

Article

Ethnic Identity Development, Post-Traumatic Stress Symptoms, and Relationships with Primary Caregivers: A Two-Wave Longitudinal Study among Yi Ethnic Minority Youths in Rural China School Settings

Angel Hor-Yan Lai ¹, Hong Yao ^{2,*}, Mengtong Chen ¹ and Wendy Suet-Yee Lau ³

¹ Department of Social Science, The Hong Kong Polytechnic University, Hong Kong, China; angelhy.lai@polyu.edu.hk (A.H.-Y.L.); jenna.mt.chen@polyu.edu.hk (M.C.)

² School of Ethnology and Sociology, Minzu University of China, Beijing 100086, China

³ Faculty of Education, The University of Hong Kong, Hong Kong, China; wendy.lau@connect.hku.hk

* Correspondence: yaoh@muc.edu.cn

Abstract: Background. This study examined the effects of post-traumatic stress symptoms and child–primary caregiver relationships on the ethnic identity of Yi ethnic minority adolescents ($n = 550$; aged 13–18) in rural China over one school year. The moderating effect of caregivers’ relationships over time and ethnic identity, and post-traumatic stress and ethnic identity, were investigated. Methods. Participants completed two waves of the survey. Longitudinal multilevel modeling was used. Results. (1) Ethnic identity exploration increased over time, while ethnic identity commitment remained stable. (2) Post-traumatic stress symptoms led to high levels of ethnic identity exploration and commitment. (3) Participants with distinct caregivers’ relationship patterns, i.e., secured, optimal, deprived, and disengaged, differed in their ethnic identity exploration scores, but not in ethnic identity commitment. (4) While the secured group scored highest in their ethnic identity development over time, youths who felt disengaged with their caregivers showed the fastest rate of positive change in their ethnic identity exploration. (5) Having a secured caregivers’ relationship weakened the effect of post-traumatic stress on ethnic identity exploration. Conclusion. Practical implications for the meaning of ethnic identity exploration, the promoting effect of caregivers’ relationships, and the negative impact of post-traumatic stress among ethnic minority youths were discussed. Future research directions were also proposed.

Keywords: ethnic identity development; post-traumatic stress symptoms; relationships with primary caregivers; ethnic minority; adolescents; rural China



Citation: Lai, A.H.-Y.; Yao, H.; Chen, M.; Lau, W.S.-Y. Ethnic Identity Development, Post-Traumatic Stress Symptoms, and Relationships with Primary Caregivers: A Two-Wave Longitudinal Study among Yi Ethnic Minority Youths in Rural China School Settings. *Adolescents* **2022**, *2*, 184–204. <https://doi.org/10.3390/adolescents2020016>

Received: 17 February 2022

Accepted: 30 March 2022

Published: 7 April 2022

Publisher’s Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Ethnic identity is a central part of the integral self of ethnic minority youths that is conducive to positive adulthood outcomes, such as higher levels of self-efficacy and self-esteem and lower levels of depressive symptoms and externalizing behaviors, in ethnic minority young people [1–3]. Using the experiences of Yi young people, this study examined the ethnic identity development of native ethnic minority adolescents in rural Chinese school settings who have experienced the traumatizing adversities of parental loss, chronic poverty, and discrimination. In particular, we investigated the effects of post-traumatic stress symptoms and child–primary caregiver relationships on their ethnic identity development. In the following paper, we review Phinney’s ethnic identity development theory and discuss how post-traumatic stress symptoms and child–primary caregiver relationships are conceptualized to address ethnic identity. Then, we describe our study participants, who are Yi adolescents in rural China. Drawing from the case studies of Yi youths, this paper offers additional knowledge on other international ethnic minorities in post-traumatic situations.

1.1. Phinney's Ethnic Identity Development Theory

Ethnic identity is a multifaceted concept of self, consisting of content and process components [3,4]. "Content" refers to the beliefs and attitudes that ethnic minorities have about their own ethnic group [3]. Feeling attached, belonging, and being committed to one's own ethnicity are the positive beliefs that are identified as strong ethnic identity commitment [4–6]. "Process" refers to how these beliefs and attitudes toward one's own ethnic group are developed. Those with a high willingness to explore their ethnicity show strong ethnic identity exploration [3]. The two factors of ethnic identity commitment and ethnic identity exploration are the outcomes of interest in this study.

Phinney's ethnic identity development theory [7] describes four distinct stages of ethnic identity formation, namely:

1. Foreclosure—when individuals have little awareness of their ethnic identity;
2. Diffusion—when individuals start to form a sense of attachment with their ethnicities without having understood the meaning of their ethnic group memberships in terms of themselves;
3. Mortarium—when individuals engage in activities or discussions that allow them to understand the wider meaning of their ethnicities; and
4. Ethnic identity achievement—when individuals develop a strong sense of ethnic identity, marked by high levels of ethnic identity commitment and ethnic identity exploration.

The stage of mortarium most commonly takes place during adolescence [8,9], when ethnic minority young people experience the anxiety-provoking process of internalizing the good and bad elements of their ethnicities, including practices and beliefs that may contradict the prevailing modern values [10]. When ethnic minority individuals resolve the conflict stage of their identity search, they are said to have reached ethnic identity achievement [4,10,11].

The formation of ethnic identity varies according to different socio-cultural contexts [3,9,12]. For example, using the multilevel growth modeling technique, Pahl and Way [9] found that Black adolescents experienced a faster growth rate in their identity exploration than Latinos in the United States. However, in other research among multi-ethnic groups in the US, growth modeling analysis showed that their ethnic identity exploration remained stable [12,13]. A study on American Indian high-school students also showed no change in their ethnic identity over time using latent growth analysis [14].

These mixed findings could be explained by the different collective experiences of distinct ethnic groups [9,12]. Ethnic groups who experience high levels of oppression in mainstream society might develop a solid ethnic identity to protect themselves from the damaging effects of discrimination [7,15]. Taking Black adolescents as an example, the collective ancestral trauma of slavery might have triggered their defensive mechanism to make them actively look for positive information about their race, developing a sense of Black pride to feel better about themselves and their situation [15–17]. On the other hand, even though American Indians also experienced the trauma of racial and historical oppression and colonialization, their loss of cultural identity might have demotivated them to search for the meaning of being American Indians [18]. Currently, this field of study is still accruing new knowledge about the concept of ethnic identity in non-Western settings, especially among ethnic minorities who have experienced collective ethnicity-related adversities [16]. For this article, we adopted multilevel growth modeling analysis [9] and used Yi adolescents in rural China as an example to examine the development of their ethnic identity exploration and commitment over time.

1.2. Effect of Post-Traumatic Stress on Ethnic Identity

The ethnic identity development theory postulates a positive relationship between post-traumatic stress and ethnic identity [7,15]. Traumatized ethnic minority individuals establish a strong sense of ethnic identity as a psychological defense against developing poor emotional and mental health outcomes [7,15]. Attachment to their own ethnic community and receiving positive reinforcement about their own ethnicity offered a protective effect to

those who experienced high levels of stress symptoms [7,15]. This argument echoes our earlier discussion on the variation in ethnic identity development trajectories among different ethnic or racial groups, as explained by their distinctive collective experiences of being oppressed and discriminated against as a cultural group [9,12]. Among racially diverse undergraduate students in the United States, a positive association was found between ethnic identity and post-traumatic symptoms in the context of racism-related stress [19]. Aymara indigenous adolescents in Chile who have experienced poverty, oppression, and cultural loss were also found to have higher levels of ethnic identity exploration than non-indigenous youths [20]. In aboriginal children in Australia, positive feelings toward their cultural group protected them against the negative impact of racial oppression [21]. To date, few studies have examined post-traumatic stress and ethnic identity in other native ethnic minority groups in Asia who have undergone similar adversities. In line with the existing findings and using Yi youths in rural China as an example, this research examined the association between post-traumatic stress and ethnic identity.

1.3. Effect of Primary Caregiver Relationships on Ethnic Identity

A primary caregiver is an immediate person who shapes the ethnic identity formation of ethnic minority adolescents [1]. Previous multi-ethnic studies have shown that ethnic minority adolescents who received higher levels of parental support developed a stronger sense of ethnic identity [22,23]. Longitudinal studies also found that positive parental support and parent-child relationships were associated with a stronger sense of ethnic identity in adolescents of different ethnic minorities in the US [12,24]. On the other hand, parent-child conflict correlated with a weaker sense of ethnic identity among multi-ethnic/racial groups in the US [23]. Findings regarding the effect of child–primary caregiver relationships and ethnic identity are limited among indigenous minority youths who have undergone racial oppression and cultural loss. The authors identified one study showing a positive association between relationships with family members and ethnic identity in Maori adolescents in New Zealand, who experienced the collective trauma of poverty, historical loss, and structural racism [25,26]. To offer additional evidence on the effect of child–primary caregiver relationships on ethnic identity, this article used multilevel modeling analysis to examine this association among Yi ethnic minority youths in rural China. In particular, we contributed new knowledge by examining whether child–primary caregiver relationships moderated (i) the effect of time on ethnic identity and (ii) the effect of post-traumatic stress on ethnic identity.

The positive effect of primary caregivers' relationships on ethnic identity can be explained by the attachment theory [27]. This theory states that young children form schemas of relationship representations with their primary caregivers, which later influence their outlook on the world [28]. Those who develop a secure relationship with their caregivers tend to see the world as a safe place and will naturally be more willing to explore the world, develop better emotional regulation strategies and, thus, demonstrate better adulthood outcomes [27,28]. As ethnic identity constitutes a part of the self-perception of ethnic minority individuals [4], it makes sense that those with better relationships with their caregivers develop a stronger sense of ethnic identity. The sense of attachment to primary caregivers was operationalized into the dimensions of emotional quality and psychological proximity-seeking [29]. Emotional quality included both positive and negative emotions toward caregivers [29]. Proximity-seeking reflected young people's desire to get emotionally closer to their caregivers. From these two dimensions, four patterns of child–primary caregiver relationships were identified [29]: optimal, i.e., high in emotional quality and low in proximity-seeking; disengaged, i.e., low in both dimensions; confused, i.e., high in both dimensions; and deprived, i.e., low in emotional quality but high in proximity-seeking. Those with optimal relationships were referred to as having a secure attachment with their primary caregivers, while the disengaged, confused, and deprived groups were regarded as having an insecure attachment. These four patterns were adapted to categorize the

relationship patterns with primary caregivers among the participants of this research, i.e., Yi youths.

1.4. Context of This Research: The Case of the Yi Ethnic Minority in Rural China

China has 56 ethnic groups, with Han being the ethnic majority, constituting 91% of the total population [30]. The remaining 9% are defined as being ethnic minorities who are also the indigenous population [30]. The Yi is the sixth-largest native ethnic minority group in the southwestern part of China [31], with most of them living in the Liangshan Yi Autonomous Prefecture (Liangshan) [32]. Liangshan is one of the 14 most impoverished rural regions identified by China in 2012 [31]. Similar to indigenous young people in other parts of the world, the Yi are isolated in their remote mountainous regions and have suffered from cultural loss associated with their history of oppression from the majority Han ethnic group [33]. Due to rural Liangshan's arid climate and inaccessibility, Yi youths grow up in extreme poverty with few necessities, such as food, clean water, and proper shelter [33].

On top of that, many young Yi people have experienced parental loss. Approximately 40% of them lost at least one of their parents, according to a survey conducted among 328 Yi children in 2009 [34]. Experiences of parental loss among Yi young people are primarily due to poor health and unexpected injuries/fatalities in the hazardous mountainous region [34,35]. In earlier years, the high incidence of HIV/AIDS infection in Liangshan was also a contributing factor [36–38]. Located along a major drug route between the Golden Triangle area and Mainland China, Liangshan was a convenient location for heroin smuggling. Many deprived Yi people carried drugs for fast cash, and some became drug users [38,39]. As Yi people had limited access to proper public health and medical facilities, intravenous drug use and needle-sharing led to cases of HIV contraction, which slowly developed into AIDS, resulting in their deaths [36–39]. The combination of poverty, parental loss, drug abuse, and the HIV/AIDS pandemic in the area thus became a collective trauma of the Yi people.

Yi orphans are often adopted by their grandparents or relatives [40]. Primary caregivers play a vital role in the positive psychosocial development of Yi youths, with earlier research indicating their positive effect on Yi children's social skills development [34]. Building on this evidence, it is worthwhile to investigate positive primary caregivers as a family asset to promote the well-being of Yi orphans.

Schools also play a role in enhancing the positive outcomes of young Yi people. Currently, the local Liangshan government collaborates with various non-profit organizations to sponsor the boarding fees of Yi children [33,37,41,42]. This collaboration provides Yi children with a safe and convenient learning environment, negating the need to travel between their remote villages and schools. To further promote learning opportunities for Yi girls, additional support is given to set up all-female classes [43]. Findings on Yi primary-school children showed that they developed positive social skills, behavioral health, and academic motivation after attending the local schools [34,44]. However, these students' sense of ethnic identity declined over time [45]. The rural education curriculum focuses on academic excellence and preparing students to survive in the Han-driven economy, resulting in school management placing a lower priority on the teachings of ethnic minority culture and traditions [46–48]. Such an experience is similar to that of the indigenous populations in Western societies [17,26]. Furthermore, studies showed that young persons from the Yi ethnic minority perceived their own culture as inferior and un-modernized/backward compared to the Han majority, due to their experiences of poverty and the HIV/AIDS pandemic [49,50]. Being disdained in Han-dominated school settings, it makes sense that Yi primary-school children may have lost the connection to their ethnic roots and become ambivalent regarding understanding their ethnic culture [8].

As ethnic identity is an integral part of the sense of self in ethnic minorities [2], it is vital to promote ethnic minority and indigenous students' attachment to their ethnic group. Currently, additional evidence is needed to capture the factors associated with

their ethnic identity. Like other indigenous youths in the international context, Yi youths also experienced the collective trauma of poverty, discrimination, and cultural loss. In addition, they suffered from parental loss. Using Yi youths as a case study of the experience of indigenous young people in non-Western regions, this study examines the effects of post-traumatic stress symptoms and child–primary caregiver relationships on their ethnic identity development in rural Chinese school settings. We also focused on understanding how relational quality with primary caregivers affected the Yi’s ethnic identity development over time and how it could ameliorate the potential impact of post-traumatic stress.

1.5. Purpose of the Study

In line with the existing literature and theories, this study aimed to understand the effects of (1) post-traumatic stress symptoms and (2) child–primary caregiver relationships on the ethnic identity development of Yi adolescents (Figure 1). We hypothesized that the ethnic identity exploration and ethnic identity commitment of Yi adolescents would positively change over time (Hypotheses 1.1. and 1.2). High levels of post-traumatic stress would lead to high levels of ethnic identity exploration and commitment (Hypotheses 2.1 and 2.2). Better child–primary caregiver relationships would increase ethnic identity exploration and ethnic identity commitment scores (Hypotheses 3.1. and 3.2). The rate of change in ethnic identity exploration and ethnic identity commitment would differ among those with high versus low levels of post-traumatic stress (Hypotheses 4.1 and 4.2). Child–primary caregiver relationships would moderate the effect of post-traumatic stress on ethnic identity exploration and ethnic identity commitment (Hypotheses 5.1 and 5.2). The hypotheses were:

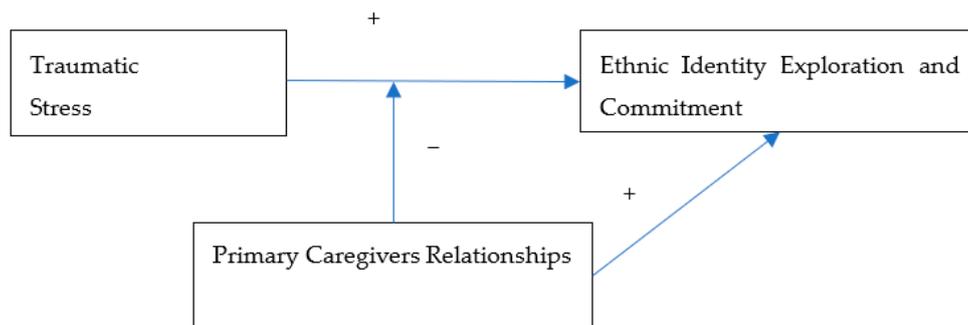


Figure 1. Conceptual model.

Hypothesis 1.1. *The index of time had a positive effect on ethnic identity exploration.*

Hypothesis 1.2. *The index of time had a positive effect on ethnic identity commitment.*

Hypothesis 2.1. *Post-traumatic stress had a positive effect on ethnic identity exploration.*

Hypothesis 2.2. *Post-traumatic stress had a positive effect on ethnic identity commitment.*

Hypothesis 3.1. *Child-primary caregiver relationships had a positive effect on ethnic identity exploration.*

Hypothesis 3.2. *Child-primary caregiver relationships had a positive effect on ethnic identity commitment.*

Hypothesis 4.1. *The rate of change in ethnic identity exploration over time differed among those with high versus low post traumatic stress symptoms.*

Hypothesis 4.2. *The rate of change in ethnic identity commitment over time differed among those with high versus low post traumatic stress symptoms.*

Hypothesis 5.1. *Child–primary caregiver relationships moderated the effect of post-traumatic stress on ethnic identity exploration.*

Hypothesis 5.2. *Child–primary caregiver relationships moderated the effect of post-traumatic stress on ethnic identity commitment.*

2. Methods

This research was part of a more extensive three-year longitudinal study on the psychological health development of Yi adolescents in rural China between 2018 and 2020, with three data waves. We utilized data from waves 1 and 2 of the project to investigate the ethnic identity of Yi adolescents over one school year period, between September 2018 and May 2019. The third wave of data was not included in the current analysis because information on ethnic identity was not collected in the last wave. The research team was advised by the school management not to survey ethnic identity information before the third wave of data collection commenced. A longitudinal quantitative design was employed, and the research was conducted with the support of a local community organization serving Yi young people in Liangshan.

2.1. Participants and Sampling

Participants ($n = 550$) were Yi adolescents from five local secondary schools across 12 classes in Liangshan. A multistage sampling approach was employed. In stage 1, random sampling was used to select five out of the eight schools recommended by the local community organization. In stage 2, one class of students was randomly selected from each secondary level (i.e., grades 7 to 9) in each participating school to complete the survey. A total of 15 classes of students were selected, and the research team managed to collect information from 12 out of 15 classes. We did not survey the remaining three classes of students due to clashes with their lesson schedules. All students from the 12 classes were invited to fill out the survey. All of the Yi adolescents were boarding at the participating schools during the time of the study.

2.2. Procedures

Ethical approval was sought from the Human Research Ethics Committee of the corresponding university. The research team administered all surveys in classroom settings during a school visit that was jointly organized by the local government and the collaborating community organization. We contacted the school to seek management approval in administering the survey ahead of time. During survey administration, the team explained the purposes of the research, potential benefits, and risks of filling out the survey to the teachers in charge and the students in the classrooms. The team also emphasized that participation was voluntary and that students could withdraw from filling out the survey at any time. Informed consent was then obtained from all participating students and their guardians before the study. After the survey was administered, the research team gave a small gift to each participant as a token of appreciation.

2.3. Measurements

Standardized scales were used to assess the variables of ethnic identity, post-traumatic stress, and child–primary caregiver relationships. All questionnaires were translated into Chinese and then back-translated into English to check for consistency before administration. We evaluated the measurement properties of all the scales with the current data before subsequent statistical analysis. The covariates were: perceived classmate support, parental loss (at least one parental loss = 1; no loss = 0), gender (male = 0; female = 1) and age. Perceived classmate support was a continuous variable measured using a five-item classmate support scale ($\alpha = 0.71$) [51].

2.3.1. Ethnic Identity

The self-reporting Chinese version of the multi-group ethnic identity measure was used to assess participants' ethnic identity [5,45]. The measure consisted of two subscales, using 12 items representing the constructs of ethnic identity-exploration and ethnic identity-commitment on a 4-point Likert scale (1 = strongly disagree; 4 = strongly agree). The total score was generated by summing up the relevant subscale scores, where a higher score indicated a higher level of ethnic identity exploration or ethnic identity commitment. The two-factor scale demonstrated satisfactory construct validity with the current data (CFI/TFL = 0.94/0.93; SRMR = 0.04; RMSEA = 0.05). There were 5 items regarding the component of ethnic identity exploration, yielding a scoring range of 5 to 20, and 7 items representing ethnic identity commitment, thus generating a scoring range of 7 to 28. The internal consistency for ethnic identity exploration (Wave 1 α = 0.60; Wave 2 α = 0.64) and ethnic identity commitment (Wave 1 α = 0.76; Wave 2 α = 0.76), based on the current sample, was also acceptable.

2.3.2. Post-Traumatic Stress Symptoms

Post-traumatic stress was evaluated using the Children's Revised Impact of Event Scale-8 (CRIES) [52]. In this eight-item scale, the young participants were first asked to recall a significant event that impacted them. Then they were asked to rate their stress symptoms in the past two weeks regarding this specific negative event. The scale was measured with a 4-point Likert scale (none = 0, rarely = 1, sometimes = 3, and a lot = 4). Summing all responses generated a total score, yielding a scoring range of 0 to 32. A higher score represented a higher level of post-traumatic symptoms. The scale also had a recommended cut-off point: those who scored 17 or above were suggested as having the risk of developing post-traumatic stress disorder [53]. The scale positively correlated with depression and anxiety among Chinese adolescents after the Sichuan earthquake in 2008 [53]. Confirmatory factor analysis with the current data demonstrated good construct validity (CFI/TLI 0.97/0.95; SRMR = 0.032; RMSEA = 0.05). The internal consistency of all the eight items with the current sample was also satisfactory (α = 0.75).

2.3.3. Primary Caregiver Relationships

The self-reported relatedness questionnaire was used for this study [29]. The questionnaire consists of 17 questions designed to assess young people's sense of relatedness to significant people in their lives. We tailored the scale to measure our participants' sense of relatedness toward their primary caregivers for the purposes of this study. Before answering the questions, participants first identified their primary caregiver, i.e., father, mother, grandparent, relative, or a non-relative/guardian. The remaining 16-item questionnaire had three subscales: positive emotional quality (6 items), negative emotional quality (5 items), and psychological proximity-seeking (5 items). All items were rated on a 4-point Likert scale. The total subscale score was calculated by summing up the responses, i.e., positive emotional quality, ranging from 6 to 24; negative emotional quality, ranging from 5 to 20; and psychological proximity-seeking, ranging from 5 to 20. The questionnaire demonstrated good construct validity with the current sample, yielding a three-factor model, i.e., positive emotional quality, negative emotional quality, and proximity-seeking (CFI/TLI = 0.93/0.92; SRMR = 0.04; RMSEA = 0.05). The internal consistency of the three subscales was also acceptable with the current data (positive emotional quality α = 0.73; negative emotional quality α = 0.82; proximity-seeking α = 0.65).

Although proximity-seeking was initially considered a negative dimension that indicated inadequate positive interactions with primary caregivers [29], the circumstances might differ for Yi ethnic minority adolescents. It was natural for Yi youths living in boarding schools away from home to desire emotional closeness with their primary caregivers, with whom they shared a good relationship. Furthermore, the collective orientation of ethnic minority groups might encourage Yi young people to continue to be emotionally attached to their primary caregivers, even after they enter adolescence [54]. Hence, seeking

emotional closeness with primary caregivers might be an adaptive form of attachment among Yi adolescents. Confirmatory factor analysis with the current data showed that proximity-seeking correlated positively with positive emotional quality and negatively with negative emotional quality. In this study, we assumed that a high level of proximity-seeking was only adaptive when coupled with a high level of positive emotional quality. Individuals with low levels of positive emotional quality yet high levels of proximity-seeking, i.e., the deprived group, were still considered to have a negative relationship with their primary caregivers. Following this logic, the four categories of relationship patterns in the current participants were redefined as:

1. *secured*, representing high levels of proximity-seeking and positive emotional quality;
2. *optimal*, representing low levels of proximity-seeking and high levels of positive emotional quality;
3. *deprived*, representing high levels of proximity-seeking and low levels of positive emotional quality; and
4. *disengaged*, representing low levels of both proximity-seeking and positive emotional quality.

2.4. Data Analysis

Two multilevel models were built to examine the changes in ethnic identity exploration and ethnic identity commitment across time. We used the multilevel approach to account for the resemblance in responses from the same participant in the two data waves. Analyses were conducted in RStudio (IDE), using the lme4 package [55]. A restricted maximum-likelihood estimator was used to estimate the variance components in the models. Exploratory analysis was first conducted to obtain the value of intra-class correlation (ICC) based on the null model, and the intercept-varying model was built.

After completing the exploratory model-building analysis, the main and interaction effect models were established accordingly. In the main effect model, time (Wave 1 vs. Wave 2), the three relatedness subscales (i.e., proximity-seeking, positive relationships, and negative relationships toward caregivers), and post-traumatic stress were the predictors. Parental loss, perceived classmate support, age, and gender were covariates. All predictors and covariates were time-invariant variables as measured in Wave 1. The outcomes of ethnic identity exploration and ethnic identity commitment were time-varying variables, measured in two data waves.

The two-way interaction between the emotional quality and proximity-seeking dimensions of child–primary caregiver relationships was further investigated. The effects of the four distinct relationship patterns—secured, optimal, deprived, and disengaged—on ethnic identity were examined in the two-way interaction effect model. Two additional three-way interaction models were then built. First, a three-way interaction among the indexes of time, emotional quality, and proximity-seeking was established to examine if participants with distinct primary caregiver relationship patterns demonstrated different rates of change in their ethnic identity over time. Second, a three-way interaction between post-traumatic stress, emotional quality, and proximity seeking was established to examine if these different relationship patterns moderated the effect of post-traumatic stress on ethnic identity.

3. Results

3.1. Descriptive Statistics

Participants ($n = 554$) were all Yi adolescents between 13 and 18 years ($\bar{x} = 14.87$; $sd = 1.28$). Table 1 present the descriptive statistics of the variables. Among them, 139 reported as male (28.09%), while 415 reported as female (74.91%). The high percentage of female participants was related to community initiatives supporting more female Yi adolescents in receiving an education. All participants were studying in grades 7 to 9 during the time of the study (secondary one $n = 192$; secondary two $n = 230$; secondary three $n = 132$).

Table 1. Descriptive statistics of variables used in linear mixed models.

	Wave	N (%)	Mean	SD	Range
Time-varying outcomes					
Ethnic identity exploration	1	552	14.91	2.04	8–20
	2	501	15.28	1.99	7–20
Ethnic identity commitment	1	552	22.44	2.80	13–28
	2	499	22.58	2.76	14–28
Time invariant predictors					
Positive emotional quality	1	549	20.76	2.47	12–24
Negative emotional quality	1	550	7.36	2.53	5–20
Proximity-seeking	1	551	16.49	1.94	10–20
Post-traumatic stress symptoms	1	551	22.32	4.24	8–32
Covariates					
Parental loss	1	554			
		457			
		(82.49%)			
Yes		97			
		(17.51%)			
Gender	1	554			
		139			
		(25.09%)			
Female		415			
		(74.91%)			
Age	1	550	14.87	1.28	13–18

An overwhelming 73.5% of the respondents were categorized as having a high risk of PTSD based on CRIES-8, with students ($n = 537$) identifying their sources of stress (Table 2). Academic worry was the most common stress factor (32.6%), followed by peer-related conflict in school settings (23.2%). Two stressors were of particular relevance to the Yi context: death-related stress (9.4%) and health burden-related stress (13.4%). These two stressors might be associated with the Yi's encounters with the HIV/AIDS pandemic and poverty, leading to their families' and friends' poor physical health and even death.

Table 2. Sources of stress identified by participants in CRIES.

Sources of Stress/Context	Family	School	Individual	Total
Death-related (death of family members and friends)	46	5	NA	51
Health burden-related (family members' poor health, friends' poor health, poor personal health)	38	3	31	72
Material-related (family economic hardship, loss of personal possessions/money)	3	NA	14	17
Relationship-related (conflict/feeling neglected by family members or friends)	30	125	NA	155
Teacher-related (criticized by a teacher, conflict with a teacher)	NA	9	NA	9
Bullied by schoolmates	NA	6	NA	6
Academic-related	NA	175	NA	175
Poor self-reported emotional/psychological health	NA	NA	17	17
Non-specific events (e.g., "Generally, I feel stressed")	4	0	4	8
Others	5	1	21	27
Total	126	324	87	537

Note. NA = not applicable.

3.2. Exploratory Analysis for Model Building

Values of the intraclass correlation coefficient (ICC), calculated based on the Null Model 0a and Null Model 0b, were 0.46 and 0.50, respectively (Table 3). The values suggested that approximately 46% of the variance in ethnic identity exploration was associated with individual differences, while 50% of the variance in ethnic identity commitment was associated with individual differences (Table 3). The relatively high ICC values suggested

potential intercorrelation effects between the two waves of responses in the ethnic identity exploration and ethnic identity commitment models. As such, a multilevel model was needed.

Table 3. Multilevel models of ethnic identity exploration and commitment over time.

Fixed Effects	Ethnic Identity Exploration						Ethnic Identity Commitment					
	Model 0a (Null Model)			Model 1a (Intercept-Varying)			Model 0b (Null Model)			Model 1b (Intercept-Varying)		
	b	SE	t	b	SE	t	b	SE	t	b	SE	t
Intercept	15.10 *	0.07	205.3	14.47 *	0.15	93.85	22.53 *	0.10	221.6	22.30 *	0.21	105.64
Wave				0.43 *	0.09	4.66				0.15	0.12	1.26
Random Effects	σ^2	Std. Dev		σ^2	Std. Dev		σ^2	Std. Dev		σ^2	Std. Dev	
Intercept (student)	1.94	1.39		2.04	1.43		3.89	1.97		3.89	1.97	
Residual	2.20	1.48		2.08	1.44		3.89	1.97		3.87	1.97	
Model Fit	-2LL			-2LL			-2LL			-2LL		
	-2185.5			-2175.0			-2503			-2503		
				χ^2			χ^2			χ^2		
Comparison of Model 0 to Model 1				21.00 *						1.60		

Note: * $p < 0.05$.

3.3. Main and Interaction Effects Model

The main effect and interaction effect models of ethnic identity exploration and ethnic identity commitment are presented in Tables 4 and 5, respectively.

Table 4. Coefficients for factors affecting ethnic identity exploration ($n = 544$).

Fixed Effects	Model 2a Main Effects only			Model 3a 2-Way Interaction			Model 4a 3-Way Interaction			Model 5a 3-Way Interaction		
	b	SE	t									
(Intercept)	4.92 *	1.23	4.00	15.68 *	4.74	3.31	14.16 *	4.76	2.98	14.26 *	4.75	3.00
Age	0.09	0.06	1.53	0.09	0.06	1.62	0.09	0.06	1.64	0.09	0.06	1.62
Gender (female = 1)	-0.24	0.17	-1.43	-0.20	0.17	-1.18	-0.21	0.17	-1.24	-0.20	0.17	-1.20
Time	0.43 *	0.09	4.58	0.44 *	0.09	4.62	1.83 *	0.49	3.72	0.43 *	0.09	4.53
Traumatic stress	0.06 *	0.02	3.60	0.06 *	0.02	3.47	0.06 *	0.02	3.35	0.25 *	0.08	3.05
Positive emotional quality	0.11 *	0.04	3.07	-0.41	0.22	-1.82	-0.42	0.22	-1.90	-0.53 *	0.23	-2.34
Negative emotional quality	0.04	0.03	1.22	0.04	0.03	1.13	0.03	0.03	1.07	0.03	0.03	1.02
Proximity-seeking	0.18 *	0.04	4.11	-0.50	0.29	-1.70	-0.52	0.29	-1.79	-0.66 *	0.30	-2.22
Parental loss (Yes = 1)	-0.36	0.19	-1.91	-0.38 *	0.19	-2.01	-0.37	0.19	-1.95	-0.39 *	0.19	-2.07
Classmate support	0.09 *	0.03	3.06	0.09 *	0.03	3.06	0.09 *	0.03	3.09	0.09 *	0.03	3.08
Positive emotional quality × Proximity-seeking				0.03 *	0.01	2.35	0.04 *	0.01	2.81	0.05 *	0.02	3.26
Time × Positive emotional quality × Proximity-seeking							>-0.01 *	<0.01	-2.88			
Traumatic stress × Positive emotional quality × Proximity-seeking										<0.01 *	<0.01	-2.36
Random Effects	σ^2	Std. Dev										
Intercept (individual)	1.58	1.26		1.55	1.24		1.56	1.25		1.51	1.23	
Residual	2.09	1.44		2.09	1.45		2.06	1.44		2.10	1.45	

* $p < 0.05$.

3.3.1. Ethnic Identity Exploration

The main effect model (Model 2a) indicated that time positively affected ethnic identity exploration, showing a significant increase in ethnic identity exploration between the two data waves, supporting Hypothesis 1.1. Higher post-traumatic stress was associated with higher ethnic identity exploration, supporting Hypothesis 2.1. Higher positive emotional quality and proximity-seeking also predicted higher ethnic identity exploration, which offered evidence for us to further test the interaction effect between these two dimensions, i.e., Hypothesis 3.1. No statistically significant result was observed for negative emotional quality with the caregivers. For the covariates, those who experienced the loss of their parent(s) exhibited lower scores in their ethnic identity exploration. No age and gender effects were found.

Model 3a was the two-way interaction effect model between positive emotional quality and proximity-seeking, corresponding to Hypothesis 3.1 (Table 3). Time and post-traumatic stress levels continued to be statistically significant predictors. A significant interaction effect was found between positive emotional quality and proximity-seeking, supporting Hypothesis 3.1. The interaction effect between negative emotional quality and proximity-seeking was not examined because negative emotional quality was not a statistically significant predictor in the main effect model. Figure 2 shows the participants' ethnic

identity exploration scores, demonstrating four distinct relatedness patterns with their primary caregivers. The association between child–primary caregiver relationships and ethnic identity exploration resembled a U-shape. Those who had the best, i.e., secured, and worst, i.e., disengaged, relationships with their caregivers showed the highest and second-highest scores, respectively. The optimal and deprived groups scored approximately the same.

Table 5. Coefficients for factors affecting ethnic identity commitment ($n = 544$).

Fixed Effects	Model 2b Main Effects Only			Model 3b 2-Way Interaction		
	b	S.E.	t	b	S.E.	t
(Intercept)	9.10 *	1.59	5.73	14.09	8.54	1.65
Age	0.15 *	0.07	2.08	0.15 *	0.07	2.09
Gender (female = 1)	0.32	0.22	1.45	0.35	0.22	1.55
Time	0.07	0.13	0.54	0.07	0.13	0.57
Traumatic stress	0.06 *	0.02	2.50	0.05 *	0.02	2.34
Positive emotional quality	0.21 *	0.05	4.33	−0.14	0.33	−0.41
Negative emotional quality	−0.09 *	0.04	−2.11	0.21	0.37	0.57
Proximity-seeking	0.19 *	0.06	3.21	−0.15	0.52	−0.28
Parental loss (Yes = 1)	−0.34	0.24	−1.39	−0.37	0.24	−1.50
Classmate support	0.18 *	0.04	4.73	0.18 *	0.04	4.75
Positive emotional quality × proximity-seeking				0.02	0.02	1.09
Negative emotional quality × proximity-seeking				−0.02	0.02	−0.82
Random Effects	σ^2	Std. Dev		σ^2	Std. Dev	
Intercept (individual)	2.41	1.55		2.39	1.55	
Residuals	3.89	1.97		3.90	1.97	

* $p < 0.05$.

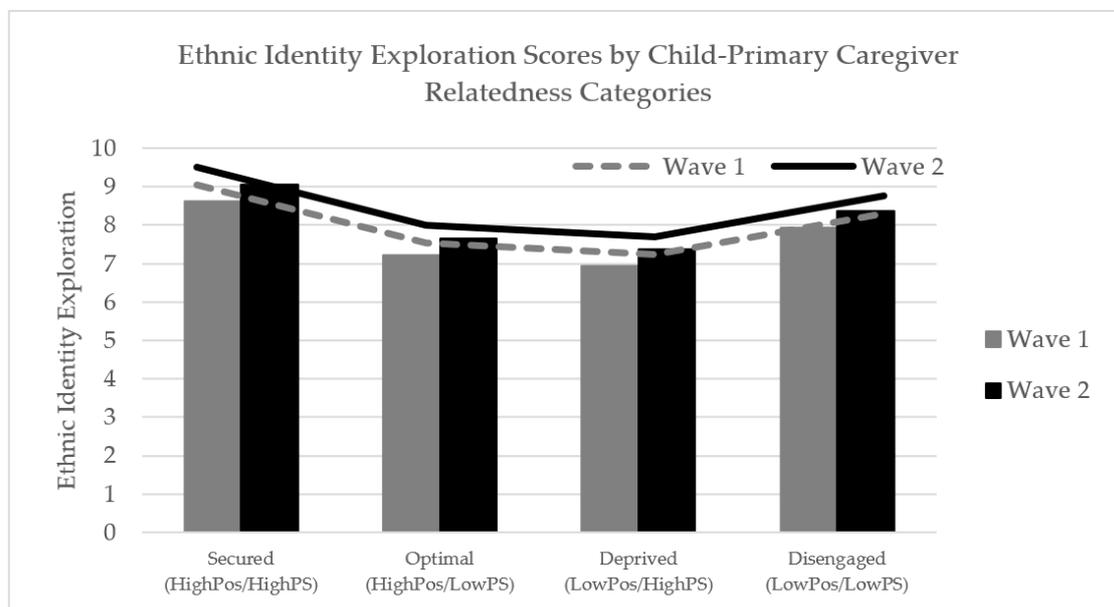


Figure 2. Ethnic identity exploration scores, according to primary caregiver relationship categories.

Model 4a and Model 5a illustrated the findings of the three-way interaction effect models, i.e., time × positive emotional quality × proximity-seeking, and post-traumatic stress × positive emotional quality × proximity-seeking.

The three-wave interaction effect among time, positive emotional quality, and proximity-seeking were statistically significant ($b = -0.004$), supporting Hypothesis 4.1. Figure 3 shows the different rates of change in ethnic identity exploration among the four primary patterns of caregiver relationships. The beta value of time was highest for the disengaged group compared to students with other primary caregiver relationship patterns, suggesting that the disengaged group showed the fastest increase in their ethnic identity exploration

over time. The beta value of time was negative and was smallest for the secured group: the ethnic identity exploration scores tended to drop over time at a slow rate. However, the ethnic identity exploration score for the secured group was higher than the disengaged group over the two waves. The beta values were the same for both optimal and deprived groups. The optimal group scored consistently slightly higher in their ethnic identity exploration than the disengaged group over the two data waves.

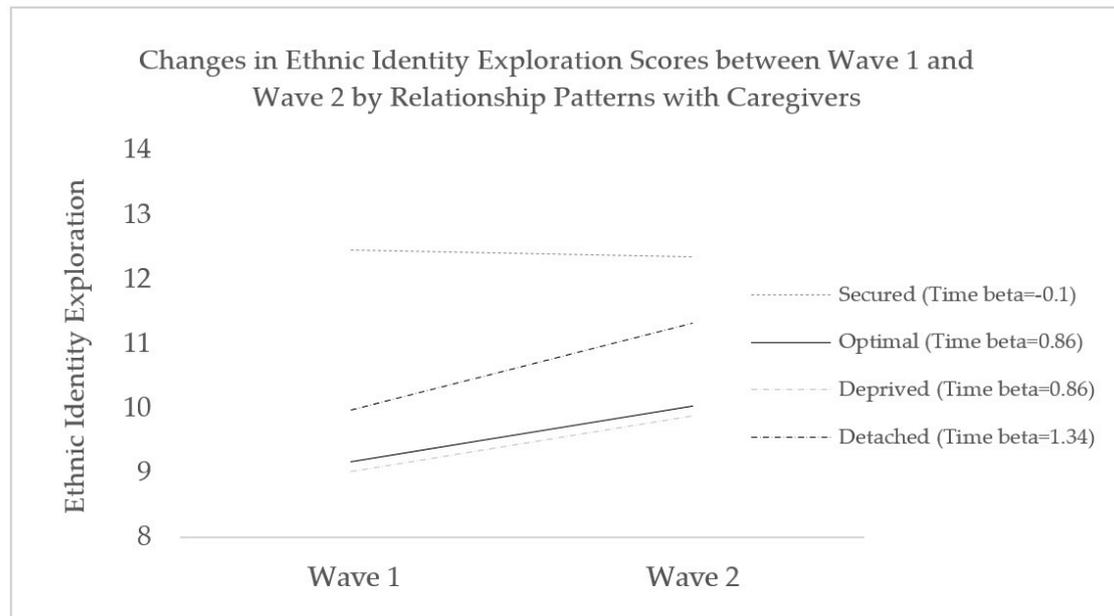


Figure 3. Interaction effects of time and relationship patterns with caregivers on ethnic identity exploration.

The three-way interaction effect among post-traumatic stress, positive emotional quality, and proximity-seeking was statistically significant ($b = -0.0005$), supporting Hypothesis 5.1. Figure 4 shows an association between post-traumatic stress (Wave 1) and ethnic identity exploration (Wave 2) according to the participants' relationship patterns with their caregivers. Higher levels of post-traumatic stress were associated with higher levels of ethnic identity exploration in the optimal, deprived, and disengaged groups. The strengths of the associations between post-traumatic stress and ethnic identity exploration differed among these three categories. Those who belonged to the disengaged group showed the strongest positive association (trauma $b = 0.18$), while the optimal and deprived groups also showed a positive but weaker strength of association (trauma $b = 0.12$ for both groups). For the secured group, the relationship between post-traumatic stress and ethnic identity exploration was negative yet minimal ($b = -0.01$).

3.3.2. Ethnic Identity Commitment

The main effect model (Model 2b) indicated no significant change in ethnic identity commitment between the two data waves (Table 4), thus rejecting Hypothesis 1.2. Higher levels of post-traumatic stress predicted higher ethnic identity commitment in both data waves, supporting Hypothesis 2.2. The effect of parental loss was not statistically significant. Positive emotional quality and proximity-seeking positively affected ethnic identity commitment, and negative emotional quality negatively affected ethnic identity commitment.

Model 3b is the two-way interaction effect model, interacting the dimensions of caregivers' relatedness: (1) positive emotional quality and proximity-seeking and (2) negative emotional quality and proximity-seeking (Table 4). When these two interaction effects were added into the main effects model, only post-traumatic stress and age remained as being statistically significant predictors. As such, Hypothesis 3.2 was rejected, and no further analysis was conducted to test subsequent hypotheses.

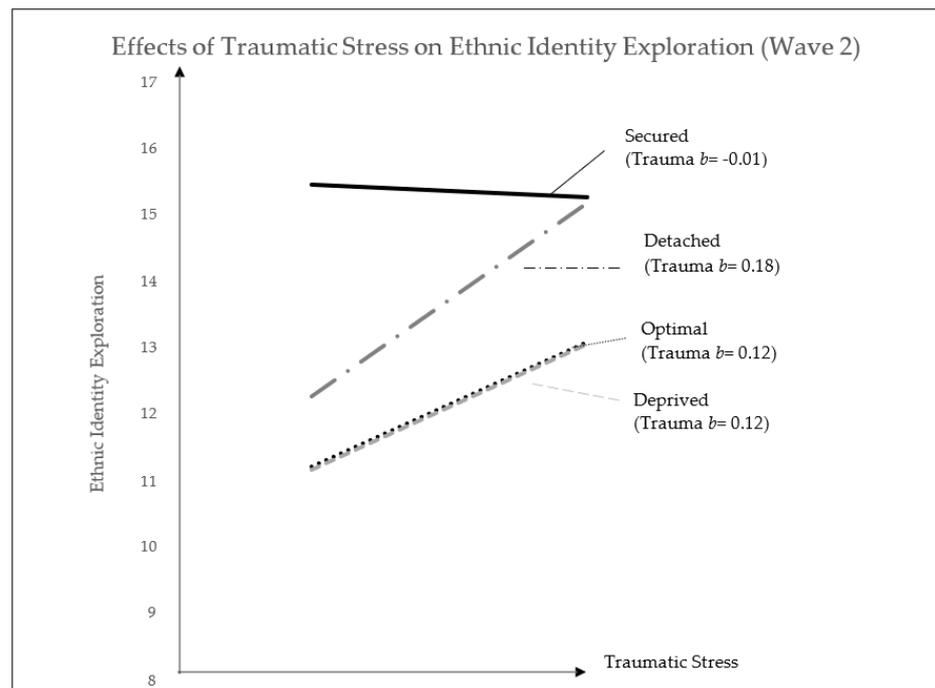


Figure 4. Effects of traumatic stress on ethnic identity exploration, according to relationship patterns with caregivers.

4. Discussion

This study examined the effects of post-traumatic stress and child–primary caregiver relationships on ethnic identity exploration and ethnic identity commitment among Yi adolescents from rural China in two data waves. The key findings were: (1) ethnic identity exploration increased over time, but commitment remained unchanged. (2) Post-traumatic stress symptoms positively affected ethnic identity exploration and ethnic identity commitment. (3) The association between child–primary caregiver relationships and ethnic identity exploration resembled a U-shape: Those who scored highest and lowest on their positive emotion quality and proximity-seeking with their caregivers, i.e., secured versus disengaged, showed the highest and second-highest ethnic identity exploration scores. (4) Participants who belonged to the disengaged group showed the fastest positive change in ethnic identity development over time, while the secured group showed a weak negative change. (5) A positive caregivers’ relationship attenuated the effects of post-traumatic stress on ethnic identity exploration.

4.1. Key Finding 1: Ethnic Identity Development in Yi Adolescents

Yi adolescents’ ethnic identity exploration increased during the school year, while ethnic identity commitment remained unchanged. During adolescence, young people start their journey on the quest for a sense of self, and for ethnic minorities, this also includes their search for ethnic identity [5]. On the other hand, ethnic identity commitment can be relatively stable during adolescence [3]. Individuals’ sense of attachment to their ethnic group may become stronger once they complete their search for the meaning of their ethnicity [4].

Interestingly, earlier findings on younger Yi youths indicated a decline in their ethnic identity exploration and commitment [45]. This discrepancy may be explained by the distinct developmental stages of childhood versus adolescence: at earlier developmental stages, Yi young people may not be aware of their ethnic distinctiveness [7]. Hence, when placed in Han-driven school settings, they may have gradually lost their connection to their ethnic roots. As they enter adolescence, they become more self-aware. Their need to understand and derive their unique cultural identity and their desire to be attached to a

specific community propel them to engage in ethnic identity exploration behaviors [9]. Future longitudinal research that includes ethnic minority youths at different developmental stages in rural China and that considers their social context, e.g., in the village community, in Han-dominated school settings, or in more culturally diverse tertiary school settings, will provide additional empirical evidence mapping their ethnic identity trajectories.

Compared with the ethnic identity development of other ethnic or racial minorities, our findings are consistent with the experiences of Black Americans, who show an increase in their ethnic identity exploration over time [9]. The shared ethnic experiences of racism may have motivated these young people to actively search for the meaning of their ethnicities, compared to other ethnic groups who encountered less oppression. On the other hand, ethnic or indigenous minorities who experienced intense cultural and historical loss, e.g., American Indians, may be demotivated to search for their cultural identities because they are disconnected from their roots [14,17]. Our findings suggest that, while experiencing the collective ethnic trauma of poverty and discrimination, Yi adolescents are still attached to their ethnicity and are willing to explore its meaning.

4.2. Key Finding 2: Effect of Post-Traumatic Stress on Ethnic Identity

With approximately 73.5% of the Yi participants displaying post-traumatic risk, it is reasonable to suggest that Yi adolescents may have a heightened emotional response associated with adversity. Their stressors should be understood in the context of Yi. The high percentage of students indicating academic worry as one of their stressors suggests that these young people feel pressured by the Han-driven examination-oriented education system. Having been brought up in Yi rural village communities, Yi adolescents may feel challenged to catch up with their schoolwork. In addition, since Yi young people see education as a way to break their cycle of poverty [42,49], academic failure means falling back into impoverishment and bringing disgrace to their families and village communities [49].

Furthermore, typical adolescents do not identify death and health burdens as stressors, yet for our Yi participants, it is their reality. The high incidence of mortality and poor health outcomes of Yi people [16] have caused many Yi children to develop a deep sense of insecurity. In particular, Yi adolescents with parents or relatives who are sick will encounter high medical expenditures for their families. At the same time, it also means the possibility of losing their loved ones through death. This information points toward two plausible conclusions about Yi adolescents: (1) the Han-driven education system is too demanding for Yi students unaccustomed to mainstream education, causing them to experience high levels of stress; and (2) Yi young people constantly contend with the fear of the death and illness of those they care about, owing to limited access to health care services and financial resources. Further research is needed to understand the stress that Yi and other ethnic minority young people face in rural China, to promote their well-being.

In our Yi participants, a high level of post-traumatic stress is associated with a high level of ethnic identity exploration and ethnic identity commitment over time. This finding is consistent with the existing literature [19–21], which shows the protective effect of ethnic identity exploration against the negative experiences of racial discrimination and poverty in ethnic or racial minorities and indigenous youths worldwide. To cope with the stressful feelings triggered by negative external stimuli, these adolescents need a sense of kinship to their ethnic group to protect them from developing other undesirable psychological and mental health outcomes [2,7,15]. Future studies shall include psychological well-being as the outcome to portray a complete story from stress to psychological health via ethnic identity.

Contrary to our assumption, parental loss does not affect the ethnic identity development of Yi adolescents. While parental loss is a significant traumatic event experienced by many, it may not affect their ethnic identity. Most orphaned Yi children were still cared for by their extended family members, who continued to influence their ethnic identity development [16]. Additional studies can be conducted to understand the holistic, long-term psychological development of Yi young people who have lost their parents.

4.3. Key Finding 3: Effect of Child–Primary Caregiver Relationships on Ethnic Identity

Those who have a secure relationship with their caregivers and those with a disengaged relationship demonstrated the highest and second-highest scores on their ethnic identity exploration scales, respectively. This result suggests that ethnic identity exploration may mean different things to Yi participants. For those with a secured relationship with their caregivers, ethnic identity exploration is part of their self-searching process, which can be anxiety-provoking [10]. Having a solid relationship with their primary caregivers supports these young people in exploring and contemplating the meaning of their ethnicity. Therefore, they are willing to engage in ethnic identity exploration activities, even though they may not be psychologically comfortable. However, ethnic identity exploration has become a behavioral coping strategy for the disengaged group, especially as they do not have their primary caregivers to fall back on [7,14]. They may selectively seek out favorable information about Yi to boost their self-esteem. While this strategy can be effective in the short run, it is not healthy because it makes it difficult for Yi youths to develop a consolidated and secured sense of self [7]. Future studies shall further differentiate between these two types of ethnic identity explorations and verify our assumption. For those groups with optimal and deprived relatedness with their caregivers, additional qualitative study will provide more in-depth information to explain their associations with ethnic identity exploration.

Positive emotional quality, negative emotional quality, and proximity-seeking also have separate effects on ethnic identity commitment. The findings suggest that proximity-seeking may not necessarily refer to the deprivation of love but instead be an indication of a solid relationship with caregivers that results in high levels of ethnic identity commitment. However, in the two-way interaction effect model, the effects of the four types of relationship patterns with caregivers regarding ethnic identity commitment are not statistically significant. The findings may again indicate that while ethnic identity commitment is essential to Yi adolescents, it is not as salient as ethnic identity exploration.

Existing literature suggests a unidimensional positive relationship between child–caregiver relationships and ethnic identity [12,13,22,23]. Our results add new knowledge to the field, indicating a quadratic relationship between the two factors. Future studies shall apply our operation of child–primary caregiver relationships to offer more evidence verifying these quadratic relationships in other ethnic and indigenous minority youth populations and compare the findings in relation to their specific cultural contexts.

4.4. Key Finding 4: The Different Rates of Change in Ethnic Identity Exploration among Yi Participants with Various Types of Caregivers' Relationships

When the effect of child–primary caregiver relationships was included in the analysis, those in the disengaged group showed the fastest increase in ethnic identity exploration over time. This result offers additional evidence supporting our speculation on the act of ethnic identity exploration as a coping strategy adopted by ethnic and indigenous minority youths. By actively engaging in ethnic-related activities and discussions, these adolescents seek kinship with their ethnic group to substitute for their relational void with their primary caregivers.

The secured group showed a slight decline in their ethnic identity exploration over time. This group of students may not feel an increasing need to engage in Yi-related activities to enhance their self-searching process. Some may even be gradually reaching ethnic identity resolution throughout the school year [3]. Hence, we observed a slight and weak decline in their ethnic identity exploration.

Despite the declining trend, the secured group continued to score higher in their ethnic identity exploration than the disengaged group over the two data waves. The result implies that the secured group is still most active in their search for the meaning of Yi and is ready to internalize both positive and negative information about their ethnic group. Conversely, for the disengaged group, ethnic identity exploration involves merely participating in an

ethnic-related event for desirable ethnic information, serving the dual purposes of ego protection and feelings of ethnic attachment [10].

The rate of change in the optimal and the deprived groups lay between the secured and disengaged groups, with the figures being quite similar. Current findings did not offer enough information for us to understand the results. Future studies shall be carried out to investigate the meaning of ethnic identity exploration to these two groups of adolescents.

4.5. Key Finding 5: The Moderating Effect of Relatedness with Caregivers between Post-Traumatic Stress and Ethnic Identity Exploration

The effect of post-traumatic stress on ethnic identity exploration was attenuated in positive child–primary caregiver relationships. For Yi adolescents who had a secure relationship with their primary caregivers, the magnitude of the association between post-traumatic stress and ethnic identity exploration was negative and weak. On the other hand, the magnitude between post-traumatic stress and ethnic identity exploration was strongest for the disengaged group.

Such a finding implies the buffering effect of positive caregiver relationships on reducing the negative impact of the adversities experienced by young Yi people. Secured Yi adolescents do not need a robust ethnic identity to protect them from the adverse effect of their stress symptoms because they have their primary caregivers to fall back on [4]. However, for the disengaged group, strong ethnic identity exploration is a necessary process that helps them to build a solid connection with their ethnic group without the support of their caregivers [4]. Among those with optimal and deprived relationships, the effect of post-traumatic stress on ethnic identity exploration was weaker than for those in the disengaged group, yet stronger than for the secured group. This finding offers additional evidence supporting the buffering effect of positive child–caregiver relationships.

The current result echoes the ethnic identity development theory, which postulates the protective effect of ethnic identity [4,7]. New knowledge is added to underscore the importance of positive child–primary caregiver relationships in other ethnic minorities or indigenous populations. Ethnic minorities having positive relationships with their caregivers tend to be less affected by negative external stimuli, and the protective mechanism of strong ethnic identity is thus not activated.

5. Strengths and Limitations

To our knowledge, this is one of the first research studies that attempts to adopt a longitudinal research design to understand the ethnic identity development of adolescents in rural China. A longitudinal design allows us to draw causal relationships between the effects of post-traumatic stress symptoms and primary caregiver relationships on ethnic identity development. Moreover, the conceptual framework of this research is built on both the ethnic identity development theory and attachment theory. The discussion of our findings is also based on a solid theoretical foundation, which offers additional grounding for us to explain the results.

The findings of this study shall be interpreted in light of the following limitations. While this study adopted a longitudinal design, only two waves of data on the participants' ethnic identity over one school year were obtained. Collecting longitudinal information in China's secondary school setting is difficult because the research team would often need the consent of school management to administer the survey. As research progressed, there was an increased sensitivity to the notion of ethnic identity in China. As such, the participating schools advised us not to collect information on the ethnic identity of participating students in the third wave of research. Additional waves would provide a more comprehensive picture of the trajectory of ethnic identity in ethnic minority young people.

In addition, while we knew that the Yi adolescents of this study suffered from childhood poverty, we could not capture their various degrees of impoverishment experience. The community organization did not feel comfortable about the team collecting information

on the participants' family financial situations, with concerns of negative repercussions when reminded of the disparity between the participants regarding their family situation.

Furthermore, the exceptionally high rates of having post-traumatic stress risk in our participants may be related to the cross-cultural application of CRIES. While it is inarguable that the Yi have undergone the collective trauma of poverty, parental loss, HIV/AIDS, and stigmatization, which will lead to higher levels of post-traumatic stress symptoms, additional studies should be conducted to conceptualize the notion of post-traumatic stress in Yi youths and other ethnic minority young people in rural China.

Moreover, some students might have felt obligated to fill out the survey in classroom settings or to offer socially desirable answers. Instead of perceiving it as research participation, they might see it as an assignment that they needed to complete for school. Even though the research team repeatedly emphasized that participation was voluntary, some students might still perceive it as a mandatory task.

Finally, using an entire classroom to complete a survey was not the best way to achieve sample randomization. However, the school management expressed concern about singling out certain students to complete the survey. Hence, the project team decided to use the classroom as a unit and randomly selected classrooms from a school to fill out the questionnaires.

6. Implications

Considering the similar boarding school experiences of Yi and other ethnic minority young people in rural China, the findings of this study can be extended to other ethnic minority populations in the country, with practice, policy, and research implications. In practice, the findings of this study highlight the salience of ethnic identity exploration during adolescence. As ethnic minority youths in China's rural villages tend to board at their schools, the school management will have to facilitate them in their search for the meaning of their ethnicity in relation to their sense of self. Programs that support the ethnic identity search process should go beyond mere participation in cultural activities. Interventions can aim at guiding ethnic minority young people to develop a genuine understanding of their ethnicity and resolve the negative information they receive about their ethnic group. Constant reflection and sharing workshops in school settings are necessary to achieve this aim.

The current results also highlight the protective effect of ethnic identity on the most vulnerable group of ethnic minority adolescents, i.e., those experiencing high levels of stress and having disengaged relationships with their primary caregivers. This group requires a strong connection with their ethnic group to preserve their well-being. While efforts have to be made to connect them with their culture, a more pressing need is to facilitate these young people in building a healthy sense of self, including their ethnicity. As mentioned, they may tend to only search for positive information about their ethnicity during the ethnic identity exploration process. Interventions must focus on supporting these young people in embracing their ethnic identity and internalizing the good and bad points of their cultural group. This process of ethnic identity exploration is stress-inducing [10]. However, this is also a rite of passage that all ethnic minority adolescents have to experience to build a solid and secure sense of self [7].

While schooling continues to be the best strategy to break the cycle of poverty of ethnic minorities in rural China [37], fostering the holistic development of ethnic minority youths, including positive child-caregiver relationships, is also vital to improve their adulthood outcomes. We also see the importance of primary caregivers on the well-being of ethnic minority youths even after they enrolled in boarding schools. Especially for students who indicated having a disengaged and deprived relationship with their caregivers, school management may need to make extra efforts to understand these young people and their home environment. After all, adolescence is a stage marked by volatile child-caregiver relationships, especially when youths struggle for independence while longing for the recognition of their caregivers.

Policymakers and the government can also use this research information to improve the child-caregiver relationships and ethnic identity development of ethnic minorities in rural China, particularly those who have gone through traumatic experiences. Our current research suggests the protective effect of these two factors against negative developments. This information serves as the basis for the formulation of family and culturally oriented evidence-based policy that focuses on enhancing the well-being of Yi adolescents and possibly other ethnic minority groups in rural China. On the family level, child-caregiver relationships can be improved via first understanding the difficulties of primary caregivers in their caregiving experiences, especially among grandparents in rural ethnic minority villages. Culturally appropriate child-rearing training can also be provided to these caregivers to build positive relationships with ethnic minority youths. In terms of education, the rural education curriculum can consider including ethnic knowledge and cultural integration materials alongside other core subjects to support ethnic minority young people in understanding their own and the mainstream Han history and culture.

From a research perspective, this study used Yi adolescents as a case study to offer first-hand evidence on the ethnic identity development of young ethnic minorities in rural China. Considering that over 100 million ethnic minorities are scattered in the rural parts of the country, future research projects can extend the current research framework to other ethnic minority groups in the region. Attention shall also be placed on bi-cultural identity development, especially for ethnic minorities who need to navigate themselves in a Han-dominated society. A comprehensive longitudinal study can be launched to examine the effects of various system-level factors, i.e., family, ethnic community, schools, and Han-dominated social atmosphere, on their ethnic identity and bi-cultural identity development. Evidence gathered from such a nationwide study will offer valuable information to build a culturally sensitive identity development model that can promote the self-development of ethnic minorities in rural China. The findings of this study also pave the way for the implementation of cross-cultural research examining the ethnic identity development of indigenous populations who have undergone traumatic experiences in non-Western settings. These studies will increase the awareness of the cultural significance and maintenance of ethnic and indigenous minorities in the global context.

Author Contributions: Conceptualization, A.H.-Y.L. and H.Y.; Data Collection, A.H.-Y.L.; Data analysis: A.H.-Y.L., H.Y. and M.C.; writing—original draft preparation, A.H.-Y.L. and H.Y.; Writing—review and editing, W.S.-Y.L.; visualization, W.S.-Y.L.; supervision, A.H.-Y.L.; project administration, W.S.-Y.L.; funding acquisition, A.H.-Y.L. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the General Research Fund, grant number 12603418. The APC was funded by the Hong Kong Polytechnic University.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki and approved by the Committee on the Use of Human and Animal Subjects in Teaching and Research (HASC) of the Hong Kong Baptist University (protocol code HASC/17-18/0540 on 29 March 2018) and the Survey and Behavioral Ethics Committee (SBREC) of the Chinese University of Hong Kong (protocol code SBRE-20-004 on 20 August 2020).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available at the moment as the research team is still compiling the completion report for the funder. Data will be made available publicly once the report has been approved by the funder.

Acknowledgments: The authors would like to acknowledge the support that they received from Kelly Ku from the Department of Education Studies, Hong Kong Baptist University, Cheryl Chui and Cecilia Chan from the Department of Social Work and Social Administration, The University of Hong Kong, which made this research possible.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

References

- Smith, T.B.; Silva, L. Ethnic identity and personal well-being of people of color: A meta-analysis. *J. Couns. Psychol.* **2011**, *58*, 42–60. [[CrossRef](#)] [[PubMed](#)]
- Rivas-Drake, D.; Syed, M.; Umana-Taylor, A.; Markstrom, C.; French, S.; Schwartz, S.J.; Lee, R. Feeling Good, Happy, and Proud: A Meta-Analysis of Positive Ethnic-Racial Affect and Adjustment. *Child Dev.* **2014**, *85*, 77–102. [[CrossRef](#)] [[PubMed](#)]
- Umaña-Taylor, A.J.; Quintana, S.M.; Lee, R.M.; Cross, W.E.; Rivas-Drake, D.; Schwartz, S.J.; Syed, M.; Yip, T.; Seaton, E. Ethnic and Racial Identity in the 21st Century Study Group Ethnic and Racial Identity During Adolescence and Into Young Adulthood: An Integrated Conceptualization. *Child Dev.* **2014**, *85*, 21–39. [[CrossRef](#)] [[PubMed](#)]
- Phinney, J.S.; Ong, A.D. Conceptualization and measurement of ethnic identity: Current status and future directions. *J. Couns. Psychol.* **2007**, *54*, 271–281. [[CrossRef](#)]
- Phinney, J.S. The Multigroup Ethnic Identity Measure: A New Scale for Use with Diverse Groups. *J. Adolesc. Res.* **1992**, *7*, 156–176. [[CrossRef](#)]
- Umana-Taylor, A.; Yazedjian, A.; Bámaca-Gómez, M. Developing the Ethnic Identity Scale Using Eriksonian and Social Identity Perspectives. *Identity* **2004**, *4*, 9–38. [[CrossRef](#)]
- Phinney, J.S. Understanding Ethnic Diversity: The Role of Ethnic Identity. *Am. Behav. Sci.* **1996**, *40*, 143–152. [[CrossRef](#)]
- Matsunaga, M.; Hecht, M.L.; Elek, E.; Ndiaye, K. Ethnic Identity Development and Acculturation: A Longitudinal Analysis of Mexican-Heritage Youth in the Southwest United States. *J. Cross-Cult. Psychol.* **2010**, *41*, 410–427. [[CrossRef](#)] [[PubMed](#)]
- Pahl, K.; Way, N. Longitudinal Trajectories of Ethnic Identity Among Urban Black and Latino Adolescents. *Child Dev.* **2006**, *77*, 1403–1415. [[CrossRef](#)] [[PubMed](#)]
- Syed, M.; Walker, L.H.M.; Lee, R.M.; Umaña-Taylor, A.J.; Zamboanga, B.L.; Schwartz, S.J.; Armenta, B.E.; Huynh, Q.-L. A two-factor model of ethnic identity exploration: Implications for identity coherence and well-being. *Cult. Divers. Ethn. Minor. Psychol.* **2013**, *19*, 143–154. [[CrossRef](#)] [[PubMed](#)]
- Phinney, J.S.; Baldelomar, O.A. Identity development in multiple cultural contexts. In *Bridging Cultural and Developmental Approaches to Psychology: New Syntheses in Theory, Research, and Policy*; Oxford University Press: Oxford, UK, 2011; pp. 161–186.
- Huang, C.Y.; Stormshak, E.A. A longitudinal examination of early adolescence ethnic identity trajectories. *Cult. Divers. Ethn. Minor. Psychol.* **2011**, *17*, 261–270. [[CrossRef](#)] [[PubMed](#)]
- Kiang, L.; Witkow, M.R.; Baldelomar, O.A.; Fuligni, A.J. Change in Ethnic Identity across the High School Years among Adolescents with Latin American, Asian, and European Backgrounds. *J. Youth Adolesc.* **2010**, *39*, 683–693. [[CrossRef](#)] [[PubMed](#)]
- Whitesell, N.R.; Voices of Indian Teens Project Team; Mitchell, C.M.; Spicer, P. A longitudinal study of self-esteem, cultural identity, and academic success among American Indian adolescents. *Cult. Divers. Ethn. Minor. Psychol.* **2009**, *15*, 38–50. [[CrossRef](#)]
- Tajfel, H.; Turner, J.C. The Social Identity Theory of Intergroup Behavior. *Psychol. Intergroup Relat.* **1986**, *5*, 7–24.
- Hughes, D.; Rodriguez, J.; Smith, E.P.; Johnson, D.J.; Stevenson, H.C.; Spicer, P. Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Dev. Psychol.* **2006**, *42*, 747–770. [[CrossRef](#)]
- Neblett, E.W.; White, R.L.; Ford, K.R.; Philip, C.L.; Nguyen, H.X.; Sellers, R.M. Patterns of Racial Socialization and Psychological Adjustment: Can Parental Communications About Race Reduce the Impact of Racial Discrimination? *J. Res. Adolesc.* **2008**, *18*, 477–515. [[CrossRef](#)]
- Skewes, M.C.; Blume, A.W. Understanding the link between racial trauma and substance use among American Indians. *Am. Psychol.* **2019**, *74*, 88–100. [[CrossRef](#)]
- Khaylis, A.; Waelde, L.; Bruce, E. The Role of Ethnic Identity in the Relationship of Race-Related Stress to PTSD Symptoms Among Young Adults. *J. Trauma Dissociation* **2007**, *8*, 91–105. [[CrossRef](#)] [[PubMed](#)]
- Caqueo-Urizar, A.; Flores, J.; Mena-Chamorro, P.; Urzúa, A.; Irrarázaval, M. Ethnic identity and life satisfaction in indigenous adolescents: The mediating role of resilience. *Child. Youth Serv. Rev.* **2020**, *120*, 105812. [[CrossRef](#)]
- Macedo, D.M.; Smithers, L.G.; Roberts, R.M.; Haag, D.G.; Paradies, Y.; Jamieson, L.M. Does ethnic-racial identity modify the effects of racism on the social and emotional well-being of Aboriginal Australian children? *PLoS ONE* **2019**, *14*, e0220744. [[CrossRef](#)]
- Hall, S.P.; Brassard, M.R. Relational Support as a Predictor of Identity Status in an Ethnically Diverse Early Adolescent Sample. *J. Early Adolesc.* **2008**, *28*, 92–114. [[CrossRef](#)]
- Evans, C.B.; Smokowski, P.R.; Cotter, K.L. Cumulative bullying victimization: An investigation of the dose–response relationship between victimization and the associated mental health outcomes, social supports, and school experiences of rural adolescents. *Child. Youth Serv. Rev.* **2014**, *44*, 256–264. [[CrossRef](#)]
- Umaña-Taylor, A.J.; Guimond, A.B. A longitudinal examination of parenting behaviors and perceived discrimination predicting Latino adolescents' ethnic identity. *Dev. Psychol.* **2010**, *46*, 636–650. [[CrossRef](#)] [[PubMed](#)]
- Stuart, J.; Jose, P.E. The protective influence of family connectedness, ethnic identity, and ethnic engagement for New Zealand Māori adolescents. *Dev. Psychol.* **2014**, *50*, 1817. [[CrossRef](#)] [[PubMed](#)]

26. Williams, A.D.; Clark, T.C.; Lewycka, S. The Associations Between Cultural Identity and Mental Health Outcomes for Indigenous Māori Youth in New Zealand. *Front. Public Health* **2018**, *6*, 319. [[CrossRef](#)] [[PubMed](#)]
27. Bowlby, J. Attachment and Loss. In *The Hogarth Press and the Institute of Psycho-Analysis*; Basic Books: New York, NY, USA, 1969.
28. Mikulincer, M.; Shaver, P.R.; Pereg, D. Attachment Theory and Affect Regulation: The Dynamics, Development, and Cognitive Consequences of Attachment-Related Strategies. *Motiv. Emot.* **2003**, *27*, 77–102. [[CrossRef](#)]
29. Lynch, M.; Cicchetti, D. Children’s relationships with adults and peers: An examination of elementary and junior high school students. *J. Sch. Psychol.* **1997**, *35*, 81–99. [[CrossRef](#)]
30. Ethnic Minority Proportion in China’s Population Rises. Xinhuanet. 11 May 2021. Available online: http://www.xinhuanet.com/english/2021-05/11/c_139938133.htm (accessed on 11 January 2022).
31. Fupin Ban Fabu “Guojia Fupin Kaifa Gongzuo Zhongdian Xian Mingdan” [Poverty Alleviation Office Issued “National Poverty Alleviation and Development Work Key County List”]. Central People’s Government of the People’s Republic of China. 19 March 2012. Available online: http://www.gov.cn/gzdt/2012-03/19/content_2094524.htm (accessed on 28 January 2022).
32. People’s Government of Liangshan Yi Autonomous Prefecture Official Website of Liangshan Yi Autonomous Prefecture Government. Liangshan Yi Autonomous Prefecture Government. Available online: <http://www.lsz.gov.cn/> (accessed on 28 January 2022).
33. Starlet Program: Send the Orphans to School. Fu Hui Education Foundation. Available online: <https://www.fuhiueducation.org/en/Admin/SideMenu/DispSideMenuContentMain.aspx?menuID=70> (accessed on 20 January 2022).
34. Lai, A.H.; Chui, C.H.; Lo, P.H.; Jordan, L.P.; Chan, C.L. The buffering effect of child-caregiver relationships: Social skills development of ethnic minority children with maladaptive behaviors in rural China. *Child. Youth Serv. Rev.* **2017**, *79*, 333–340. [[CrossRef](#)]
35. Liao, R.; Hu, L.; Liao, Q.; Zhu, T.; Yang, H.; Zhang, T. Analysis of death causes of residents in poverty-stricken Areas in 2020: Take Liangshan Yi Autonomous Prefecture in China as an example. *BMC Public Health* **2022**, *22*, 89. [[CrossRef](#)] [[PubMed](#)]
36. Yang, S.; Zhai, W.; Pei, R.; Jike, C.; Nan, L.; Yu, G.; Liao, Q.; Wang, Q.; Liu, D.; Gao, B.; et al. Factors associated with HIV infection among Yi minority residents in Liangshan Prefecture, Sichuan Province. *Medicine* **2018**, *97*, e0250. [[CrossRef](#)] [[PubMed](#)]
37. Liu, Z.; Tang, X.; Liu, Y.; Zhang, L.; Yang, Y.; Zheng, Y.; Liu, W.; Jike, C.; Mai, H.; Fan, H.; et al. HIV Prevention and Health Poverty Alleviation—Liangshan Prefecture. *China CDC Wkly.* **2021**, *3*, 1031. [[CrossRef](#)] [[PubMed](#)]
38. Yao, Y.N.; Yang, S.J.; Wang, Q.X.; Yu, G.; Liao, Q.; Xiao, L.; Gong, Y.H.; Wang, K.; Zhang, S.H.; Zhai, W.W.; et al. Data Analysis on HIV/AIDS Sentinel Surveillance Programs Targeting Community Population in Liangshan Yi Autonomous Prefecture, 2010–2015. *Zhonghua Liu Xing Bing Xue Za Zhi Zhonghua Liuxingbingxue Zazhi* **2017**, *38*, 1102–1106. [[PubMed](#)]
39. Lou, W. Drug Hotspot Vows to Clean up Its Act. *China Daily*. 30 December 2015. Available online: <http://global.chinadaily.com.cn/a/201512/30/WS5a30b8a3a3108bc8c672e03f.html> (accessed on 12 January 2022).
40. Zhao, G.; Zhao, Q.; Li, X.; Fang, X.; Zhao, J.; Zhang, L. Family-based care and psychological problems of AIDS orphans: Does it matter who was the care-giver? *Psychol. Health Med.* **2010**, *15*, 326–335. [[CrossRef](#)] [[PubMed](#)]
41. Li, Y.; Su, B.; Liu, Y. Realizing targeted poverty alleviation in China: People’s voices, implementation challenges and policy implications. *China Agric. Econ. Rev.* **2016**, *8*, 443–454. [[CrossRef](#)]
42. Ke, M. Ending Extreme Poverty in China: Providing Tuition-Free Education in S.W. China’s Liangshan CGTN News. 26 September 2020. Available online: <https://news.cgtn.com/news/2020-09-26/Providing-tuition-free-education-in-SW-China-s-Liangshan-U6gQ7bExNe/index.html> (accessed on 12 January 2022).
43. Chuanyue Da Liangshan 24 Nian de Huifang—Yizu Nuzi Ban de Guhi [A 24-Year Return Visit through the Daliang Mountain-the Story of the Yi Female’s Class]. Xinhua Net. 12 January 2017. Available online: http://www.xinhuanet.com/local/2017-01/12/c_129442649.htm (accessed on 26 January 2022).
44. Lai, A.H.Y. Yinheritance? Cultural Celebrations for Ethnic Minority Children’s Well-Being. Hong Kong Baptist University Library. Available online: <https://digital.lib.hkbu.edu.hk/yinheritance/background.php?lang=en> (accessed on 26 January 2022).
45. Lai, A.H.Y.; Wong, K.Y. School Socialization, Cultural Learning, and Cultural Connectedness: The Identity of Yi Ethnic Minority Youth in Rural China. In *Rural China in Focus: Political, Environmental, and Social Issues*; Hamlin-Harris, N., Ed.; Nova Science Publishers: New York, NY, USA, 2019; pp. 35–72.
46. Lu, J.; Guo, X. Ethnicity on the move: Understanding the ethnic identity construction of Zhuang university students experiencing educational mobility in China. *Ethnicities* **2020**, *21*, 62–82. [[CrossRef](#)]
47. Wu, M.; Lee, M.B. Ethnic Minority Education in China. In *Oxford Research Encyclopedia of Education*; Oxford University Press: Oxford, UK, 2021.
48. Xiong, W. *Ethnic Minority-Serving Institutions: Higher Education Case Studies from the United States and China*, 1st ed.; Palgrave Macmillan: London, UK, 2020.
49. Harrell, S. *Ways of Being Ethnic in Southwest China*; University of Washington Press: Seattle, WA, USA, 2001.
50. Postiglione, G. *Education, Ethnicity, Society and Global Change in Asia: The Selected Works of Gerard, A. Postiglione*; Routledge: London, UK, 2017.
51. Torsheim, T.; Wold, B.; Samdal, O. The Teacher and Classmate Support Scale: Factor Structure, Test-Retest Reliability and Validity in Samples of 13- and 15-Year-Old Adolescents. *Sch. Psychol. Int.* **2000**, *21*, 195–212. [[CrossRef](#)]
52. Perrin, S.; Meiser-Stedman, R.; Smith, P. The Children’s Revised Impact of Event Scale (CRIES): Validity as a Screening Instrument for PTSD. *Behav. Cogn. Psychother.* **2005**, *33*, 487–498. [[CrossRef](#)]

53. Lau, J.T.; Yeung, N.C.; Yu, X.N.; Zhang, J.; Mak, W.W.; Lui, W.W. Validation of the Chinese Version of the Children's Revised Impact of Event Scale (CRIES) among Chinese Adolescents in the Aftermath of the Sichuan Earthquake in 2008. *Compr. Psychiatry* **2013**, *54*, 83–90. [[CrossRef](#)]
54. Schwartz, S.J.; Weisskirch, R.S.; Hurley, E.A.; Zamboanga, B.L.; Park, I.J.; Kim, S.Y.; Umaña-Taylor, A.; Castillo, L.G.; Brown, E.; Greene, A.D. Communalism, Familism, and Filial Piety: Are They Birds of a Collectivist Feather? *Cult. Divers. Ethn. Minor. Psychol.* **2010**, *16*, 548. [[CrossRef](#)]
55. Bates, D.; Kliegl, R.; Vasishth, S.; Baayen, H. Parsimonious mixed models. *arXiv* **2015**, arXiv:1506.04967.