

Article

Silver Spoon and Green Lifestyle: A National Study of the Association between Childhood Subjective Socioeconomic Status and Adulthood Pro-Environmental Behavior in China

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Abstract: Based on the life history theory, this study is aimed at examining the associations among childhood subjective socioeconomic status, adulthood pro-environmental behavior, and commercial insurance purchase. We used the data from the 2013 Chinese General Social Survey (CGSS2013) and obtained a sample of 11,172 respondents, with ages ranging from 18 to 97 years old. The respondents were selected using multistage stratified sampling. Correlational, mediational and moderational analyses were conducted using SPSS. The results show that the childhood subjective socioeconomic status is positively associated with adulthood pro-environmental behavior, independent of the current subjective socioeconomic status. In addition, commercial insurance purchase acts as a mediator of the association between childhood subjective socioeconomic status and adulthood pro-environmental behavior. Using conditional process analysis, we demonstrated that age moderated both the path where childhood subjective socioeconomic status influenced adulthood pro-environmental behavior and the path where childhood subjective socioeconomic status influenced commercial insurance purchase. Theoretically, the results provide empirical support for evolutionary perspective on sustainable behavior and demonstrate that childhood environment can constrain individual consumer choices and lifestyle. Practically, positioning target customers to commercial insurance clients may be an effective marketing strategy to increase consumers' actual purchase of ethical products. Moreover, to realize environmental goals, social policy makers can make efforts to publicize the importance of insurance and expand the coverage of insurance by increasing the corresponding financial subsidies for low socioeconomic status families.

Keywords: childhood subjective socioeconomic status; adulthood pro-environmental behavior; commercial insurance purchase; 2013CGSS



Citation: Liu, M.; Koivula, A. Silver Spoon and Green Lifestyle: A National Study of the Association between Childhood Subjective Socioeconomic Status and Adulthood Pro-Environmental Behavior in China. *Sustainability* **2021**, *13*, 7661. <https://doi.org/10.3390/su13147661>

Academic Editor: Ricardo García Mira

Received: 3 June 2021

Accepted: 6 July 2021

Published: 8 July 2021

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1. Introduction

There is a consensus that our daily behavior largely shapes our planet's future fate. With such awareness, many developing countries tend to prioritize environmental conservation measures on the national agendas. For example, on 1 July 2019, Shanghai's municipal government, China, declared to execute compulsory garbage sorting regulations [1]. Although the ideal plan is that individuals voluntarily engage in environmental protection practice, fulfilling green responsibilities in daily life is demonstrated to be difficult [2,3]. Therefore, understanding the influential factors of individual pro-environmental behavior (PEB) is particularly relevant in countries where governments actively implement environmental policies and public environmental concerns are burgeoning.

Extant literature looked at variables that influence PEB regarding internal factors, including environmental knowledge [4], environmental consciousness [5], environmental attitude [6], values [7], internet use [8], habits [9] and political preference [10], and external factors, including social capital [11], collective efficacy [12], accessibility of recycling facilities [13], current socioeconomic status [14] and so forth. However, little research considered

the external factors that occurred in individuals' early life as contributing factors to PEB. There are some examples. A recent study found a positive link between childhood exposure to nature and children's PEB [15]. Moreover, children's PEB and attitude at six years old have little relevance to their subsequent PEB in early adulthood [16]. Given the consequence of childhood experience on individual moral development [17], it is unexpected that we, until now, know so little about the potential impact of early life experience on PEB.

Social scientists have a decent understanding of the association between individuals' current socioeconomic status (SES) and PEB, concluding that the typical environmentalists are middle-classed or the upper-classed [14,18–21]. Furthermore, a recent study has elaborated on the relationship between SES and green consumption and revealed that the middle classes are more inclined to green consumption than both the lower and upper classes [22]. However, whether childhood subjective SES is associated with adulthood PEB is open to question. In fact, researchers have found empirical evidence that childhood subjective SES may influence adulthood decision-making, apropos of the timing for bearing children, the willingness to take risks, the desire for health insurance and green consumption [23–26]. In the present study, we assume that childhood subjective SES is positively associated with adulthood PEB. In addition, we explore the influential mechanism underlying this association by looking at a common type of economic decision-making in consumers' daily consumption and life planning, namely, commercial insurance purchase.

As shown in the statistics of World Population Ageing 2013, China is increasingly becoming a member of the ageing countries, with an estimated 90 million people aged 80 years or over in 2050 [27]. Furthermore, the Chinese government's implementation of the newly declared two-child policy forecasts a new round of baby boom in the near future [28]. Considering the two factors, China is likely to see a growing demand for healthcare service, following considerable healthcare expenditure in many households. Given that the Chinese social insurance system is still not adequate, commercial insurance can serve as a good supplement for the whole healthcare system. Individually, commercial insurance can improve citizens' risk resistance capacity, which is crucial for those disadvantaged households with children and older adults [29]. Therefore, we test whether commercial insurance purchase mediates childhood subjective SES and PEB in the present study. Moreover, we will also examine whether there are potential moderating effects of the association.

Given that little research in extant literature has studied early life experience associated with PEB, we will fill this gap by examining the association between childhood SES and adulthood PEB as well as testing commercial insurance purchase as an influential mechanism underlying this association. Different from most previous environmental studies, we understand individual PEB with an evolutionary perspective. Additionally, we will also analyze the age difference of the main effect and the mediation (see Figure 1).

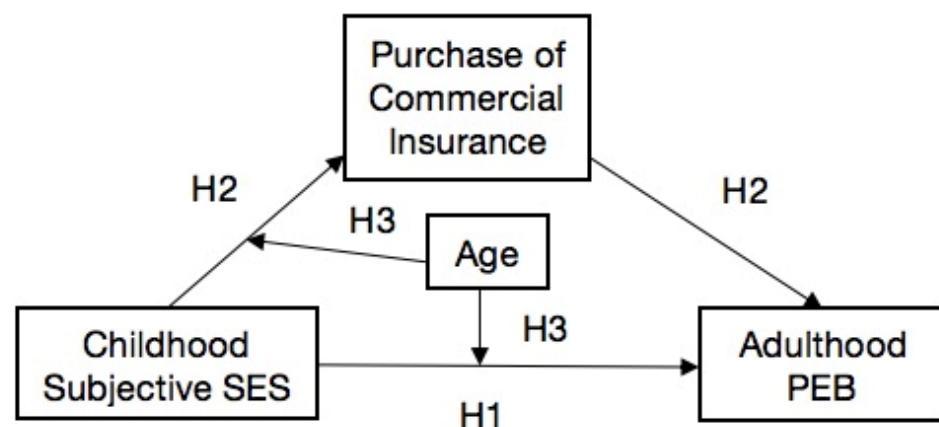


Figure 1. The hypothetical model.

2. Theoretical Framework and Hypothesis

2.1. Childhood Subjective Socioeconomic Status and Pro-Environmental Behaviors in Adulthood

Developmental psychologists have maintained that childhood experience paves the way for adulthood well-being [30–32]. What a child comes across in early years exerts great influence on their attitudes and behaviors in later years throughout one's life. As adults, is it possible that our current PEB holds some cues from our childhood social environment? Given the typical, if not stereotypical, portrait of middle-classed environmentalists, a further question is: does a person who grows up affluently will have more PEB?

Childhood subjective SES indicates how much resource children have access to in childhood [33]. Low childhood subjective SES, as reflected by insufficient economic resource, possibly signifies chronic resource scarcity. The disadvantages resulting from scarcity have been extensively demonstrated. For example, a person who lacks financial resource is hard to accept new practices and values and becomes antagonistic towards socially distant others [34]. Psychological scarcity may lead to small-minded values and short-sighted actions in goal attainment [35].

Moreover, given that social structures, which built upon the socioeconomic hierarchies, form a base for environmental value, lifestyles and consumption patterns [36], these values potentially flow inter-generationally. Children born in higher socioeconomic positions might have more interest in performing green behavior [37], more participation with nature [38] and positive environmental value [39]. Therefore, it is reasonable to assume that individuals with lower childhood subjective SES may have fewer PEB than those with higher childhood subjective SES because the economic scarcity people experienced in childhood might narrow their mindset within the private domain. Struggling with insecurity and unstable living conditions, individuals with lower childhood subjective SES are more likely to regard public welfare as a matter of indifference than their counterparts. It is difficult for them to develop collective altruism concerning personal insecurity. There is also a fair amount of empirical evidence showing that resource scarcity may foster egocentric behavior [40,41]. Therefore, we propose:

Hypothesis 1 (H1). *The childhood subjective SES is positively associated with adulthood PEB, independent of the current SES.*

2.2. Commercial Insurance Purchase as a Mediator

Uncertainties, instabilities or dangers pervade human life that our ancestors and we per se seek strategies to avoid risks and procure security. Difference from our ancestral cavemen who had been struggling to maximise their chances of survival, we modern people have a wide range of choices to handle potential accidents, for example, buying insurance. Despite the widely known benefit [42], not everyone is willing to adopt insurance to defend against risks, considering the certain cost and uncertain "benefit" (especially sometimes the benefit will be accompanied by fatal disasters) of insurance. Why some people buy it while others do not? A lay explanation is that rich people buy insurance because they have additional money to pay for the non-essential product. However, studies indicate that masses of the uninsured could afford health insurance [43,44], and people from low-status groups are also enthusiastic about buying luxury goods [45], which are expensive and more non-essential than insurance. These two reasons suggest that the disparity of purchasing insurance between different SES may be alternatively explained.

The life history theory is one component of the evolutionary framework regarding human behavior, on the basis of observations and investigations of human life in evolutionary history, mostly hunter-gathering societies [46]. It mainly attempts to explain why some people prefer risks and instant gratification whereas others not by linking the preferences for risk and gratification with mortality and resource scarcity [23]. According to the life-history theory, individuals take two strategies, slow and fast, when dealing with environments regarding different levels of resource access. In response to abundant resources, individuals are inclined to make decisions guided by a slow strategy, characterised

by valuing long-term interests more than short-term interests and a larger likelihood of avoiding risks rather than taking risks [24].

In contrast, people who choose a fast strategy prefer short-term interests and are less likely to consider avoiding risks. During evolutionary history, both strategies are adaptive. Abundant resource usually forebodes a life with fewer dangers, less unpredictability, and a longer life expectancy, so that individuals can think about a future and lower risks in order to reach the future [23]. However, people with limited resource will be constantly concerned about immediate dangers and fail to expect a future. In that case, adopting measures to avoid future, impalpable risks would not be a rational choice.

Therefore, based on the life-history theory, we assume that people who have a lower childhood subjective SES may adopt a fast strategy, indicating few personal plans for commercial insurance. While their counterparts who grow up in a higher childhood subjective SES are more likely to adopt a slow strategy, in other words, purchasing commercial insurance as a strategy to avoid risks. Thus, we assume that childhood subjective SES is positively correlated with commercial insurance purchase.

Moreover, we assume that individuals who have bought commercial insurances are likely to have a higher sense of security than those who have not. With a higher sense of security, people can free themselves from individual survival threats and engage in altruistic behaviors in the broader spectrum [47], for example, behaviors that benefit the planet. The attachment theory maintains that each individual is physically and psychologically attached to one or more caregivers at the beginning of a lifetime. This attachment is vitally important because it creates a caregiving behavioral system through which individuals develop different behavioral orientations later in life [48]. Well-developed attachment patterns with caregivers prepare an “internal working model” for individuals to explore and function in the external world [49]. In line with this theory, a secure person whose early social environment is supportive may show compassion for other people and cares for the landscapes we and our next generation live on [47]. Conversely, an unsecured person is less likely to be concerned about environmental issues because of lacking personal security. Therefore, we propose:

Hypothesis 2 (H2). *Commercial insurance purchase acts as a mediator of the association between childhood subjective SES and adulthood PEB.*

2.3. Age as a Moderator

To further understand the associations, we introduce age as a potential moderator of the association between childhood subjective SES and adulthood PEB and the association between childhood subjective SES and commercial insurance purchase. We can make two assumptions regarding how age affects the association between childhood subjective SES and adulthood PEB. Some scholars of consumer studies found that age is associated with individual belief and action in ethics [50] and that older people have higher ethical standards than younger people do, which lead to them behave more ethically [51]. Therefore, the interaction of age and childhood subjective SES might be associated with adulthood PEB, suggesting that the PEB of older people are less affected by childhood subjective SES than the PEB of younger people are. Another assumption is because young people tend to have more environmental knowledge or more ethical education [52], which is a factor that positively predicts PEB. This factor of younger people may weaken the association between their childhood subjective SES and adulthood PEB.

In addition, we assume that the interaction of age and childhood subjective SES may be associated with commercial insurance purchase, suggesting that the association between childhood subjective SES and commercial insurance purchase may be more robust for younger people than for older people. Risk perception indicates people’s estimate of how likely an adverse event will occur to them [53]. As people grow older, their risk perception is likely to transform because older people tend to have a higher risk of disease diagnosis [54]. In that case, for older people, a potential health threat may weaken the

association between childhood subjective SES and commercial insurance purchase. Thus, we propose the following hypothesis. Please see Figure 1 for the theoretical model.

Hypothesis 3 (H3). *Age simultaneously moderates the association between childhood subjective SES and adulthood PEB and the association between childhood subjective SES and commercial insurance purchase.*

3. Data and Methods

3.1. The Research Population and Sample

We used the data from the 2013 Chinese General Social Survey (CGSS2013). First started in 2003, this survey is a national, comprehensive and continuous social investigation aimed at systematically tracking the social transition since the turn of the millennium and examining the interconnection between social structure and citizens' quality of life in China. In this survey, multistage stratified sampling was adopted, and respondents were interviewed door-to-door—more than 10,000 Chinese citizens from all provinces except those from Xinjiang and Hainan. The respondents' ages span from 18 to 95 years old. After deleting missing information, invalid answers and the data, which is irrelevant to our research design, we obtained a sample of 11,172 respondents, with age ranging from 18 to 97 ($M_{\text{age}} = 48.49$, $SD_{\text{age}} = 16.38$). Of the respondents, 5546 (49.6%) were female, and 5626 (50.4%) were male. Guided by the theoretical framework, we elicited the questionnaires regarding demographics, health condition, childhood subjective SES, current SES, commercial insurance purchase, and PEB.

3.2. Measures

3.2.1. Childhood Subjective SES and Current SES

Childhood subjective SES was assessed using the "MacArthur ladder" [55–57]. Respondents were shown two pictures of ladders with corresponding numbers (1 to 10). Simultaneously, they were instructed, "In our society, some people are upper positioned, and some people are lower positioned. The ladder from up to down indicates the higher social class to lower social class, with 10 the highest social class and 1 the lowest social class." Then they were asked, "What do you think of your social class in your fourteenth?" for childhood subjective SES and "What do you think of your current social class?" for current SES. Responses were rated on a scale ranging from 1 (lowest) to 10 (highest).

3.2.2. Commercial Insurance Purchase

Both the purchases of medical insurance and life insurance were assessed by asking, "Have you joined the following insurance programs?". For each sort of insurance, respondents were given response options of "yes," "no," or "not applicable." "Yes" responses were coded as 1, and other responses were coded as 0. A higher score suggests more purchase of commercial insurance.

3.2.3. Proenvironmental Behaviors

According to previous research [58], ten items in this survey were chosen to measure respondents' pro-environmental behaviors. Respondents were asked whether they have certain activities or behaviors in the recent year. The items are "garbage sorting", "discussing environmental issues with families and friends", "taking your own bags when buying daily products", "recycling plastics bags", "concerning about environmental issues on broadcast, TV and newspaper", "donating for the protection of the environment", "actively participating in environmental publicity and education organised by government and organisations", "actively participating in activities organised by non-governmental organisations", "conserving the forests at your own expense", and "actively participating in making complaints and appealing against environmental damages". A 3-point Likert scale was used with 1 indicating "never", 2 "sometimes", and 3 "often". In this study, Cronbach's α coefficient was 0.75, indicating good internal consistency [59].

3.2.4. Controlled Variables

Previous studies have shown that current SES may influence individual PEB [60], and short-term health condition significantly influence commercial insurance purchase [61]. Therefore, we control for the current SES and recent health condition. We measure health condition using the mean score of the two items in this survey. Respondents were first asked, “What do you think of your current physical health?”. Answers were given on a 5-point Likert scale from “Not healthy at all = 1” to “Very healthy = 5”, which indicates that the higher score, the better their health condition is. Another question is, “In the past four weeks, how often did your work or other daily activities have been affected by health issues?”. Answers were given on a 5-point Likert scale from “Always = 1” to “Never = 5”; that is, a higher score indicates better health condition.

3.3. Statistical Procedures

We first used IBM SPSS Statistics Subscription to analyze descriptive statistics and correlations. Then, we used PROCESS_v3.5 [62], a macro for IBM SPSS Statistics Subscription, to analyze the mediation (model 4) and the conditional mediation (model 8) in the present study. The PROCESS_v3.5 calculate the indirect effect by generating 95% bias-corrected accelerated confidence intervals (CI) based on 5000 bootstrap samples. Statistical significance is acquired by a 95% CI that excludes zero. Since the PROCESS_v3.5 cannot standardise data, we had all the original scores of the variables standardised to z-scores before the mediation and conditional mediation analyses. Following the recommendations of many methodological researchers [63,64] and empirical researchers [8], we used bootstrapping method to test mediation analyses.

4. Results

4.1. Descriptive Statistics and Correlation Analysis

The descriptive statistics, including gender, age and all the variables of interest, were shown in Table 1. Pearson’s correlations were calculated to examine the associations among the variables of interest, including childhood subjective SES, commercial insurance purchase, and PEB and the controlled variables, including health condition and current SES. Table 1 shows the detailed results of the correlation analyses. As predicted, childhood subjective SES was positively correlated with commercial insurance purchase ($r = 0.15$, $p < 0.01$), and PEB ($r = 0.20$, $p < 0.01$).

Table 1. Correlation Coefficients, Means, and Standard Deviations of Variables.

Variable	M	SD	1	2	3	4	5
1. PEB	1.52	0.33	1				
2. Childhood SES	3.08	1.80	0.20 **	1			
3. Current SES	4.32	1.68	0.17 **	0.43 **	1		
4. PCI	0.08	0.23	0.14 **	0.15 **	0.12 **	1	
5. Health	3.84	0.98	0.17 **	0.19 **	0.20 **	0.11 **	1

Note. ** $p < 0.01$; PEB = proenvironmental behavior, PCI = purchase of commercial insurance.

4.2. Mediation Analyses

Model 4 of PROCESS_v3.5 [62] was used to examine the possible association between childhood subjective SES, commercial insurance purchase, and adulthood PEB. The results of the mediation analysis were presented in Table 2. The total effect of childhood subjective SES on adulthood PEB was significant ($B = 0.15$, $p < 0.001$). After controlling for the current SES and current health condition, we found that the process of childhood subjective SES predicting PEB through the mediation of commercial insurances’ purchase was significant, $a*b = 0.01$, $SE = 0.0016$, 95% CI = [0.0080, 0.0141]. The mediation effect is represented by $a*b$, with a represents the path from Childhood SES on purchase of commercial insurance ($B = 0.11$, $p < 0.001$) and b represents the path from purchase of commercial insurance on

PEB ($B = 0.10, p < 0.001$). Commercial insurance purchase partially mediated the association between childhood subjective SES and PEB.

Table 2. Mediation Analysis.

Predictors	Equation (1) (Criterion = PEB)		Equation (2) (Criterion = PCI)		Equation (3) (Criterion = PEB)	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Childhood SES	0.15 ***	0.01	0.11 ***	0.01	0.14 ***	0.01
PCI					0.10 ***	0.01
* Current SES	0.08 ***	0.01	0.06 ***	0.01	0.07 ***	0.01
* Health	0.12 ***	0.01	0.07 ***	0.01	0.11 ***	0.01
<i>R</i> ²	0.06		0.03		0.07	
<i>F</i>	247.04 ***		118.49 ***		221.36 ***	

Note. *** $p < 0.001$; PEB = proenvironmental behaviors, PCI = purchase of commercial insurance. Predictors with an * on upper left side are controlled variables.

4.3. Conditional Process Analysis

Following prior literature [65], after testing the mediation, we added a moderator to test the conditional process analysis by running model 8 in PROCESS_v3.5 [62]. A conditional process model can test the moderation and mediation effects simultaneously, namely, test the interaction of an independent variable and a moderator on a dependent variable through a mediator [66]. The regression results (Table 3) indicated that childhood subjective SES positively predicted commercial insurance purchase ($B = 0.09, p < 0.001$), age negatively predicted commercial insurance purchase ($B = -0.09, p < 0.001$), and the interaction of childhood subjective SES and age was significant ($B = -0.03, p < 0.01$) (Equation (1)). Simple slope analyses revealed that, for younger people, the positive prediction of childhood subjective SES on commercial insurance purchase ($B_{\text{simple}} = 0.13, p < 0.001$) was stronger than for older people ($B_{\text{simple}} = 0.06, p < 0.001$) (Figure 2). In addition, childhood subjective SES positively predicted adulthood PEB ($B = 0.12, p < 0.001$), age negatively predicted adulthood PEB ($B = -0.09, p < 0.001$), and the interaction of childhood subjective SES and age was significant ($B = 0.04, p < 0.001$) (Equation (2)). Simple slope analyses revealed that, for younger people, the positive prediction of childhood subjective SES on adulthood PEB ($B_{\text{simple}} = 0.08, p < 0.001$) was weaker than for older people ($B_{\text{simple}} = 0.16, p < 0.001$) (Figure 3). Figure 4 showed an integrated model of the conditional process analysis.

Table 3. Moderation Analysis.

Predictors	Equation (4) (Criterion = PIC)		Equation (5) (Criterion = PEB)	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Childhood SES	0.09 ***	0.01	0.12 ***	0.01
Age	-0.09 ***	0.01	-0.09 ***	0.01
Childhood SES × Age	-0.03 **	0.01	0.04 ***	0.01
PIC			0.10 ***	0.01
<i>R</i> ²	0.04		0.08	
<i>F</i>	86.49 ***		163.71 ***	

Note. ** $p < 0.01$, *** $p < 0.001$; PEB = proenvironmental behavior, PCI = purchase of commercial insurance.

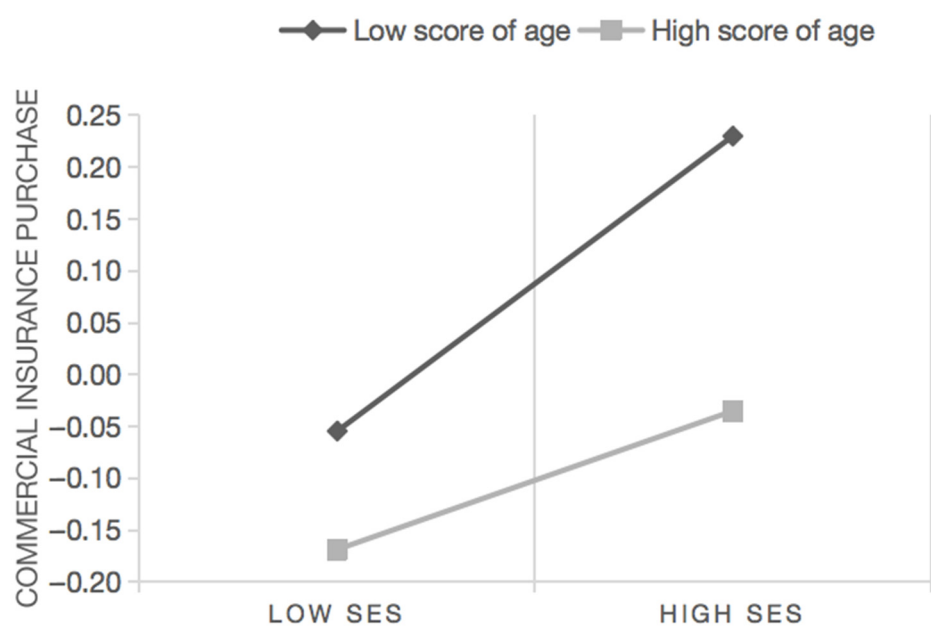


Figure 2. The interaction of childhood subjective SES and age on the purchase of commercial insurance.

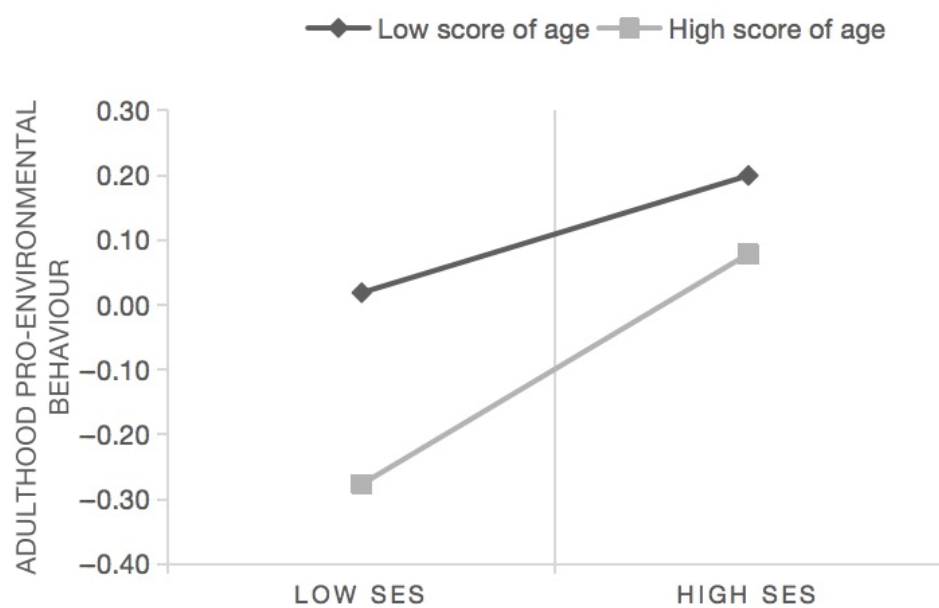


Figure 3. The interaction of childhood subjective SES and age on the PEB.

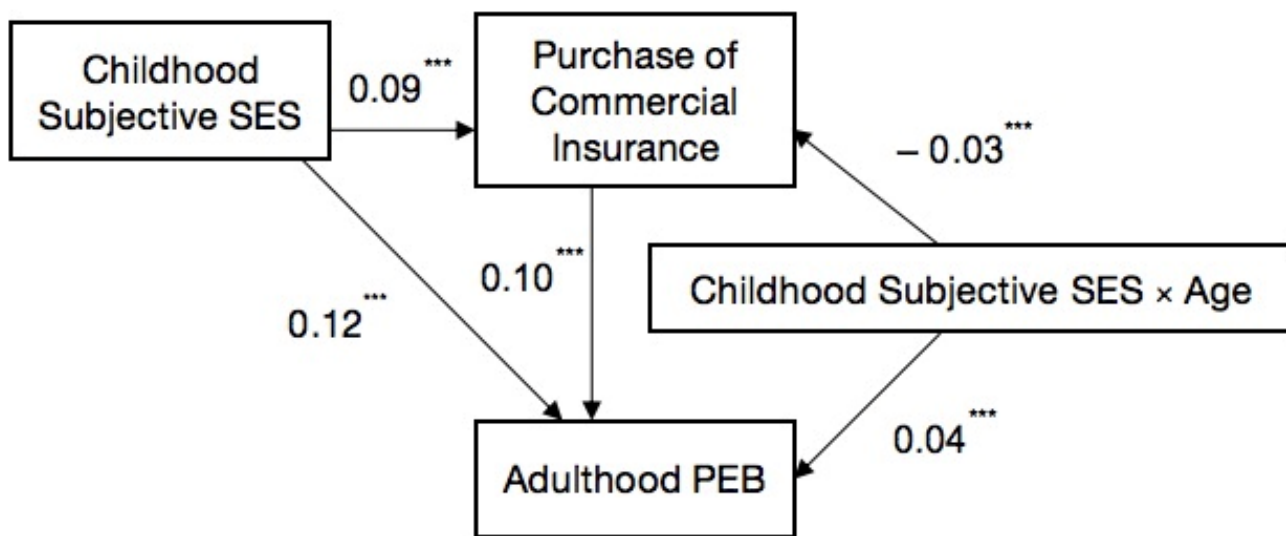


Figure 4. The conditional process model. Note. *** $p < 0.001$.

5. Discussion

Using a sample from a national survey, we examined the association between childhood subjective SES and adulthood PEB, and we tested the purchase of commercial insurance as a mediator of the association. As predicted, the results show a significantly positive association between childhood subjective SES and adulthood PEB, even when controlling for the current SES and health condition. Compared to a higher childhood subjective SES, a lower childhood subjective SES is associated with less engagement in PEB during adulthood. We explained the association using the concept of resource scarcity, arguing that the resource scarcity individuals experienced in childhood might limit their mindset from entering into the public domain and bearing collective altruism. We also demonstrated that commercial insurance purchase acts as a mediating role in the association between childhood subjective SES and adulthood PEB. Based on the life history theory [25], we reasoned that childhood subjective SES affects consumers' choice for commercial insurance, and subsequently commercial insurance purchase, which ensures individual security, influences PEB. In addition, we found that for younger people, the positive association between childhood subjective SES and commercial insurance purchase was stronger than for older people; the positive association between childhood subjective SES and adulthood PEB was weaker for younger people than for older people. This result demonstrated our assumption that the former effect is stronger and the latter is weaker for younger people than older people. In the following text, we discuss the theoretical implications and practical implication.

First, the present study is one of the few studies to investigate PEB from an evolutionary perspective. Several perspectives have been applied in the extant literature to study PEB, for example, the simulation theories, control theories, ecological psychology, and integral approaches [67]. However, little research proposes an evolutionary explanation for sustainable issues. Griskevicius et al. [68] maintained that a shortsighted mindset was deeply rooted in human nature because a highly uncertain environment must constantly confront our ancestors. By demonstrating that individuals who grow up in an adverse childhood environment are likely to act less pro-environmentally in adulthood, our results provide empirical support for Griskevicius et al.'s [68] theoretical framework.

Second, the present study expands our knowledge of childhood social environment's influence on adulthood daily life. Previous research has demonstrated that economic disadvantages in childhood could affect adulthood life in several aspects, including adulthood physical health [69,70], adulthood SES [71], adulthood unhealthy habit [72], desire for health insurance [25], the timing for bearing children [23], economic risk-taking [24] and buying green products [26]. Although previous research has touched upon green

issues [26], their sample is relatively less generalised than a national survey. Moreover, we introduced childhood subjective SES as an antecedent variable for PEB and explored the mechanism by testing a type of consumer behavior as a mediator.

Third, the present study found that consumer choices of insurance can be associated with a green lifestyle. Existing studies on commercial insurance mainly resort to increasing the insurance coverage in the population for health reasons [61,73]. Our results suggest that the benefits of commercial insurance coverage on a national or transnational level may go far beyond individual health and life expectancy and reach the realm of resource sustainability. Future studies can further explore other impacts within the public domain that commercial insurance may lead.

Fourth, the conditional process analysis results expanded our understanding of the age variance of the associations between childhood subjective SES, the purchase of insurance and adulthood PEB. The results showed that the interaction of age and childhood subjective SES on commercial insurance purchase and adulthood PEB were significant. That is, the positive prediction of childhood subjective SES on commercial insurance purchase was stronger for younger people than for older people. We guess that the potential health threat and risk perception in older people may be attributed to the weakened association. This result suggests that the promotion of insurance coverage should be paid more attention to younger people with a lower level of social background. In addition, the positive prediction of childhood subjective SES on adulthood PEB was stronger for older people than for young people. We speculate that this may result from young people in China having better environmental education, making the influence of childhood subjective SES less prominent. Therefore, environmental educational programs that target on older adults can be designed and promoted.

On an applied level, the present studies contribute to environmental conservation by introducing an association between childhood socioeconomic environment and PEB. Although previous studies have considered the influence of childhood experience on PEB, they have centred on children's physical exposure to nature [37,74]. To our knowledge, little research examined the influence of adverse factors in childhood on adulthood PEB. Our results show that the influence of a scarcity mindset in childhood goes far beyond economic restriction. Specifically, a low childhood subjective SES is associated with less engagement in activities that benefit the environment.

Although improving SES is difficult, children can be protected from having "the feeling of scarcity" [35]. They can be taught to remain alert to the habits of thought that constrain their consumer choices and lifestyle. Moreover, in particular cultural contexts, family members may distort children's perception of SES. For example, hiding financial affluence from children is a prevalent practice among Chinese families. Parents tend to lie to their children about their family economic condition to regulate children's money spending by claiming "we are too poor to afford that" [75,76]. Therefore, this practice is empirically opposed because our results show that childhood SES may lead to low adulthood engagement in PEB.

In addition, our results provide practical implications for marketers of ethical products and commercial insurance. Ethical products are a growing industry that orients consumers who care for ethical concerns such as fair trade, animal experiments, and environmental sustainability [77,78]. Although consumers are increasingly aware of the ethical issues throughout product manufacturing and retailing, a gap still exists between consumers' ethical intention and their consumptive action [79]. Our results suggest that positioning target customers to commercial insurance clients may be an effective marketing strategy to increase consumers' actual purchase of ethical products. Moreover, to realize environmental goals, social policy makers can make efforts to publicize the importance of insurance and expand the coverage of insurance by increasing the corresponding financial subsidies for low SES families.

6. Limitations

The first limitation of the present research was that it relied on a sample of citizens in mainland China, and whether the results can be generalised to other regions is unknown. For example, in countries where social insurance is relatively comprehensive, commercial insurance might be primarily purchased by high-income populations [80], rendering commercial insurance purchase not a persuasive indicator for PEB. Therefore, we suggest future studies to explore other consumption phenomena according to the specific public policy and service in different countries.

The second limitation of the present research was the cross-sectional study design, which does not allow a cause-and-effect conclusion to be drawn. However, considering both sufficient and comprehensive sample size and a time variable is practically difficult. Nevertheless, theoretically, a longitudinal approach would help build a causality relationship between childhood subjective SES, commercial insurance purchase, and adulthood PEB.

The third limitation of the present research was that our research design is a retrospective survey. On the one hand, the measurement of childhood SES may not be accurate because memories can be distorted, especially when it comes to childhood experience [81]. However, as we examined the subjective perception of the childhood experience on adulthood behaviors, this problem might be partly addressed. Granted that childhood SES might be either inflated or underrated, the perception of their SES on adulthood PEB is still valid. On the other hand, some may argue that a retrospective survey on childhood may suggest little to the present generation, but it sheds light on how we educate our children to sustain the environment for many centuries to come.

The fourth limitation was that the mediation held a small proportion of the total effect. The small effect size suggests that other mediators, such as a sense of insecurity, resource scarcity or altruism, can be examined in future research. However, we still consider the present study meaningful. Methodological researchers have argued that small effect size can be meaningful when it is of long-term consequences [82]. Despite the importance of environmental issues, the evolutionary preference for seeking present interest blinkers people to the long-term consequences of environmental pollution [68]. Perhaps it is due to the above reason that the effect sizes are generally humble in many environmental studies [2,8].

In addition, one small effect might be trivial, but multiple small effects can accumulate to more significant effects [82]. Although the present study merely tested a type of consumer behavior in discussing PEB, it inspires future consumer studies to ascertain more types of consumption in relation to PEB. Moreover, small sizes can be acceptable if the hypothetical model tests a theoretical framework [82]. Given that we examined PEB from an evolutionary perspective, we considered it acceptable the statistically significant mediation model with a small effect size.

7. Conclusions

The present research indicates that childhood subjective SES is positively associated with adulthood PEB, independent of the current subjective SES. In addition, commercial insurance purchase acts as a mediator of the association between childhood subjective SES and adulthood PEB. Moreover, age moderates both the path where childhood subjective SES influences adulthood PEB and the path where childhood subjective SES influences commercial insurance purchase. In accordance with our hypotheses, the results suggest that early environment can be an influence on adulthood lifestyle and consumer choices. Additionally, this influential strength differs for difference age groups.

Author Contributions: Conceptualization, M.L. and A.K.; writing—original draft preparation, M.L.; writing—review and editing, M.L. and A.K.; supervision, A.K. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this study are openly available in [Chinese General Social Survey] at [<http://cgss.ruc.edu.cn/English/Home.htm>, accessed on 24 June 2019], reference number [93281139].

Conflicts of Interest: The authors declare no conflict of interest.

References

- ChinaDaily. The Era of Compulsory Garbage Sorting Begins. 2019. Available online: <https://www.chinadaily.com.cn/a/201906/24/WS5d10650ba3103dbf14329e23.html> (accessed on 24 June 2019).
- He, Y.; Kitagawa, H.; Choy, Y.; Kou, X.; Tsai, P. What Affects Chinese Households' Behavior in Sorting Solid Waste? A Case Study from Shanghai, Shenyang, and Chengdu. *Sustainability* **2020**, *12*, 8831. [[CrossRef](#)]
- Gardner, G.T.; Stern, P.C. *Environmental Problems and Human Behaviour*, 2nd ed.; Pearson: London, UK, 2002; ISBN 0536686335.
- Saphores, J.D.M.; Ogunseitan, O.A.; Shapiro, A.A. Willingness to engage in a pro-environmental behavior: An analysis of e-waste recycling based on a national survey of US households. *Resour. Conserv. Recycl.* **2012**, *60*, 49–63. [[CrossRef](#)]
- Kikuchi-Uehara, E.; Nakatani, J.; Hirao, M. Analysis of factors influencing consumers' proenvironmental behavior based on life cycle thinking. Part II: Trust model of environmental information. *J. Clean. Prod.* **2016**, *125*, 216–226. [[CrossRef](#)]
- Tonglet, M.; Phillips, P.S.; Bates, M.P. Determining the drivers for householder pro-environmental behaviour: Waste minimisation compared to recycling. *Resour. Conserv. Recycl.* **2004**, *42*, 27–48. [[CrossRef](#)]
- Graves, L.M.; Sarkis, J.; Gold, N. Employee proenvironmental behavior in Russia: The roles of top management commitment, managerial leadership, and employee motives. *Resour. Conserv. Recycl.* **2019**, *140*, 54–64. [[CrossRef](#)]
- Liu, P.; Han, C.; Teng, M. The influence of Internet use on pro-environmental behaviors: An integrated theoretical framework. *Resour. Conserv. Recycl.* **2021**, *164*, 105162. [[CrossRef](#)]
- Webb, T.L.; Sheeran, P.; Luszczynska, A. Planning to break unwanted habits: Habit strength moderates implementation intention effects on behaviour change. *Br. J. Soc. Psychol.* **2009**, *48*, 507–523. [[CrossRef](#)]
- Koivula, A.; Kukkonen, I.; Sivonen, J.; Räsänen, P. Is There Room for Ethical Consumers on the Finnish Political Spectrum? *J. Consum. Policy* **2019**, 1–19. [[CrossRef](#)]
- Corral-Verdugo, V.; Frías-Armenta, M. Personal normative beliefs, antisocial behavior, and residential water conservation. *Environ. Behav.* **2006**, *38*, 406–421. [[CrossRef](#)]
- Chen, M.F. Self-efficacy or collective efficacy within the cognitive theory of stress model: Which more effectively explains people's self-reported proenvironmental behavior? *J. Environ. Psychol.* **2015**, *42*, 66–75. [[CrossRef](#)]
- Zhang, S.; Zhang, M.; Yu, X.; Ren, H. What keeps Chinese from recycling: Accessibility of recycling facilities and the behavior. *Resour. Conserv. Recycl.* **2016**, *109*, 176–186. [[CrossRef](#)]
- Gifford, R.; Nilsson, A. Personal and social factors that influence pro-environmental concern and behaviour: A review. *Int. J. Psychol.* **2014**, *49*, 141–157. [[CrossRef](#)]
- Collado, S.; Evans, G.W. Outcome expectancy: A key factor to understanding childhood exposure to nature and children's pro-environmental behavior. *J. Environ. Psychol.* **2019**, *61*, 30–36. [[CrossRef](#)]
- Evans, G.W.; Otto, S.; Kaiser, F.G. Childhood origins of young adult environmental behavior. *Psychol. Sci.* **2018**, *29*, 679–687. [[CrossRef](#)]
- Thompson, R. Conscience development in early childhood. In *Handbook of Moral Development*; Killen, M., Smetana, J.G., Eds.; Erlbaum: Mahwah, NJ, USA, 2006; pp. 73–92, ISBN 978-0-8058-6172-3.
- Buttel, F.H.; Flinn, W.L. Social class and mass environmental beliefs: A reconsideration. *Environ. Behav.* **1978**, *10*, 433–450. [[CrossRef](#)]
- Berger, I.E. The demographics of recycling and the structure of environmental behavior. *Environ. Behav.* **1997**, *29*, 515–531. [[CrossRef](#)]
- Chen, X.; Peterson, M.N.; Hull, V.; Lu, C.; Lee, G.D.; Hong, D.; Liu, J. Effects of attitudinal and sociodemographic factors on pro-environmental behaviour in urban China. *Environ. Conserv.* **2011**, *38*, 45–52. [[CrossRef](#)]
- Eom, K.; Kim, H.S.; Sherman, D.K. Social class, control, and action: Socioeconomic status differences in antecedents of support for pro-environmental action. *J. Exp. Soc. Psychol.* **2018**, *77*, 60–75. [[CrossRef](#)]
- Yan, L.; Keh, H.T.; Chen, J. Assimilating and differentiating: The curvilinear effect of social class on green consumption. *J. Consum. Res.* **2021**, *47*, 914–936. [[CrossRef](#)]
- Griskevicius, V.; Tybur, J.M.; Delton, A.W.; Robertson, T.E. The Influence of Mortality and Socioeconomic Status on Risk and Delayed Rewards: A Life History Theory Approach. *J. Personal. Soc. Psychol.* **2011**, *100*, 1015–1026. [[CrossRef](#)]
- Griskevicius, V.; Ackerman, J.M.; Cantú, S.M.; Delton, A.W.; Robertson, T.E.; Simpson, J.A.; Thompson, M.E.; Tybur, J.M. When the economy falters, do people spend or save? Responses to resource scarcity depend on childhood environments. *Psychol. Sci.* **2013**, *24*, 197–205. [[CrossRef](#)]
- Mittal, C.; Griskevicius, V. Silver spoons and platinum plans: How childhood environment affects adult health care decisions. *J. Consum. Res.* **2016**, *43*, 636–656. [[CrossRef](#)]

26. Sun, S.; Kong, Y. In the Perspective of Evolutionary Psychology: Childhood Socioeconomic Status, Values and Green Consumption. *Psychol. Explor.* **2020**, *40*, 552–561. (In Chinese)
27. United Nations, D.O.E. *World Population Ageing*; Department of Economic and Social Affairs: New York, NY, USA, 2015.
28. Gong, W.; Xu, D.R.; Caine, E.D. Challenges arising from China's two-child policy. *Lancet* **2016**, *387*, 1274. [[CrossRef](#)]
29. Liu, J.; Chen, H.; Chen, Y.; Li, Z. Exploring the relationship between migrants' purchasing of commercial medical insurance and urbanisation in China. *BMC Health Serv. Res.* **2018**, *18*, 1–7. [[CrossRef](#)]
30. Repetti, R.L.; Taylor, S.E.; Seeman, T.E. Risky families: Family social environments and the mental and physical health of offspring. *Psychol. Bull.* **2002**, *128*, 330. [[CrossRef](#)]
31. Sobolewski, J.M.; Amato, P.R. Economic hardship in the family of origin and children's psychological well-being in adulthood. *J. Marriage Fam.* **2005**, *67*, 141–156. [[CrossRef](#)]
32. Deindl, C. The influence of living conditions in early life on life satisfaction in old age. *Adv. Life Course Res.* **2013**, *18*, 107–114. [[CrossRef](#)]
33. Bradley, R.H.; Corwyn, R.F. Socioeconomic status and child development. *Annu. Rev. Psychol.* **2002**, *53*, 371–399. [[CrossRef](#)]
34. Booth, A. Responses to scarcity. *Sociol. Q.* **1984**, *25*, 113–124. [[CrossRef](#)]
35. Mullainathan, S.; Shafir, E. *Scarcity: Why Having too Little Means so Much*; Macmillan Publishers: New York, NY, USA, 2013; ISBN 9781250056115.
36. Wang, Y. Social stratification, materialism, post-materialism and consumption values: An empirical study of a Chinese sample. *Asia Pac. J. Mark. Logist.* **2016**, *28*, 580–593. [[CrossRef](#)]
37. Cheng, J.C.H.; Monroe, M.C. Connection to nature: Children's affective attitude toward nature. *Environ. Behav.* **2012**, *44*, 31–49. [[CrossRef](#)]
38. Izenstark, D.; Middaugh, E. Patterns of family-based nature activities across the early life course and their association with adulthood outdoor participation and preference. *J. Leis. Res.* **2021**, 1–23. [[CrossRef](#)]
39. Chawla, L. Childhood experiences associated with care for the natural world: A theoretical framework for empirical results. *Child. Youth Environ.* **2007**, *17*, 144–170.
40. Van Lange PA, M.; De Cremer, D.; Van Dijk, E.; Van Vugt, M. Self-Interest and Beyond: Basic Principles of Social Interaction. In *Social Psychology: Handbook of Basic Principles*; Kruglanski, A.W., Higgins, E.T., Eds.; Guilford: New York, NY, USA, 2007; pp. 540–561.
41. Roux, C.; Goldsmith, K.; Bonezzi, A. On the psychology of scarcity: When reminders of resource scarcity promote selfish (and generous) behavior. *J. Consum. Res.* **2015**, *42*, 615–631. [[CrossRef](#)]
42. Meng, Q.; Fang, H.; Liu, X.; Yuan, B.; Xu, J. Consolidating the social health insurance schemes in China: Towards an equitable and efficient health system. *Lancet* **2015**, *386*, 1484–1492. [[CrossRef](#)]
43. Bundorf, M.K.; Pauly, M.V. Is Health Insurance Affordable for the Uninsured? *J. Health Econ.* **2006**, *25*, 650–673. [[CrossRef](#)]
44. Levy, H.; DeLeire, T. What Do People Buy When They Don't Buy Health Insurance and What Does That Say About Why They Are Uninsured? *Inquiry* **2008**, *45*, 365–379. [[CrossRef](#)]
45. Charles, K.K.; Hurst, E.; Roussanov, N.L. Conspicuous consumption and race. *Q. J. Econ.* **2009**, *124*, 425–467. [[CrossRef](#)]
46. Kaplan, H.S.; Gangestad, S.W. Life history theory and evolutionary psychology. In *The Handbook of Evolutionary Psychology*; Buss, D.M., Ed.; Wiley: Hoboken, NJ, USA, 2005; pp. 68–95; ISBN 9780471727224.
47. Mikulincer, M.; Shaver, P.R. Attachment security, compassion, and altruism. *Curr. Dir. Psychol. Sci.* **2005**, *14*, 34–38. [[CrossRef](#)]
48. Bowlby, J. *Attachment and Loss: Vol. 1. Attachment*; Basic: New York, NY, USA, 1969.
49. Ainsworth, M.D.S.; Blehar, M.C.; Waters, E.; Wall, S.N. *Patterns of Attachment: A Psychological Study of the Strange Situation*; Psychology Press: London, UK, 2015.
50. Peterson, D.; Rhoads, A.; Vaught, B.C. Ethical beliefs of business professionals: A study of gender, age and external factors. *J. Bus. Ethics* **2001**, *31*, 225–232. [[CrossRef](#)]
51. Okumah, M.; Yeboah, A.S.; Asante-Wusu, I. Unpacking the moderating role of age and gender in the belief-behaviour link: A study within the context of water resources pollution. *J. Environ. Plan. Manag.* **2020**, *63*, 2607–2626. [[CrossRef](#)]
52. Li, D.; Zhao, L.; Ma, S.; Shao, S.; Zhang, L. What influences an individual's pro-environmental behavior? A literature review. *Resour. Conserv. Recycl.* **2019**, *146*, 28–34. [[CrossRef](#)]
53. Menon, G.; Raghurir, P.; Agrawal, N. Health Risk Perceptions and Consumer Psychology. In *The Handbook of Consumer Psychology*; Haugtvedt, C., Herr, P., Kardes, F., Eds.; Erlbaum: Mahwah, NJ, USA, 2007; pp. 981–1010; ISBN 9780805856033.
54. Spinnewijn, J. Insurance and perceptions: How to screen optimists and pessimists. *Econ. J.* **2013**, *123*, 606–633. [[CrossRef](#)]
55. Goodman, E.; Adler, N.E.; Kawachi, I.; Frazier, A.L.; Huang, B.; Colditz, G.A. Adolescents' perceptions of social status: Development and evaluation of a new indicator. *Pediatrics* **2001**, *108*, e31. [[CrossRef](#)] [[PubMed](#)]
56. Woo, J.; Leung, J.; Lau, E. Prevalence and correlates of musculoskeletal pain in Chinese elderly and the impact on 4-year physical function and quality of life. *Public Health* **2009**, *123*, 549–556. [[CrossRef](#)]
57. Wang, Y.; Zhu, X.; Cai, L.; Wang, Q.; Wang, M.; Yi, J.; Yao, S. Screening cluster A and cluster B personality disorders in Chinese high school students. *BMC Psychiatry* **2013**, *13*, 1–7. [[CrossRef](#)] [[PubMed](#)]
58. Yang, K.C.; Hu, P.H. Perceived social justice, subjective well-being and pro-environmental behavior. *J. Arid. Land Resour. Environ.* **2018**, *32*, 16–22. (In Chinese)

59. Taber, K.S. The use of Cronbach's alpha when developing and reporting research instruments in science education. *Res. Sci. Educ.* **2018**, *48*, 1273–1296. [[CrossRef](#)]
60. Kennedy, E.H.; Krahn, H.; Krogman, N.T. Are we counting what counts? A closer look at environmental concern, pro-environmental behaviour, and carbon footprint. *Local Environ.* **2015**, *20*, 220–236. [[CrossRef](#)]
61. Hadley, J. Insurance coverage, medical care use, and short-term health changes following an unintentional injury or the onset of a chronic condition. *JAMA* **2007**, *297*, 1073–1084. [[CrossRef](#)]
62. Hayes, A.F. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*; Guilford Press: New York, NY, USA, 2013.
63. MacKinnon, D.P.; Lockwood, C.M.; Williams, J. Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivar. Behav. Res.* **2004**, *39*, 99–128. [[CrossRef](#)]
64. Zhao, X.; Lynch, J.G., Jr.; Chen, Q. Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *J. Consum. Res.* **2010**, *37*, 197–206. [[CrossRef](#)]
65. Preacher, K.J. Advances in mediation analysis: A survey and synthesis of new developments. *Annu. Rev. Psychol.* **2015**, *66*, 825–852. [[CrossRef](#)] [[PubMed](#)]
66. Hayes, A.F.; Rockwood, N.J. Conditional process analysis: Concepts, computation, and advances in modeling of the contingencies of mechanisms. *Am. Behav. Sci.* **2020**, *64*, 19–54. [[CrossRef](#)]
67. Gifford, R. Environmental psychology matters. *Annu. Rev. Psychol.* **2014**, *65*, 541–579. [[CrossRef](#)] [[PubMed](#)]
68. Griskevicius, V.; Cantú, S.M.; Van Vugt, M. The evolutionary bases for sustainable behavior: Implications for marketing, policy, and social entrepreneurship. *J. Public Policy Mark.* **2012**, *31*, 115–128. [[CrossRef](#)]
69. Cohen, S.; Doyle, W.J.; Turner, R.B.; Alper, C.M.; Skoner, D.P. Childhood socioeconomic status and host resistance to infectious illness in adulthood. *Psychosom. Med.* **2004**, *66*, 553–558. [[CrossRef](#)]
70. Cohen, S.; Janicki-Deverts, D.; Chen, E.; Matthews, K.A. Childhood socioeconomic status and adult health. *Ann. N. Y. Acad. Sci.* **2010**, *1186*, 37–55. [[CrossRef](#)]
71. Laaksonen, M.; Rahkonen, O.; Martikainen, P.; Lahelma, E. Socioeconomic position and self-rated health: The contribution of childhood socioeconomic circumstances, adult socioeconomic status, and material resources. *Am. J. Public Health* **2005**, *95*, 1403–1409. [[CrossRef](#)]
72. Jefferis, B.J.; Power, C.; Graham, H.; Manor, O. Effects of childhood socioeconomic circumstances on persistent smoking. *Am. J. Public Health* **2004**, *94*, 279–285. [[CrossRef](#)] [[PubMed](#)]
73. Li, G.; Li, Z.; Lv, X. The ageing population, dependency burdens and household commercial insurance purchase: Evidence from China. *Appl. Econ. Lett.* **2021**, *28*, 294–298. [[CrossRef](#)]
74. Wells, N.M.; Lekies, K.S. Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. *Child. Youth Environ.* **2006**, *16*, 1–24.
75. Heyman, G.D.; Hsu, A.S.; Fu, G.; Lee, K. Instrumental lying by parents in the US and China. *Int. J. Psychol.* **2013**, *48*, 1176–1184. [[CrossRef](#)]
76. Liu, M.; Wei, H. The dark side of white lies: Parenting by lying in childhood and adolescent anxiety, the mediation of parent-child attachment and gender difference. *Child. Youth Serv. Rev.* **2020**, *119*, 105635. [[CrossRef](#)]
77. Adams, M.; Raisborough, J. Making a difference: Ethical consumption and the everyday. *Br. J. Sociol.* **2010**, *61*, 256–274. [[CrossRef](#)] [[PubMed](#)]
78. Bray, J.; Johns, N.; Kilburn, D. An exploratory study into the factors impeding ethical consumption. *J. Bus. Ethics* **2011**, *98*, 597–608. [[CrossRef](#)]
79. Devinney, T.M.; Auger, P.; Eckhardt, G.M. *The Myth of the Ethical Consumer*; Cambridge University Press: New York, NY, USA, 2010.
80. Lehtonen, T.K. Domesticating insurance, financializing family lives: The case of private health insurance for children in Finland. *Cult. Stud.* **2017**, *31*, 685–711. [[CrossRef](#)]
81. Johnson, M.K.; Foley, M.A. Differentiating fact from fantasy: The reliability of children's memory. *J. Soc. Issues* **1984**, *40*, 33–50. [[CrossRef](#)]
82. Funder, D.C.; Ozer, D.J. Evaluating effect size in psychological research: Sense and nonsense. *Adv. Methods Pract. Psychol. Sci.* **2019**, *2*, 156–168. [[CrossRef](#)]