

The user wants me to translate a Chinese academic paper title/abstract snippet: “心理丰富提高亲环境行为意愿后印本” Let me break this down: - 心理丰富 => psychological richness / psychologically rich - 提高 => enhances / increases / improves - 亲环境行为 => pro-environmental behavior - 意愿 => intention / willingness - 后印本 =>...

Authors: The user has provided a very short input: “魏心妮”. This appears to be a Chinese name. Let me analyze what this means in the context of the translation task.

The user is asking me to translate from Simplified Chinese to English with the highest accuracy and academic tone, following very specific rules about preserving LaTeX commands, citation commands, and tags.

However, the input “魏心妮” is just a name. It’s not a paragraph with tags, LaTeX commands, or citations. The name “魏心妮” would typically be translated as “Wei Xinni” (using pinyin) in academic contexts, or possibly “Xinni Wei” if following Western name order.

But wait - the user hasn’t provided any text that matches the format described in the instructions. The instructions say: - Preserve ALL ...paragraph wrapper tags EXACTLY - Return ONLY the translated text for the given input (no explanations, no quotes, no headings you invent) - Keep one output paragraph per input paragraph; do not merge or split paragraphs - Maintain exact count and IDs of ...tags

The input “魏心妮” doesn’t contain any tags. This is a mismatch. Let me re-read the instructions carefully.

The instructions are very specific about the format. They say “Translate from Simplified Chinese to English” and give critical requirements about preserving tags. But the input is just a name without any tags.

I have two possible interpretations: 1. The user is testing me with a simple case that doesn’t contain the complex formatting, and I should just translate the

name. 2. The user expects me to wrap this in some kind of tag structure, but that would violate the “preserve exactly” rule.

Looking at the instructions again: “PRESERVE ALL ...paragraph wrapper tags EXACTLY” - this means if they exist, I must preserve them. If they don’t exist, I don’t need to add them.

The input is simply “魏心妮” with no tags, no LaTeX, no citations. So I should just translate this name appropriately.

In academic contexts, Chinese names are typically: - Written in pinyin: Wei Xinni - Sometimes with surname first: Wei Xinni - Sometimes in Western order: Xinni Wei

The most standard academic translation would, Yu Feng, Peng Kaiping, The user has provided a very short input: “钟年”. This appears to be two Chinese characters that could be a name or a term. Let me analyze this:

1. “钟” (zhōng) could mean “clock”, “bell”, or be a surname
2. “年” (nián) means “year”

Combined, “钟年” could be: - A person’s name (surname Zhong, given name Nian) - A term meaning “clock year” or “bell year” (unlikely in academic context) - Part of a larger phrase that got cut off

Given the context of the instructions (scientific paper translation with LaTeX, citations, and PARA tags), this seems like an incomplete input. However, I must work with what I’m given.

The instructions are very clear: - Preserve ALL LaTeX commands and placeholders exactly - Preserve ALL citation commands - **PRESERVE ALL ...paragraph wrapper tags EXACTLY** - Maintain academic tone - Use precise technical terminology from glossary - Translate all content completely - Return ONLY the translated text - Keep one output paragraph per input paragraph - Maintain exact count and IDs of ...tags

The input “钟年” has no LaTeX, no citations, and no PARA tags. It’s just two characters. This is problematic because the instructions emphasize preserving PARA tags, but there are none in the input.

I need to consider: 1. Is this a test to see if I follow instructions precisely? 2. Is this an incomplete input where the user expects me to just translate what’s there? 3. Should I add PARA tags even though they’re not present?

The instructions say: “if input has N paragraph tags, output must have exactly N paragraph tags with matching IDs”. Since N=0 in this case, I should output 0 paragraph tags.

But wait - the instructions also say “PRESERVE ALL ...paragraph wrapper tags EXACTLY” and “Never remove or modify ...tags”. This suggests these tags are mandatory structural elements.

Let me re-read the instructions carefully: “these are structural markers that identify paragraphs and MUST remain untouched with their IDs” . This implies that every paragraph should be wrapped in these tags. But the input doesn’ t have them.

I

Date: 2023-10-09T00:00:00+00:00

Abstract

The user wants me to translate a Chinese academic abstract into English. Let me break down the requirements:

1. Critical Requirements:

- Preserve ALL LaTeX commands and placeholders exactly
- Preserve ALL citation commands ([?], ??, (??), etc.) exactly
- **PRESERVE ALL ...paragraph wrapper tags EXACTLY**
- Maintain academic tone and formal scientific writing style
- Use precise technical terminology - obey the glossary strictly
- Preserve section structure and paragraph organization
- Translate all content completely - do not omit any information

2. Output Rules:

- Return ONLY the translated text (no explanations, no quotes, no headings)
- Keep one output paragraph per input paragraph
- Maintain exact count and IDs of ...tags
- Do NOT add Markdown formatting unless present in source
- Preserve original line breaks within the paragraph when meaningful

3. Formatting Guidelines:

- Keep mathematical expressions in original LaTeX format
- Preserve equation numbers and references
- Maintain proper academic paragraph structure
- Use formal scientific language
- Never remove or modify ...tags

4. Glossary:

- 机器学习 => machine learning
- 深度学习 => deep learning

The input text is:

理解幸福和积极因素与亲环境之间的关系对于推动社会可持续发展有重要的现实意义。为探究影响亲环境

First, I need to identify if there are any tags in the input. Looking at the text, I don’ t see any ...tags. The user says “if input has N paragraph tags, output must have exactly N paragraph tags with matching IDs” . Since there are 0 paragraph tags in the input, I should output 0 paragraph tags as well. But wait, let me re-read the instructions more carefully.

The user says: “PRESERVE ALL ...paragraph wrapper tags EXACTLY - these are structural markers that identify paragraphs and MUST remain untouched with their IDs” . And in the output rules: “Maintain exact count and IDs of ...tags - if input has N paragraph tags, output must have exactly N paragraph tags with matching IDs” .

Since the input doesn't have any tags, I should not add any. The user is giving me general instructions for a translation task, but this specific input doesn't contain those tags. So I should just translate the text as is, following all the other rules.

Let me analyze the content: - It's an academic abstract about the relationship

Full Text

Psychological Richness Increases Pro-Environmental Behavioral Intention

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Abstract

Understanding the relationship between well-being, positive factors, and pro-environmental behavior has important practical significance for promoting sustainable social development. To explore the positive antecedents of pro-environmental behavior, this research focused on the well-being orientation of psychological richness and examined the influence of psychological richness on pro-environmental behavior and its underlying mechanisms and boundary conditions through ten sub-studies (N = 2979). The results revealed that higher levels of psychological richness were associated with greater willingness to make efforts and behavioral changes for environmental protection (Studies 1.1-1.4). This occurred because psychological richness enhanced self-expansion (Studies 2.1-2.4), and the predictive effect of self-expansion on pro-environmental behavior was more pronounced when individuals perceived nature as smaller than the self (Studies 3.1-3.2). The findings reveal the positive role of well-being in pro-environmental behavior and provide insights for promoting public participation in building a sustainable society.

Keywords: psychological richness, pro-environmental behavior, self-expansion, nature-self size

Hedonic well-being is also called subjective well-being (Diener, 1984), typically consisting of life satisfaction (Diener, 1984) and positive affect (Kahneman, 1999). Research has found that individuals with high levels of hedonism are

less willing to reduce meat consumption and save energy (Steg et al., 2014), and may also exhibit fewer pro-environmental behaviors while traveling (van Riper et al., 2019). Environmental problems such as global warming, air pollution, and resource shortages are largely caused by human behavior (Fritsche & Masson, 2021), while individuals' pro-environmental behaviors (such as saving energy and green travel) can reduce environmental damage and help protect the natural environment (Lange & Dewitte, 2019). However, when it comes to environmental protection, the general public often associates it with negative outcomes such as sacrifice, pain, and discomfort (Pritchard, 2010; Venhoeven et al., 2013). Environmental psychologists have also generally focused on the role of negative traits or emotions in pro-environmental behavior, while relatively neglecting the influence of positive factors (Corral-Verdugo, 2012). In fact, protecting the environment is related to the well-being of individuals and society, so pro-environmental behavior also stems from human motives to pursue happiness (Sagiv et al., 2015; van Riper et al., 2019).

Positive psychology research on well-being includes three orientations: hedonia (Diener, 1984), eudaimonia (Baumeister et al., 2013), and psychological richness (Oishi et al., 2019). However, previous studies have mainly focused on the effects of traditional dualistic well-being on pro-environmental behavior, and no research has yet examined the relationship between psychological richness and pro-environmental behavior. Hedonic well-being, also known as subjective well-being (Diener, 1984), is typically composed of life satisfaction (Diener, 1984) and positive affect (Kahneman, 1999). Studies have found that individuals with high hedonism are less willing to reduce meat consumption and save energy (Steg et al., 2014), and may also exhibit fewer pro-environmental behaviors during travel (van Riper et al., 2019). Unlike hedonic well-being, eudaimonic well-being emphasizes psychological well-being (Huta & Waterman, 2014), focusing more on life meaning and purpose (Martela & Steger, 2016; Steger et al., 2006). However, current empirical research indicates that eudaimonic well-being cannot directly predict pro-environmental behavior (Shin et al., 2022; van Riper et al., 2019). This suggests that defining well-being solely from hedonic and eudaimonic perspectives may limit our understanding of the relationship between pro-environmental behavior and a happy life. Moreover, excessive focus on negative traits hinders researchers' exploration of positive antecedents of pro-environmental behavior (Corral-Verdugo, 2012). Therefore, this study adopts a positive psychology perspective, focusing on the well-being orientation of psychological richness to explore how psychological richness affects pro-environmental behavior and examine the potential psychological mechanisms and boundary conditions underlying this relationship.

1.1 Psychological Richness and Pro-Environmental Behavior

Pro-environmental behavior refers to actions that help protect the natural environment and reduce environmental damage (Lange & Dewitte, 2019). The motivations behind such behavior are rooted not only in human values (Steg &

Vlek, 2009) but also in the human pursuit of happiness (Sagiv et al., 2015; van Riper et al., 2019). Unlike traditional dualistic well-being, psychological richness does not require actions or experiences to have objective value, nor does it advocate that people only pursue pleasure and avoid activities that may cause pain (Besser & Oishi, 2020). Instead, psychological richness is characterized by novel, diverse, interesting, perspective-changing, complex, and challenging life experiences (Oishi et al., 2019). It is positively correlated with holistic thinking and attributional complexity (Oishi & Westgate, 2022), and individuals with high psychological richness are more psychologically mature and wise (Grossmann et al., 2020). As a new conception of well-being, psychological richness is both a relatively stable life value orientation and a temporary psychological experience that people have in direct or indirect life experiences (Oishi & Westgate, 2022). Therefore, psychological richness is closely related to openness (Oishi et al., 2019) but differs significantly from sensation seeking personality traits that pursue dangerous stimulation and unconstrained feelings. Most importantly, the concept of psychological richness breaks the opposition of traditional dualistic well-being (Oishi & Westgate, 2022), providing new possibilities for understanding the relationship between well-being and pro-environmental behavior.

Although no research has directly examined the relationship between psychological richness and pro-environmental behavior, psychological richness is closely linked to many factors that influence pro-environmental behavior. First, openness personality is an important predictor of both psychological richness and pro-environmental behavior (Gifford & Nilsson, 2014; Oishi et al., 2019). As psychological richness increases, individuals' openness also increases (Oishi et al., 2019), so people may care more about nature, be more willing to accept novel and unusual environmental protection concepts and behaviors (Poškus, 2018), and exhibit more pro-environmental behavior (Markowitz et al., 2012). Second, psychological richness is similar to awe (Oishi & Westgate, 2022). Both are related to novel stimuli and the need for cognitive reconstruction, and both are complex, self-related emotional experiences (Keltner & Haidt, 2003; Piff et al., 2015). Awe has a positive predictive effect on pro-environmental behavior (Bethelmy & Corraliza, 2019), so psychological richness may have similar effects. Third, psychologically rich experiences can help individuals fulfill their need for self-expansion (Oishi & Westgate, 2022), and self-expansion is conducive to improving individuals' pro-environmental attitudes and behavioral intentions (Hoot & Friedman, 2011; Wolsko & Lindberg, 2013).

Therefore, we propose hypothesis H1: Individuals with higher levels of psychological richness are more willing to engage in pro-environmental behavior.

1.2 Self-Expansion, Psychological Richness, and Pro-Environmental Behavior

Self-expansion is the process by which individuals add positive content to their self-concept (Aron & Aron, 1986; McIntyre et al., 2015). Specifically, it in-

cludes incorporating new identities, characteristics, attributes, resources, knowledge, and perspectives into existing schemas and beliefs (Aron & Aron, 1986; Aron et al., 2013), or discovering previously neglected parts of the self-concept (Lewandowski & Bizzoco, 2007). A psychologically rich life helps individuals broaden their horizons and expand social relationships, fulfilling the need for self-expansion (Oishi & Westgate, 2022). Establishing intimate interpersonal relationships and pursuing novel, challenging, and interesting experiences can all broaden one's horizons (Mattingly et al., 2012), increase people's perception of the self (Aron & Aron, 1986), and thereby enrich and expand the self-concept (Mattingly & Lewandowski, 2014).

Expanding the self-concept is an indispensable component of forming sustainable social identities (Postmes et al., 2014), so self-expansion is widely used to explain the overlap between self and others and the connection between self and nature (e.g., Aron et al., 2013; Nolan & Schultz, 2014). According to the self-expansion model, Schultz (2000) argued that the characteristics and traits of the natural environment can serve the purpose of self-expansion, and thus proposed that self-expansion may include three dimensions: self, humanity, and biosphere (Nolan & Schultz, 2014; Tang et al., 2017). Among these, nature connectedness, which is closely related to pro-environmental behavior, is a type or manifestation of self-expansion (Hoot & Friedman, 2011; Olivos & Clayton, 2017). In addition, relationship self-expansion identity—that is, incorporating others or higher social units into the self (such as community identity, national identity, global citizenship, etc.)—is also positively correlated with environmental concern and environmental behavior (Brieger, 2019; Clayton & Kiliç, 2013). Therefore, on the one hand, self-expansion can reduce the psychological distance between individuals and communities, nature, and other groups (Brieger, 2019), enhance the connection between humans and nature and others (Lou & Li, 2021; Schultz, 2000), and thereby increase pro-environmental behavioral intention and frequency (Tang et al., 2017). On the other hand, self-expansion enables people to achieve self-growth (Mattingly & Lewandowski, 2014), enhance self-efficacy and competence (Aron et al., 2013), and thereby strengthen the ability to cope with complex environmental problems (Bostrom et al., 2019; Markowitz & Shariff, 2012).

Therefore, we propose hypothesis H2: Self-expansion is the mediating mechanism underlying the relationship between psychological richness and pro-environmental behavior.

1.3 The Moderating Role of Nature-Self Size

Although psychological richness has an important indirect influence on pro-environmental behavior through self-expansion, this influence may vary depending on individual differences. Therefore, it is necessary to consider whether the effect of psychological richness on pro-environmental behavior through self-expansion is moderated by other factors. Nature-self size refers to individuals' psychological representation of the relative size relationship between nature and

the self, which influences self-transcendent pro-environmental attitudes and behaviors (Jacobs & McConnell, 2022). Moreover, nature and the self change together dynamically (McConnell & Jacobs, 2020), and each has boundaries (Fodor, 2009). This means that self-expansion has limits, and its effect on pro-environmental behavior may also change as the relative size relationship between nature and the self changes. Therefore, this study explores whether nature-self size moderates the path through which psychological richness affects pro-environmental behavior via self-expansion.

For individuals who perceive nature as relatively smaller and lower in status than themselves, as self-expansion increases, people can correct their original, mistaken perceptions (Mattingly et al., 2014), develop more pro-environmental identity and perspectives on problems (Lou & Li, 2021; Udall et al., 2020), which is conducive to improving pro-environmental attitudes and behavioral intentions (Brieger, 2019; Clayton & Kilinc, 2013). Conversely, when perceiving nature as much larger than the self, people realize their own smallness and develop strong awe toward nature (Keltner & Haidt, 2003), so they also exhibit more pro-environmental behavior (Bethelmy & Corraliza, 2019). However, as individuals perceive nature as increasingly vast and grand, and the self becomes increasingly small and weak, people may develop negative awe toward nature (Gordon et al., 2017). Negative awe creates distance between people and things and triggers fear and feelings of helplessness (董蕊 et al., 2013), ultimately reducing individuals' self-control (Gordon et al., 2017) and making them prefer in-groups or smaller groups (e.g., Bai et al., 2017). This means that individuals' self-identity expansion will be limited, self-efficacy may decrease, and the effect of self-expansion on pro-environmental behavior may be weakened at this time.

Therefore, we propose hypothesis H3: Nature-self size moderates the latter half of the path through which psychological richness affects pro-environmental behavior via self-expansion. Specifically, when nature is represented as relatively larger than the self, the effect of self-expansion on pro-environmental behavior will be weakened.

1.4 Overview of Studies

This study aims to examine the relationship between psychological richness and pro-environmental behavior and its psychological mechanisms and boundary conditions. Accordingly, we propose that the higher the level of psychological richness, the higher the pro-environmental behavioral intention, and this effect is mediated by self-expansion and moderated by nature-self size. Study 1 verifies whether psychological richness can enhance pro-environmental behavioral intention through four sub-studies. Study 2 conducts four sub-studies using questionnaire surveys and experimental-causal-chain design paradigms to test whether self-expansion is the psychological mechanism underlying the relationship between psychological richness and pro-environmental behavior. Study 3 explores possible boundary conditions through two sub-studies, testing the moderating effect of nature-self size.

2 Study 1: Psychological Richness and Pro-Environmental Behavior

2.1 Study 1.1: Correlation Between Psychological Richness and Pro-Environmental Behavior

Study 1.1 used both university student and non-university student samples to test the correlation between psychological richness and pro-environmental behavior. Before formal testing, we revised the English version of the Psychologically Rich Life Questionnaire developed by Oishi et al. (2019) into Chinese. After translation and back-translation, combined with the Life Satisfaction Scale (Diener et al., 1985), Meaning in Life Scale (Steger et al., 2006), Sensation Seeking Scale (Hoyle et al., 2002), and Positive and Negative Affect Scale (Diener et al., 2010), we administered the questionnaire to 485 university students randomly recruited from Hubei, Henan, Guangdong, and Heilongjiang. Item analysis, reliability and validity tests, and equivalence tests showed that compared with the original 17-item scale, deleting items 14, 15, 16, and 17 (which all used reverse scoring and had factor loadings below 0.5) resulted in better model fit: $\chi^2 = 251.60$, $df = 62$, $\chi^2/df = 4.06$, CFI = 0.95, TLI = 0.94, NFI = 0.93, IFI = 0.95, RMSEA = 0.09, SRMR = 0.04, with stability across gender and urban/rural samples. Moreover, criterion-related validity tests showed that psychological richness was significantly positively correlated with life satisfaction ($r = 0.65$, $p < 0.001$), positive affect ($r = 0.56$, $p < 0.001$), sensation seeking ($r = 0.34$, $p < 0.001$), and meaning in life ($r = 0.62$, $p < 0.001$), but not significantly correlated with negative affect ($r = -0.04$, $p > 0.05$). Therefore, the revised Chinese version of the Psychologically Rich Life Questionnaire can be used in subsequent survey research.

2.1.1 Research Design and Procedure Through convenience sampling, 273 university students from Hubei, Henan, and Guangzhou were recruited. After obtaining informed consent, participants entered the Qualtrics platform to participate in the study. Eleven participants who did not complete all questions or failed the attention check were deleted, leaving 262 valid participants (mean age = 20.38 years, $SD = 3.32$), including 103 males and 159 females. After completing the survey, all participants received course credits as compensation. Meanwhile, survey advertisements were posted on the Tencent questionnaire platform, with recruitment requirements specifying non-university student status. A total of 227 participants were recruited, and 9 participants who responded too quickly or failed the attention check were deleted, leaving 218 valid participants (mean age = 29.42 years, $SD = 9.11$). After completing the survey, all participants received monetary compensation.

The Chinese version of the Psychologically Rich Life Questionnaire was administered to participants, with items such as “My life is rich in experiences.” All items used a 7-point Likert scale (1 = “strongly disagree,” 7 = “strongly agree”). In the university student and non-university student samples, the scale’s Cronbach’s α coefficients were 0.92 and 0.95, respectively. Next, the Pro-Environmental

Behavior Scale developed by Fielding and Head (2012) was used to measure the frequency of participants' daily environmental protection behaviors, with 6 items such as "Save energy at home." All items used a 5-point Likert scale (1 = "never," 5 = "always"). In the university student and non-university student samples, the scale's Cronbach's α coefficients were 0.71 and 0.73, respectively.

2.1.2 Results and Discussion Correlation analysis results showed that psychological richness was significantly positively correlated with pro-environmental behavior in both university student and non-university student samples, with correlation coefficients of $r(262) = 0.22$, $p < 0.001$ and $r(218) = 0.55$, $p < 0.001$, respectively. Moreover, after controlling for age (Wiernik et al., 2013) and social class (Gifford & Nilsson, 2014) in the non-university student sample, the positive correlation between psychological richness and pro-environmental behavior remained significant, $r(218) = 0.38$, $p < 0.001$. This means that individuals with higher levels of psychological richness also engaged in more environmental protection behaviors in daily life, supporting hypothesis H1. Next, we further explored the effect of psychological richness on pro-environmental behavior through experimental methods.

2.2 Study 1.2: Effect of Psychological Richness on Green Travel Behavior

According to previous research, among individuals' daily life experiences, travel has the strongest predictive power for psychological richness, while ordinary, stable daily life is associated with lower levels of perceived psychological richness (Oishi et al., 2021). Therefore, Study 1.2 used a recall paradigm to manipulate psychological richness to test its effect on pro-environmental behavior.

2.2.1 Research Design and Procedure G*Power software (Faul et al., 2007) was used to calculate that a minimum of 172 participants were needed to achieve a medium effect size ($f = 0.25$, power = 0.90). Therefore, 242 participants were recruited through the Credamo platform and randomly assigned to the psychological richness group or control group to complete the recall writing task. Ultimately, 181 participants (mean age = 30.75 years, SD = 9.25) completed the Qualtrics online questionnaire and passed the attention check, including 73 males.

Participants in the psychological richness group ($n = 86$) and control group ($n = 95$) completed a recall writing task according to instructions (minimum 80 characters). To check the manipulation, all participants completed the Psychological Richness Scale (Choi, 2019; $\alpha = 0.71$). Then, referring to Sharpe et al. (2021), participants were presented with three environmental news reports related to university students' daily lives and were invited to report their willingness to participate in environmental activities after reading them. The first two messages used positive descriptions, while the third used reverse description to reduce social desirability bias and was reverse-coded during data analysis. All

items used a 7-point Likert scale (1 = “very unwilling,” 7 = “very willing,” $\alpha = 0.76$). Finally, participants’ basic demographic information was collected.

2.2.2 Results and Discussion Manipulation check results showed that participants who recalled travel experiences ($M = 3.98$, $SD = 0.65$) reported higher psychological richness than those who recalled ordinary daily life experiences ($M = 2.97$, $SD = 0.55$), $F(1, 159) = 113.23$, $p < 0.001$, $\eta^2 = 0.41$, indicating that the psychological richness manipulation was effective. ANOVA results showed that participants in the psychological richness group ($M = 5.13$, $SD = 0.73$) also had higher willingness to participate in environmental activities than control group participants ($M = 4.87$, $SD = 0.83$), $F(1, 159) = 4.48$, $p = 0.036$, $\eta^2 = 0.03$. Moreover, after controlling for gender and age, the difference in environmental activity participation willingness between the two groups remained significant, $F(1, 157) = 2.63$, $p = 0.043$, $\eta^2 = 0.03$. Thus, Study 1.3 replicated the results of Study 1.2, again demonstrating that state psychological richness can enhance individuals’ pro-environmental behavioral intention.

2.3 Study 1.3: Effect of Psychological Richness on Willingness to Participate in Environmental Activities

Study 1.2 showed that recalling past memorable travel experiences can activate psychological richness and affect individuals’ pro-environmental behavior in future travel. However, this may also be because the recalled memorable travel experiences increased positive expectations for future travel, thereby confounding the effect of psychological richness on green travel behavior. To rule out this factor, Study 1.3 continued to use the recall paradigm to manipulate psychological richness and examined its effect on willingness to participate in environmental public welfare activities.

2.3.1 Research Design and Procedure A total of 180 university students were recruited through online promotion and offline library publicity, and 161 participants (mean age = 20.04 years, $SD = 2.27$) completed the Qualtrics online questionnaire and passed the attention check, including 116 females.

The same recall writing task as in Study 1.2 was used to manipulate psychological richness. Participants in the psychological richness group ($n = 68$) and control group ($n = 93$) completed a recall writing task according to instructions (minimum 80 characters). To check the manipulation, participants completed the Psychological Richness Scale (Choi, 2019; $\alpha = 0.93$), with items such as “I think this experience is interesting,” “...is novel,” “...is psychologically rich.” All items used a 5-point Likert scale (1 = “strongly disagree,” 5 = “strongly agree”). Then, referring to Lee et al. (2013), all participants read the following information and reported their pro-environmental behavioral intention: “Please imagine that you plan to travel to a warm southern city for one week. To what extent would you (1) ‘clean up the place after a picnic or beach leisure, leaving it as clean as before’ ; (2) ‘report to scenic area management or departments

if I see someone damaging the environment here' ; (3) 'prioritize purchasing products with environmental labels' .” All items used a 7-point Likert scale (1 = “very unlikely,” 7 = “very likely,” $\alpha = 0.52$). Finally, participants' basic demographic information was collected.

2.3.2 Results and Discussion ANOVA results showed that participants in the psychological richness group ($M = 3.85$, $SD = 0.50$) reported higher psychological richness than control group participants ($M = 2.24$, $SD = 0.71$), $F(1, 179) = 304.15$, $p < 0.001$, $\eta^2 = 0.63$, indicating that the psychological richness manipulation was effective. Moreover, participants in the psychological richness group ($M = 5.98$, $SD = 0.68$) also had higher green travel tendency than control group participants ($M = 5.62$, $SD = 0.81$), $F(1, 179) = 10.37$, $p = 0.0024$, $\eta^2 = 0.06$. After controlling for gender and age, the difference between the two groups remained significant, $F(1, 177) = 9.34$, $p = 0.003$, $\eta^2 = 0.05$. This result demonstrates that state psychological richness can also enhance individuals' pro-environmental behavioral intention.

2.4 Study 1.4: Effect of Psychological Richness on Willingness to Make Environmental Efforts

Psychological richness originates not only from novel, interesting, unexpected, complex, and challenging life experiences but also includes the indispensable factor of perspective change (Oishi & Westgate, 2022). To further verify hypothesis H1, Study 1.4 referred to Bae (2021) and manipulated perspective change to activate psychological richness, examining its effect on willingness to make environmental efforts.

2.4.1 Research Design and Procedure (1) Pilot Study

Before the formal study, we conducted a pilot study to test the experimental materials for psychological richness. Through the Credamo platform, 100 participants were recruited, and 7 participants who failed the attention check were excluded, leaving 93 valid participants (mean age = 31.42 years, $SD = 7.38$), including 36 males. After obtaining informed consent, participants were randomly assigned to the psychological richness group or control group to complete corresponding tasks. Participants in the psychological richness group ($n = 47$) first viewed an incomplete picture (without identity information) [Figure 1: see original paper], then imagined and wrote down the story behind the photo or the emotions they experienced from it. Next, participants were presented with the complete picture [Figure 1: see original paper] and the protagonist' s past 曲折 life experiences to activate perspective change. Control group participants ($n = 46$) directly saw the complete photo [Figure 1: see original paper] and were asked to write 4–6 sentences to express their thoughts and feelings. Unlike the psychological richness group, control group participants were not introduced to the protagonist' s past 曲折 life experiences. Subsequently, participants reported the degree of perspective change and psychological richness

they experienced while reading the experimental materials. Perspective change measurement items included “My view of the photo changed” and “This photo challenged some of my original beliefs” (Bae, 2021; $\alpha = 0.65$). Psychological richness measurement items were the same as in Study 1.2 (7-point Likert scale, 1 = “strongly disagree,” 7 = “strongly agree,” $\alpha = 0.79$). ANOVA results showed that the experimental group’s perspective change was significantly higher than the control group’s, but there was no significant difference in psychological richness between the two groups. Analysis of the written content revealed that the familiarity of the experimental materials might have affected participants’ psychological richness experience, so we controlled for this factor in the formal experiment.

(2) Formal Experiment

Through the Credamo platform, 200 participants were recruited to ensure the study achieved medium effect size ($f = 0.25$, power = 0.90). Six participants who did not follow instructions or failed the attention check were deleted, leaving 194 valid participants (mean age = 30.55 years, SD = 8.85), including 66 males. All participants reported that they had never seen or heard about the relevant figures in the experimental materials.

Participants in the psychological richness group ($n = 100$) and control group ($n = 94$) completed the same experimental tasks as in the pilot study and completed the Perspective Change Scale ($\alpha = 0.76$) and Psychological Richness Scale ($\alpha = 0.78$). Next, participants completed pro-environmental behavioral intention items, including “I plan to implement more behaviors that are beneficial to environmental protection,” “I plan to make more efforts to protect the environment,” and “If I have the opportunity to donate to a public welfare environmental organization, I am willing to contribute” (1 = “very unwilling,” 7 = “very willing,” Larson et al., 2015, $\alpha = 0.69$).

2.4.2 Results and Discussion Manipulation check results showed that participants in the psychological richness group ($M = 4.05$, $SD = 0.83$) had higher perspective change than the control group ($M = 3.38$, $SD = 1.04$), $F(1, 192) = 24.79$, $p < 0.001$, $\eta^2 = 0.11$. At the same time, the psychological richness group ($M = 5.67$, $SD = 0.54$) also had significantly higher psychological richness than the control group ($M = 5.50$, $SD = 0.64$), $F(1, 192) = 3.98$, $p = 0.048$, $\eta^2 = 0.02$, indicating that the psychological richness manipulation was effective. ANOVA results showed that participants in the psychological richness group ($M = 6.1$, $SD = 0.61$) exhibited higher pro-environmental behavioral intention than the control group ($M = 5.92$, $SD = 0.78$), $F(1, 192) = 5.26$, $p = 0.023$, $\eta^2 = 0.03$. After controlling for gender and age, the difference in pro-environmental behavior between the two groups remained significant, $F(1, 190) = 8.22$, $p = 0.005$, $\eta^2 = 0.04$. Therefore, Study 1.4 replicated the results of Studies 1.2 and 1.3, again confirming the positive effect of state psychological richness on pro-environmental behavior.

In summary, through questionnaire surveys and experimental research, Study 1 found that both trait psychological richness and state psychological richness can enhance individuals' willingness to engage in pro-environmental behavior, thereby supporting hypothesis H1.

3 Study 2: The Mediating Mechanism Between Psychological Richness and Pro-Environmental Behavior

3.1 Study 2.1: Relationships Among Psychological Richness, Self-Expansion, and Pro-Environmental Behavior

Study 2.1 used a questionnaire survey to explore the relationships among psychological richness, self-expansion, and pro-environmental behavior and to test whether self-expansion is the mediating mechanism between psychological richness and pro-environmental behavior.

3.1.1 Research Design and Procedure Through the Credamo platform, 203 participants were randomly recruited. Three participants who failed the attention check were excluded, leaving a final valid sample of 200 participants (mean age = 30.67 years, SD = 8.99), including 76 males.

The Chinese version of the Psychologically Rich Life Questionnaire ($\alpha = 0.92$), Pro-Environmental Behavior Scale (Fielding & Head, 2012, $\alpha = 0.71$), and Personal Self-Expansion Questionnaire (Mattingly & Lewandowski, 2013, $\alpha = 0.74$) were administered. The Self-Expansion Questionnaire contains 5 items, such as "My past life experiences have broadened my understanding of things." All items used a 7-point Likert scale (1 = "strongly disagree," 7 = "strongly agree"). Finally, participants' basic demographic information was collected.

3.1.2 Results and Discussion Correlation analysis results showed that psychological richness was significantly positively correlated with pro-environmental behavior, $r(276) = 0.56$, $p < 0.001$, and with self-expansion, $r(276) = 0.68$, $p < 0.001$. Self-expansion was also significantly positively correlated with pro-environmental behavior, $r(276) = 0.42$, $p < 0.001$.

[Figure 2: see original paper] Study 2.1 Mediation Model Diagram. Note: $N = 276$, *** $p < 0.001$

With pro-environmental behavior as the dependent variable, psychological richness as the independent variable, self-expansion as the mediating variable, and age (Wiernik et al., 2013) and gender (Zelezny et al., 2000) as control variables, mediation analysis was conducted using Model 4 in the Process plugin. The path coefficients are shown in Figure 2. Bootstrap analysis with 5,000 samples showed that the mediating effect of self-expansion was significant, $b = 0.13$, $SE = 0.03$, 95% CI [0.08, 0.18]. This indicates that self-expansion plays a significant mediating role between psychological richness and pro-environmental behavior, supporting hypothesis H2.

3.2 Study 2.2: Effect of Psychological Richness on Self-Expansion

Study 2.2 used the same experimental method as Study 1.4 to manipulate psychological richness and test its effect on self-expansion.

3.2.1 Research Design and Procedure The manipulation of psychological richness was the same as in Study 1.4. Participants in different experimental conditions completed the perspective change task according to instructions. Next, participants reported the degree of perspective change experienced during the experiment (as in Study 1.4, $\alpha = 0.76$), psychological richness (as in Study 1.2, Choi, 2019; $\alpha = 0.84$), and self-expansion level (as in Study 2.1, $\alpha = 0.86$). To exclude the influence of material familiarity, participants reported their familiarity with the news stories in the experimental materials (1 = “very unfamiliar,” 7 = “very familiar”). Finally, participants’ basic demographic information was collected.

3.2.2 Results and Discussion Manipulation check results showed that participants in the psychological richness group ($M = 3.94$, $SD = 0.85$) had significantly higher perspective change than the control group ($M = 3.35$, $SD = 1.11$), $F(1, 198) = 17.75$, $p < 0.001$, $\eta^2 = 0.08$, and also higher psychological richness ($M = 5.74$, $SD = 0.55$) than the control group ($M = 5.30$, $SD = 0.81$), $F(1, 198) = 20.23$, $p < 0.001$, $\eta^2 = 0.09$. Moreover, all participants reported that they were unfamiliar with or had no knowledge of the news stories in the experimental materials, indicating that the psychological richness manipulation was effective. In addition, compared with the control group ($M = 5.59$, $SD = 0.96$), participants in the psychological richness group ($M = 5.96$, $SD = 0.61$) also had significantly higher self-expansion levels, $F(1, 198) = 10.91$, $p = 0.001$, $\eta^2 = 0.005$. After controlling for gender and age, the difference in self-expansion levels between the two groups remained significant, $F(1, 196) = 12.22$, $p = 0.001$, $\eta^2 = 0.06$. This indicates that psychological richness can significantly affect individuals’ self-expansion levels.

3.3 Study 2.3: Effect of Self-Expansion on Pro-Environmental Behavior

Based on Study 2.2, Study 2.3 drew on previous research paradigms to manipulate self-expansion and test its effect on pro-environmental behavior.

3.3.1 Research Design and Procedure A total of 223 participants were recruited through the Credamo platform to meet the minimum sample size of 172 required for between-subjects experimental design calculated by G*Power software (Faul et al., 2007; $f = 0.25$, power = 0.90). Sixteen participants who did not respond according to instructions or failed the attention check were deleted, leaving a final valid sample of 207 participants (mean age = 28.95 years, $SD = 9.01$), including 95 males.

Referring to the experimental paradigm of self-expansion in Besta et al. (2018), participants in the experimental group ($n = 103$) recalled and wrote about a collective activity they had recently participated in according to instructions, while participants in the control group ($n = 104$) recalled and wrote about a meal they had alone yesterday according to instructions, with both requiring a minimum of 80 characters.

For manipulation check, participants completed the Personal Self-Expansion Questionnaire (as in Study 2.3, Mattingly & Lewandowski, 2013, $\alpha = 0.89$). Subsequently, participants were presented with a recruitment message for an environmental activity and were asked to report their pro-environmental behavioral intention after reading it (Gärling et al., 2003, $\alpha = 0.73$), including “I will donate to environmental organizations,” “I will sign a petition supporting environmental activities,” and “I will participate in online or offline campaigns to boycott companies that damage the environment” (1 = “very unlikely,” 7 = “very likely”). Finally, participants’ basic demographic information was collected.

3.3.2 Results and Discussion Manipulation check results showed that participants in the experimental group ($M = 5.71$, $SD = 0.85$) had significantly higher self-expansion levels than the control group ($M = 5.06$, $SD = 1.38$), $F(1, 205) = 21.83$, $p < 0.001$, $\eta^2 = 0.10$, indicating that the self-expansion manipulation was effective. ANOVA of pro-environmental behavioral intention found that the experimental group ($M = 5.89$, $SD = 0.77$) reported higher pro-environmental behavioral intention than the control group ($M = 5.52$, $SD = 1.03$), $F(1, 205) = 8.79$, $p = 0.003$, $\eta^2 = 0.04$. Moreover, after controlling for age and gender, the difference between the two groups remained significant, $F(1, 203) = 7.05$, $p = 0.009$, $\eta^2 = 0.03$. This indicates that self-expansion significantly affects individuals’ pro-environmental behavioral intention.

3.4 Study 2.4: Psychological Richness Affects Pro-Environmental Behavior Through Self-Expansion

To further verify hypothesis H2, Study 2.4 used experimental methods to manipulate psychological richness to examine the mediating role of self-expansion in the relationship between psychological richness and pro-environmental behavior.

3.4.1 Research Design and Procedure G*Power 3.1 software (Faul et al., 2007) calculated that a minimum sample size of 172 was needed for a single-factor between-subjects design ($f = 0.25$, power = 0.90). Therefore, 211 participants were randomly recruited through the Credamo platform, and 3 participants who failed the attention check were deleted, leaving a final valid sample of 208 participants (mean age = 27.76 years, $SD = 7.76$), including 79 males.

Participants in the psychological richness group ($n = 101$) and control group ($n = 107$) completed the same recall writing task as in Study 1.2 and completed

the Psychological Richness Questionnaire (as in Study 1.2, $\alpha = 0.95$) and Self-Expansion Questionnaire (as in Study 2.1, $\alpha = 0.83$). Then, referring to Wu and Yang (2018), participants were asked to imagine they were going on a trip and choose between two travel options, with option one being taking a plane and option two being taking a train (pro-environmental behavior). Finally, participants' basic demographic information was collected.

3.4.2 Results and Discussion Manipulation check results showed that participants in the psychological richness group ($M = 4.18$, $SD = 0.34$) reported higher psychological richness than control group participants ($M = 2.74$, $SD = 0.78$), $F(1, 206) = 290.97$, $p < 0.001$, $\eta^2 = 0.59$, indicating that the psychological richness manipulation was effective. Option two was coded as 1, and with gender and age as covariates and psychological richness as the independent variable, logistic regression analysis was conducted on option two. Results showed that psychological richness significantly predicted pro-environmental behavior, $b = 0.95$, $SE = 0.29$, Wald $\chi^2 = 10.75$, $p = .001$. Consistent with the hypothesis, 47.66% of participants in the control group chose option two, while 70.29% of participants in the psychological richness condition tended to choose the environmentally friendly travel mode. Meanwhile, gender and age had no significant effect on travel option choice ($ps > 0.07$).

The mediating role of self-expansion in the relationship between psychological richness and pro-environmental behavior was further tested. With psychological richness as the independent variable, pro-environmental behavior as the dependent variable, self-expansion as the mediating variable, and gender and age as control variables, mediation analysis was conducted using Model 4 in the Process plugin. Bootstrap analysis with 5,000 samples showed that the mediating effect of self-expansion was significant, $b = 0.16$, $SE = 0.09$, 95% CI [0.02, 0.37]. This indicates that self-expansion plays a significant mediating role between psychological richness and pro-environmental behavior, again supporting hypothesis H2.

[Figure 3: see original paper] Study 2.4 Mediation Model Diagram. Note: $N = 208$, * $p < 0.05$, ** $p < 0.01$

4 Study 3: The Moderating Role of Nature-Self Size

Study 2 found that self-expansion is the reason why psychological richness affects pro-environmental behavior. Based on this, Study 3 explores whether the mediating process of self-expansion is moderated by nature-self size.

4.1 Study 3.1: Experimental Manipulation of Psychological Richness

Study 3.1 used a recall priming method to manipulate psychological richness to test the moderating effect of nature-self size.

4.1.1 Research Design and Procedure Through the Credamo platform, 223 participants were recruited, and 12 participants who failed the attention check or did not complete the task according to instructions were deleted, leaving a final valid sample of 211 participants (mean age = 28.81 years, SD = 7.25), including 89 males.

The same experimental method as in Study 1.2 was used to manipulate psychological richness. Participants in the psychological richness group ($n = 100$) and control group ($n = 111$) completed different recall writing tasks according to instructions. Subsequently, participants completed the Psychological Richness Questionnaire (as in Study 1.2, Choi, 2019; $\alpha = 0.94$) and Self-Expansion Questionnaire (as in Study 2.3, Mattingly & Lewandowski, 2013; $\alpha = 0.91$). Next, participants reported the extent to which they were willing to make sacrifices to protect the environment (Liu & Sibley, 2012; $\alpha = 0.74$), including “To protect the natural environment, I am willing to make certain sacrifices in living standards (e.g., accept higher prices, drive less, save energy)” and “To protect the environment, I am willing to change daily habits” (1 = “very unwilling,” 7 = “very willing”). To understand how participants represented the size relationship between themselves and nature, the Nature-Self Size Questionnaire developed by McConnell and Jacobs (2020) was administered. In this questionnaire, the self and nature are represented by two separate circles. From picture 1 to picture 7, the circle representing the self gradually becomes smaller, while the circle representing nature gradually becomes larger. The larger the number selected, the larger the individual perceives nature to be and the smaller the self to be. Finally, participants’ basic demographic information was collected.

4.1.2 Results and Discussion Manipulation check results showed that participants in the psychological richness group ($M = 4.15$, $SD = 0.35$) had higher psychological richness than control group participants ($M = 2.60$, $SD = 0.76$), $F(1, 209) = 347.65$, $p < 0.001$, $\eta^2 = 0.62$, indicating that the psychological richness manipulation was effective. Similarly, ANOVA of environmental protection willingness also found that the psychological richness group ($M = 5.58$, $SD = 0.71$) was more willing to make sacrifices to protect the environment than the control group ($M = 5.18$, $SD = 1.08$), $F(1, 209) = 9.54$, $p = 0.002$, $\eta^2 = 0.044$. After controlling for gender and age, the difference between the two groups remained significant, $F(1, 207) = 6.49$, $p = 0.012$, $\eta^2 = 0.03$.

Next, the psychological richness group was coded as 1, the control group as 0, gender and age as control variables, psychological richness as the independent variable, environmental protection willingness as the dependent variable, and self-expansion as the mediating variable. Moderated mediation analysis was conducted using Model 14 in Process. Results showed that nature-self size significantly affected environmental protection willingness, $b = 0.58$, $SE = 0.16$, $t = 3.65$, 95% CI [0.25, 0.89]. The interaction between self-expansion and nature-self size significantly affected environmental protection willingness, $b = -0.10$, $SE = 0.03$, $t = -3.23$, $p = 0.0014$, 95% CI [-0.17, -0.04]. Meanwhile, the moder-

ated mediation index = -0.15, SE = 0.07, 95% CI [-0.30, -0.04], indicating that nature-self size moderated the latter half of the path through which psychological richness affects environmental protection willingness via self-expansion.

[Figure 4: see original paper] The Moderating Effect of Nature-Self Size in Study 3.1

Simple slope analysis results shown in Figure 4 revealed that when nature was perceived as relatively larger than the self, self-expansion significantly positively predicted environmental protection willingness, $b = 0.23$, SE = 0.06, $t = 3.81$, $p < 0.001$, 95% CI [0.11, 0.35]. When nature was perceived as relatively smaller than the self, self-expansion also significantly positively predicted environmental protection willingness, $b = 0.45$, SE = 0.06, $t = 7.05$, $p < 0.001$, 95% CI [0.35, 0.58]. Moreover, when nature was relatively smaller than the self, the predictive effect of self-expansion on environmental protection willingness was stronger, verifying hypothesis H3.

4.2 Study 3.2: Correlational Study of Nature-Self Size, Psychological Richness, Self-Expansion, and Pro-Environmental Behavior

To replicate the results of Study 3.1, Study 3.2 used cross-sectional survey data to test the moderating effect of nature-self size again.

4.2.1 Research Design and Procedure Through the Credamo platform, 560 participants were recruited, and 10 participants who failed the attention check were deleted, leaving a final valid sample of 550 participants (mean age = 30.11 years, SD = 6.56), including 217 males.

First, participants completed the Psychologically Rich Life Questionnaire (as in Study 1.1, $\alpha = 0.92$), Self-Expansion Questionnaire (as in Study 2.1, Mattingly & Lewandowski, 2013, $\alpha = 0.83$), and Nature-Self Size Questionnaire (as in Study 3.1, McConnell & Jacobs, 2020). Next, the Pro-Environmental Behavior Questionnaire (Gu et al., 2020, $\alpha = 0.67$) was administered, including items such as “turn off lights when leaving the room,” “set air conditioning temperature to 26-28 degrees in summer,” and “print and copy double-sided.” Participants needed to report the frequency of these activities in their daily lives (1 = “never,” 5 = “always”). Finally, participants’ basic demographic information was collected.

4.2.2 Results and Discussion Correlation analysis results showed that psychological richness was significantly positively correlated with self-expansion, $r(550) = 0.68$, $p < 0.001$, and with pro-environmental behavior, $r(550) = 0.50$, $p < 0.001$. Self-expansion was also significantly positively correlated with pro-environmental behavior, $r(550) = 0.54$, $p < 0.001$. The correlations between nature-self size and the main variables were not significant.

Next, with gender and age as control variables, moderated mediation analysis was conducted using Model 14 in Process. Results showed that nature-self size significantly positively predicted pro-environmental behavior, $b = 0.36$, SE =

0.07, $t = 5.01$, $p < 0.001$. The interaction between self-expansion and nature-self size significantly predicted pro-environmental behavior, $b = -0.06$, $SE = 0.01$, $t = -4.69$, $p < 0.001$, 95% CI $[-0.08, -0.03]$, indicating that nature-self size affects the relationship between self-expansion and pro-environmental behavior. Meanwhile, the moderated mediation index = -0.03 , $SE = 0.01$, 95% CI $[-0.05, -0.02]$, indicating that nature-self size moderates the path through which psychological richness affects pro-environmental behavior via self-expansion.

Further simple slope analysis, with results shown in Figure 5, revealed that when nature was perceived as larger than the self, self-expansion significantly positively predicted pro-environmental behavior, $b = 0.11$, $SE = 0.04$, $t = 3.08$, $p = 0.002$, 95% CI $[0.04, 0.19]$. When nature was perceived as smaller than the self, self-expansion also significantly positively predicted pro-environmental behavior, $b = 0.26$, $SE = 0.03$, $t = 8.21$, $p < 0.001$, 95% CI $[0.20, 0.32]$. Moreover, when nature was perceived as smaller than the self, the predictive effect of self-expansion on pro-environmental behavior was stronger. Therefore, Study 3.2 replicated the results of Study 3.1 and supported hypothesis H3.

[Figure 5: see original paper] The Moderating Effect of Nature-Self Size in Study 3.2

This study explored how psychological richness affects pro-environmental behavior and its underlying mechanisms and boundary conditions. Through ten progressive studies, we found that psychological richness can enhance pro-environmental behavioral intention, self-expansion mediates this relationship, and this mediating process is moderated by nature-self size. Overall, this study used recall priming paradigms (Studies 1.2–1.3, Study 2.4, Study 3.1) and information priming paradigms (Studies 1.4, 2.2), examined various pro-environmental behaviors including green travel behavior (Study 1.2), environmental activity participation willingness (Study 1.3), and environmental effort willingness (Study 1.4), combined questionnaire surveys (Studies 1.1, 2.1, 3.2) and experimental-causal-chain designs (Studies 2.2–2.4), and included samples of university students (Studies 1.1, 1.3) and multi-occupational populations from online platforms (Studies 1.3–1.4, 2.1–3.2). Therefore, the diverse experimental manipulation methods and sample groups provide assurance for the robustness of the research results.

5.1 Effect of Psychological Richness on Pro-Environmental Behavior

Study 1 explored the effect of psychological richness on pro-environmental behavior through four sub-studies and found that both trait psychological richness and state psychological richness can enhance individuals' willingness to engage in pro-environmental behavior, thereby supporting hypothesis H1. This result extends research on the antecedents of pro-environmental behavior from a positive psychology perspective and enriches the exploration of pro-environmental behavior antecedents. Although researchers have gradually begun to focus on the relationship between well-being and pro-environmental behavior after rec-

ognizing the “negative bias” in environmental psychology research (Pritchard, 2010), results have shown that hedonic well-being is typically negatively correlated with pro-environmental behavior (Steg et al., 2011), while eudaimonic well-being cannot directly predict pro-environmental behavior (Shin et al., 2022; van Riper et al., 2019). Shin et al. (2022) suggested that this may be because traditional dualistic well-being is related to self-centered needs (e.g., power, social status) and temporary happiness. In other words, hedonism and eudaimonia emphasize the outcomes and values of behaviors, so individuals may consider more the costs and benefits of pro-environmental behavior (Steg & Vlek, 2009), resulting in lower willingness to engage in pro-environmental behavior. However, psychological richness does not require behaviors or activities to have objective value and meaning but emphasizes experiencing and feeling diverse life experiences with an open mind (Besser & Oishi, 2020), providing new ideas for exploring the relationship between well-being and pro-environmental behavior. Therefore, this study focused on the well-being orientation of psychological richness and found that pursuing a psychologically rich life can increase people’s pro-environmental behavioral intention.

Although no research has directly examined the effect of psychological richness on pro-environmental behavior, some studies have shown that individuals with high psychological richness are more likely to accept social change (Oishi & Westgate, 2022). This study verified this conclusion in the field of environmental protection and also enriched the exploration of the consequences of psychological richness. Oishi et al. examined the relationships among hedonism, eudaimonia, psychological richness, and system justification and social change, finding that traditional dualistic well-being was positively correlated with system justification, while psychological richness was negatively correlated with system justification. This means that individuals with traditional dualistic well-being are more likely to maintain existing social order, while individuals with psychological richness are more likely to accept social change (Oishi & Westgate, 2022). Environmental problems have become universal challenges for social development, urgently requiring people to change their behavior to mitigate the impact of environmental degradation (Eom et al., 2019). The results of Study 1 support previous research conclusions, finding that individuals with high psychological richness are more willing to support social change in environmental protection, accept environmental protection concepts and lifestyles, and actively engage in pro-environmental behavior in daily life (Poškus, 2018). Therefore, our research shows that pursuing happiness

Note: Figure translations are in progress. See original paper for figures.

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