Does Resilience Play a Mediating Role in the Link Between the Earliest Memory and Personality Traits? Analysis of the Positive Cognition in a Chinese Sample^{*}

Yu Miao
Beijing Normal University,
Beijing, China

Alpana Vaidya
Symbiosis College of Arts &
Commerce, Pune, India

Xu Yan
Beijing Normal University,
Beijing, China

The current study examined the association among personality traits, resilience and the earliest memory. A total of 61 undergraduates (51 female and 10 male) between ages 18 to 22 were recruited in Beijing. The sample consisted of 61 undergraduate students from Beijing (51 females and 10 males). They were administered the Sixteen Personality Factors (16PF) and the Chinese version of Connor-Davidson Resilience Scale (CD-RISC) respectively. The earliest memory was assessed with the help of self-report questionnaire. The results showed that there was a significant positive correlation between the resilience and the earliest. The positive cognition was associated with personality traits, such as emotional stability (C), dominance (E), liveliness (F), social boldness (H) and apprehension (O). The positive cognition completely mediated the relationship between the earliest memories and personality traits such as E, H and O. The impact is achieved through the positive cognition which is part of resilience. The results show that the earliest memory plays a significant role in interpretation of character in stories.

Keywords: the earliest memory, personality traits, resilience, positive cognition

Introduction

The earliest memory is a kind of autobiographical memory which plays an important role in the development of individual. Research on autobiographical memory has increasingly focused attention on the earliest memory (Jack & Hayne, 2007; Wang & Conway, 2004; Mackinnon, Sherry, & Pratt, 2013). Autobiographical memory is of fundamental significance for the self, for emotion, and for the experience of personhood (Conway & Pleydell-Pearce, 2000).

Freud found the close connection between the earliest memory and infantile amnesia. He also related it to the child's energy for further cognitive development and sublimation activities (Butcher & Rouse, 1996). Adler found that the earliest memory could show the individual's fundamental view of life, his first satisfactory crystallization of his attitude and offer us an opportunity to see at one glance what he has taken as the starting point for his development (Adler & Porter, 1931). Recent studies have also shown that the

^{*} This research was supported by grants from the National Key Technologies R&D Program of China (2012BAI36B03).

Yu Miao, School of Psychology, Beijing Normal University.

Alpana Vaidya, Symbiosis College of Arts & Commerce.

Xu Yan, School of Psychology, Beijing Normal University. Email: xuyan@bnu.edu.cn.

earliest memory can be measured not only by scale but also with the help of one's own description (Fitzgerald, 2010; Mackinnon, Sherry, & Pratt, 2013).

In order to explore the relationship between the earliest memory and individual development, many researchers have focused on the correlation between personality traits and narratives.

It is also suggested by some researchers that life stories are a part of our identity and influence the actions we consider possible and outcomes we expect (Pillemer, 2001). Many researchers found that the trauma in childhood experience will affect the personality development of individuals. For example, Dierkhising and his colleagues (2013) have found that the adolescents who have trauma in their earliest memories present much more crime and illegal behaviors than the normal in daily life. This result was also verified by other psychologists (Fox et al., 2015; Freyd et al., 2005).

According to these latest studies, it is not hard to see that there is close relationship between the earliest memory and personality. However, previous researchers just make much more effort on studying the negative aspects of earliest memory pay little attention to the positive aspects. Therefore, it is necessary to discuss the relationship between life stories and personality traits which brings a bridge to study the earliest memory.

In the three-level personality construct model proposed by McAdams, it encompasses the dispositional traits and meanwhile includes the integrative life stories (McAdams, 2001). However, McAdams was not satisfied with this, and with his colleagues, they tested Big-Five traits to the life-narrative indices of emotional tone, theme, and structure. Accordingly they found that Neuroticism was positively associated with an emotionally negative life-narrative tone, agreeableness was correlated with narrative themes of communion (e.g., friendship, caring for others). However, openness was strongly associated with the structural complexity of life narrative accounts; however, conscientiousness was not consistently associated with themes of agency (e.g., achievement, self-mastery) and extraversion was not related to positive narrative tone (McAdams et al., 2004).

Resilience is the process of capacity for, or outcome of successful adaptation despite challenging or threatening circumstances (Masten, Best, & Garmezy, 1990). Regarding the relationship between resilience and personality studies have found that the resilience could predict individual personality well (Allemand, Steiger, & Fend, 2015; F. R. Parrott & J. Parrott, 2015; Shiner & Masten, 2012). Fayombo (2010) has identified the relationship between resilience and Big-Five personality traits. Other researchers also found positive correlations between all resilience factors and the well-adjusted personality profile obtained by means of using Big Five. It was also reported that individuals scoring high on resilience scale are psychologically healthier, better adjusted, and thus more resilient (Friborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2005).

The Present Study

Life stories are based on autobiographical memory. They may also focus on positive events and interpretations. The researchers found that the optimistic individuals were more likely to include others in their memories, were more likely to perceive them as active, had clearer and more distinctive memories, reported sustained interpersonal interactions, reported personal competence, and recalled more pleasant occurrences (Nichols & Feist, 1994). Review of literature on resilience and early memory has shown inconsistent findings. Therefore, an attempt has been made in the present study to find out whether the earliest memory is related to

the personality traits in a Chinese culture. Whether the resilience has an effect on the relation between the earliest memory and personality traits, and whether the resilience procedure is equal to the total resilience.

Based on the review of literature, the aims of the present study are to find the relation between resilience and personality traits in a Chinese culture, to research the relationship between the earliest memories and personality traits, and to test mediating role of the earliest memory.

Method

Participants/Sample

A total of 61 undergraduate students (51 women and 10 men) enrolled in the personality psychology course at Beijing Normal University in the spring of 2014 participated in this research. Participants ranged in age from 18 to 22 years old ($M = 19.9$; $SD = 0.77$).

Procedure

After informed consent and permission, participants were asked to complete the questionnaires.

Each participant completed a series of measures and questionnaires either on a self-report basis.

Firstly, the participants were asked to write down their first memories according to the instruction “Try to recall the earliest memory of an event that you think has influenced you the most. Please describe clearly about when, where, who and the details within 400 words on the paper”. Secondly, they evaluated the story and its effect on them and other characters. Thirdly, participants completed the 16 Personality Factors Questionnaires which was translated into the Chinese. Resilience Scale was also administered.

Measures

Personality traits. Personality traits were measured with the help of Cattell’s 16 PF. It is a multi-level measure of personality based on Cartel’s factor-analytic theory, the questionnaire consisted of 187 items. Cattell’s 16 primary personality traits (A, warmth; B, reasoning; C, emotional stability; E, dominance; F, liveliness; G, rule consciousness; H, social boldness; I, sensitivity; L, vigilance; M, abstractedness; N, privateness; O, apprehension; Q1, openness to change; Q2, self-reliance; Q3, perfectionism; and Q4, tension). Each primary personality trait is assessed on the basis of about 10 to 13 items. There are two choices. The “S” is asked to respond on the basis of “Yes” and “No”. The responses are scored from 0 and 1 respectively. The test-retest reliability of its Chinese version ranges from 0.83 to 0.93, and the internal consistency ranges from 0.80 to 0.91 (Leung, Cheung, Zhang, Song, & Xie, 1997). In addition, Kmo Long Form was found to be 0.57 nearly available in present study.

Resilience. The Resilience was measured with the help of the Chinese version of 25 items Connor-Davidson Resilience Scale (CD-RISC). It is a 5-point Likert scale. The participants were asked to respond on a 5-point Likert scale, from 1 (“Not true at all”) to 5 (“True all the time”).

The reliability of the scale is 0.89 and test-retest correlation of 0.87 in the studies of American participants (Yu & Zhang, 2007).

In addition, a question was asked to the subjects “what is the proportion of life events has a positive impact on your growth?” The participants were asked to control a slider on and choose the ratio they felt appropriate on the percentage axis.

The earliest memory. In the current study, four key features of the earliest memory were focused. They were:

(1) Type (positive vs. negative), (2) Emotional tone (positive vs. negative), (3) Effect (positive vs. negative), and (4) Impression.

Type. There are two types being described in the present study, i.e., negative and positive. The type of event was assessed by two raters. Two independent raters coded 61 stories and achieved acceptable levels of reliability, $k(59) = 0.791$ ($p < 0.001$).

Emotional tone. Following a previous study, McAdams and his colleagues (2001) found that emotional tone was assessed with the help of a five-point rating scale. A rating of 1 was given for very unhappy story whereas a rating of 5 was given for very happy story. Narratives expressed the emotions of participants. They were rated by the same two graduates. Inter-rater reliabilities between two independent raters for a sample of 61 stories were $r(59) = 0.727$ ($p < 0.001$). Then the mean of two raters' grade was the final emotional tone (McLean & Pratt, 2006).

Impression. The degree of impression was assessed with the help of a five-point rating scale. A rating of 1 was given for no impression to a rating of 5 was given for very impression.

Effect. The effect of the first memory was assessed through a five-point rating scale. A rating of 1 was given for negative effects and a rating of 5 was given for positive effects.

Data Analysis

Data were analysis with the help of the Mplus software package (L. Muthén & B. O. Muthén, 2008). The Mplus software package allows for the statistical control of non-normality and outliers through the use of robust maximum likelihood estimation. Mediation analyses were conducted through the use of Sobel test since this method allows for correction for clustered data.

Results

Descriptive Analysis

Analyses were carried out on 61 undergraduate students. The earliest memory of the participants ranged from 2 to 6 years old ($M = 4.1$; $SD = 0.85$). There was no significant difference between males and females in the earliest memory age, $t(59) = 0.74$, $p = 0.46$. Similarly, significant difference was not found on the effect of event on participant's emotion tone (see Table 1). Besides, gender differences were not found on the event type, $\chi^2 = 0.336$, $p = 0.562$. Regarding the impression of earliest memory accessed significant gender differences were found $t(59) = -1.889$, $p = 0.064$. Thereby, results showed that male had a more impression on their earliest memory than females.

The Relationship Between Resilience and Personality Traits

Results of correlations between the resilience (included the positive cognition) and personality traits are presented in Table 1 (Pearson correlation coefficient). Resilience was strongly associated with dimensions of personality traits such as A (marginal significance), C, E, F, G, H and O. A significant positive correlation was obtained between positive cognition and some of the personality dimensions (see Table 1). Marginally significant correlation was obtained between C, E, F, H and O dimensions. In addition, resilience was remarkably associated with positive cognition ($r = 0.44$, $p < 0.01$).

The Relationship Between the Earliest Memory and Personality Traits

In present study, intimate relationship was not found between four indicators of the earliest memory and personality traits (see Table 2).

Table 1

Correlations Between Resilience and Personality Traits (Decimal Omitted)

Traits	A	C	E	F	G	H	O
Resilience	0.23 [#]	0.47 ^{***}	0.37 ^{**}	0.33 [*]	0.30 [*]	0.48 ^{***}	-0.52 ^{***}
Positive cognition	0.19	0.34 ^{**}	0.22 [#]	0.34 ^{**}	0.20	0.36 ^{**}	-0.35 ^{**}
Resilience vs. Positive cognition	$r(61) = 0.44^{**}$						

Notes. [#] $p < 0.10$, ^{*} $p < 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$.

Table 2

Correlations Between Personality Traits and Stories

Traits	G	H	L	M	O	Q1	Q2	Q3
Type	-0.12	0.27 [*]	-0.06	-0.09	-0.14	0.07	-0.28 [*]	0.01
Impression	-0.11	0.21 [#]	-0.02	0.29 [*]	-0.10	-0.07	-0.30 [*]	-0.22 [#]
Effect	0.12	-0.08	-0.24 [#]	-0.05	-0.10	0.05	-0.06	0.19
Emotion	-0.28 [*]	0.16	-0.23 [#]	-0.006	-0.22 [#]	0.23 [#]	-0.18	0.14

Notes. [#] $p < 0.10$, ^{*} $p < 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$.

The Relationship Between Resilience and the Earliest Memory

Correlations between the resilience (included the positive cognition) and the indicators of the earliest memory are presented in Table 3.

The correlation between positive cognition and effect of the earliest memory was positive; but the relation was not found to be significant. Thereby, the results indicated that the relationship between resilience and the indicators of the earliest memory was not remarkable.

Table 3

Correlations Between Resilience and Stories

The Earliest Memory	Type	Impression	Effect	Emotion
Resilience	0.19	0.08	-0.03	0.01
Positive cognition	0.23 [#]	-0.20	0.29 [*]	0.18

Notes. [#] $p < 0.10$, ^{*} $p < 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$.

Central Analysis

Results of meditational analyses supported the earlier studies. For example, the obtained results showed that certain dimensions of personality traits, resilience and the earliest memory are correlated (see Figure 1). Positive cognition significantly completely mediated the association between effect of the earliest memory and F, H and O respectively (indirect effect = 0.55, 0.59, and -0.47, $p = 0.03$, 0.03, and 0.05 respectively).

Then in line with the prior results we constructed the model by use of Confirmatory factor analysis (CFA). The original model had 29 degrees of freedom and this model had the nearly following goodness of fit statistics: $\chi^2(10) = 29.14$ ($p < 0.01$); CFI = 0.86, TLI = 0.622, RMSEA = 0.177 (see Figure1).

Figure 1. Mediation Model of Positive Cognition in relation between the earliest memory effect and personality traits. Notes. Effect = the Earliest Memory Effect; Resilience = Resilience; PC = Positive Cognition; C, F, H, O and E = Personality Traits. $N = 61$, all relationships in the figure are significant.

Discussion

The results of the descriptive analyses showed that the age of earliest memory is 4.1 years old. Thereby, obtained results go along with the previous studies. For example, in the previous study on adults' earliest memories, it was found that adults' earliest memories can be dated back to the time when the respondents were between 3 and 4 years of age (Jack & Hayne, 2007). Regarding gender differences as well results go along with the earlier studies (Kingo et al., 2013).

Secondly, the present study illustrated the importance of considering both the earliest memory and the resilience in the certain personality traits. Findings confirmed that the positive cognition plays a mediating role in the relationship between the earliest memory self-reported effect and three certain personality traits. Assumptions of a reciprocal relationship between autobiographical information and personality are frequent in the literature (Conway & Pleydell-Pearce, 2000; Habermas & Bluck, 2000; McAdams, 2001; Rubin, 2005). There is evidence that one's life story or narrative identity is formed through extensive reflection and understanding of one's own unique and ever-evolving set of personal experiences. It seems likely that life-story narration of empathy-related experiences will develop over the course of adolescence and emerging adulthood (Soucie, Lawford, & Pratt, 2012). Furthermore, Adler suggested that early recollections have special significance. Events remembered from childhood must be very near to the main interest of the individual; and if we know his main interest we know his goal and his style of life. It is this fact which makes early recollections of such value in vocational guidance. It is comparatively indifferent whether the memories are accurate or inaccurate. What values most about them is that they represent the individual's judgment (Adler & Porter, 1931). It suggests that as a part of life stories, the earliest memory has a crucial effect on the personality traits. Moreover, in our study we testified the important role of resilience in that relationship. There is also evidence

that the resilience is related to Big Five personality traits (Fayombo, 2010).

Thirdly, in present study, the results showed that the resilience plays a mediating role in the relationship between memory and personality which is similar to a latest study by Shi and his colleagues (Shi, Liu, Z. Y. Wang, & L. Wang, 2015). These results demonstrated that resilience was not only an ability which could give people an optimistic mindset but also a kind of positive cognition which could allow people to get through the adversity well (Masten et al., 1990; Luthar, Lyman, & Crossman, 2014).

Nowadays, more researchers are focusing on the positive psychology. The positive trait was intimately correlated with the positive cognition. Besides, as a part of resilience, cognition was also a positive factor in people's daily life. This attitude leads to a good habit and behavior, thereby, shaping personality of an individual.

Conclusions

The present study demonstrates the relationship between personality, resilience and the earliest memory among Chinese undergraduates. This research sheds light on the contribution of positive cognition in interpreting the earliest memory personality traits in a Chinese culture. The results showed that the earliest memory has an impact on some personality traits, and the impact is achieved through the positive cognition which is part of resilience. It means that the interpretation of memories play a significant role on personal characters. An integrated model of the three variables is also proposed in this study.

References

- Adler, A., & Porter, A. (1931). *What life should mean to you*. Grosset & Dunlap.
- Allemand, M., Steiger, A. E., & Fend, H. A. (2015). Empathy development in adolescence predicts social competencies in adulthood. *Journal of Personality*, 83(2), 229-241.
- Butcher, J. N., & Rouse, S. V. (1996). Personality: Individual differences and clinical assessment. *Annual Review of Psychology*, 47(1), 87-111.
- Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety*, 18(2), 76-82.
- Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review*, 107(2), 261.
- Dierkhising, C. B., Ko, S. J., Woods-Jaeger, B., Briggs, E. C., Lee, R., & Pynoos, R. S. (2013). Trauma histories among justice-involved youth: Findings from the National Child Traumatic Stress Network. *European Journal of Psychotraumatology*, 4.
- Fayombo, G. A. (2010). The relationship between personality traits and psychological resilience among the Caribbean adolescents. *International Journal of Psychological Studies*, 2(2), 105.
- Fitzgerald, J. M. (2010). Culture, gender, and the first memories of black and white American students. *Memory & Cognition*, 38(6), 785-796.
- Fox, B. H., Perez, N., Cass, E., Baglivio, M. T., & Epps, N. (2015). Trauma changes everything: Examining the relationship between adverse childhood experiences and serious, violent and chronic juvenile offenders. *Child Abuse & Neglect*.
- Freyd, J. J., Putnam, F. W., Lyon, T. D., Becker-Blease, K. A., Cheit, R. E., Siegel, N. B., & Pezdek, K. (2005). The science of child sexual abuse. *Science*, 308(501), 744-759.
- Friborg, O., Barlaug, D., Martinussen, M., Rosenvinge, J. H., & Hjemdal, O. (2005). Resilience in relation to personality and intelligence. *International Journal of Methods in Psychiatric Research*, 14(1), 29-42.
- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, 126(5), 748.
- Jack, F., & Hayne, H. (2007). Eliciting adults' earliest memories: Does it matter how we ask the question? *Memory*, 15(6), 647-663.

- Kingo, O. S., Berntsen, D., & Krøjgaard, P. (2013). Adults' earliest memories as a function of age, gender, and education in a large stratified sample. *Psychology and Aging, 28*(3), 646.
- Leung, K., Cheung, F. M., Zhang, J. X., Song, W., & Xie, D. (1997). The five factor model of personality in China. *Progress in Asian Social Psychology, 1*, 231-244.
- Luthar, S. S., Lyman, E. L., & Crossman, E. J. (2014). Resilience and positive psychology. In *Handbook of Developmental Psychopathology* (pp. 125-140). Springer US.
- Mackinnon, S. P., Sherry, S. B., & Pratt, M. W. (2013). The relationship between perfectionism, agency, and communion: A longitudinal mixed methods analysis. *Journal of Research in Personality, 47*(4), 263-271.
- Martel, M. M., Nikolas, M., Jernigan, K., Friderici, K., & Nigg, J. T. (2010). Personality mediation of genetic effects on attention-deficit/hyperactivity disorder. *Journal of Abnormal Child Psychology, 38*(5), 633-643.
- Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2*(04), 425-444.
- McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology, 5*(2), 100.
- McAdams, D. P., Anyidoho, N. A., Brown, C., Huang, Y. T., Kaplan, B., & Machado, M. A. (2004). Traits and stories: Links between dispositional and narrative features of personality. *Journal of Personality, 72*(4), 761-784.
- McAdams, D. P., Reynolds, J., Lewis, M., Patten, A. H., & Bowman, P. J. (2001). When bad things turn good and good things turn bad: Sequences of redemption and contamination in life narrative and their relation to psychosocial adaptation in midlife adults and in students. *Personality and Social Psychology Bulletin, 27*(4), 474-485.
- McLean, K. C., & Pratt, M. W. (2006). Life's little (and big) lessons: Identity statuses and meaning-making in the turning point narratives of emerging adults. *Developmental Psychology, 42*(4), 714.
- Muthén, L. K., & Muthén, B. O. (2008). *Mplus* (Version 5.1). Los Angeles, CA: Muthén & Muthén.
- Nichols, C. C., & Feist, J. (1994). Explanatory style as a predictor of earliest recollections. *Individual Psychology: Journal of Adlerian Theory, Research & Practice*.
- Parrott, F. R., & Parrott, J. (2015). Mental illness and parenthood: Being a parent in secure psychiatric care. *Criminal Behaviour and Mental Health*.
- Pillemer, D. B. (2001). Momentous events and the life story. *Review of General Psychology, 5*(2), 123.
- Rubin, D. C. (2005). A basic-systems approach to autobiographical memory. *Current Directions in Psychological Science, 14*(2), 79-83.
- Shi, M., Liu, L., Wang, Z. Y., & Wang, L. (2015). The mediating role of resilience in the relationship between Big Five Personality and anxiety among Chinese medical students: A cross-sectional study. *PloS One, 10*(3).
- Shiner, R. L., & Masten, A. S. (2012). Childhood personality as a harbinger of competence and resilience in adulthood. *Development and Psychopathology, 24*(02), 507-528.
- Soucie, K. M., Lawford, H., & Pratt, M. W. (2012). Personal stories of empathy in adolescence and emerging adulthood. *Merrill-Palmer Quarterly, 58*(2), 141-158.
- Thomsen, D. K., Olesen, M. H., Schnieber, A., & Tønnesvang, J. (2014). The emotional content of life stories: Positivity bias and relation to personality. *Cognition & Emotion, 28*(2), 260-277.
- Tulving, E. (2002). Episodic memory: From mind to brain. *Annual Review of Psychology, 53*(1), 1-25.
- Wang, Q., & Conway, M. A. (2004). The stories we keep: Autobiographical memory in American and Chinese middle - aged adults. *Journal of Personality, 72*(5), 911-938.
- Yu, X., & Zhang, J. (2007). Factor analysis and psychometric evaluation of the Connor-Davidson resilience scale (CD-RISC) with Chinese people. *Social Behavior and Personality: An International Journal, 35*(1), 19-30.