]	

Table 1

2. Moderation effect of family factor

Resilience	Coef.	SE	T-value	P-value	95% Conf. Interval
AQI	-0.1697	0.0294	-5.76	0.000	[-0.2275 -0.1120]
Family income	0.0022	0.0327	0.07	0.945	[-0.0618 0.0663]
AQI*Family income	0.1415	0.0329	4.30	0.000	[0.0771 0.2060]
N	3903	Adj-R ²	0.2169		

Table 2

3. Moderation effect of teacher factor

Resilience	Coef.	SE	T-value	P-value	95% Conf. Interval
AQI	-0.0702	0.0191	-3.68	0.000	[-0.1076 -0.0328]
Absence of teacher support	-0.0747	0.0198	-3.78	0.000	[-0.1134 -0.0360]
AQI* Absence of teacher support	-0.0360	0.0140	-2.58	0.010	[-0.0633 -0.0086]
N	3903	Adj-R ²	0.2173		

Table 3

These results showed that the adverse effect of air pollution on adolescent prosocial behavior was mediated by adolescent resilience. Moreover, family income weakened the negative relationship between air pollution and resilience, while the absence of teacher support strengthened this negative effect. However, this study did not find empirical support for the moderation effect of parents' educational level.

Discussion

This study contributes to theory and practice in several aspects.

- This study extends the research on adolescent development and prosocial behavior.
- This paper enriches the research on the social cost of air pollution for adolescents.
- This study calls for the government, schools, and parents to pay close attention to the harm of air pollution on adolescent psychology and spillover behavior.