

Identity Formation as a Mediator between Early Separation From Parents and Adolescence
Mental Health Issues

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Abstract

Early experience of separation from parents was claimed to be relevant to later onset of mental health problems including depression, anxiety and borderline personality in adult age. However, research outcomes are various and the underline developmental pathway is unclear. This research investigated the effect of early experience of separation from parents on the tendency of depression, anxiety and borderline personality among middle school age students in China. Identity formation condition was assessed as a hypothetical developmental mediator on the possible correlation. The outcome of this research did not support the hypothesis that early experience of separation from parents or negative relationship with caretakers in early ages is correlated to mental health issues at later developmental stages. Early relationship with primary caretakers and mental health outcomes at adolescence ages were found correlated to different dimensions of individual identity formation process respectively. Research implications were discussed.

Keywords: Early Separation, Identity Formation, Mental Health

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Introduction

Early childhood traumatic experience is correlated to later psychopathology: this has been a basic assumption in the field of psychology since Freud. In 1969, Bowlby (1969) proposed the “attachment theory” which stated that the secure attachment between infants and their primary caregiver is key to the infants’ mental health later into adulthood. Therefore, parental absence as an extreme and unique form of negative parenting experience, was postulated to be a significant predictor for both child and adult psychopathology, because it would lead to “insecure attachment” (Bowlby, 1969). Bowlby (1969) defined “parental loss” as parental deaths or separation from parents in duration of more than 2 months, happening before the age of 12. Since then, numerous researches have been done trying to validate the attachment theory. For some mental health problems, including depression, borderline personality disorder and conduct problems, the correlations between parental absence and the mental health issues are well supported by research (Barone, 2003; Kendler, Neale, Kessler, Heath, & Eaves, 1992; Kunugi et al., 1995; Luo, Gao, & Zhang, 2011; Malone, Westen, & Levendosky, 2011; McLeod, 1991; Slavich, Monroe, & Gotlib, 2011; Srinivasan & Raman, 1988; Tennant, Bebbington, & Hurry, 1980). In a research (Slavich et al., 2011) done on 100 adults (74 females) between the ages of 18 and 58 in the United States, a phenomena called stress sensitization was found. Participants who experienced parental separation in early life, tended to develop depression under lower stress life events. Particularly, they tended to develop depression much easier when facing interpersonal loss events. Some research also found potential evidence for insecure attachment being as a mediator between negative parenting experience and mental health issues later in life. A study (Luo et al., 2011) on children in China revealed that, adolescents who separated from their parents physically during their early childhood, showed lower self-esteem and confidence, higher overall elevated anxiety level,

hopeless/helpless ideation and depressive level than control group did. They tended to hold ambivalent attitudes toward relationships with peers and the authority, which manifested obstacles in forming secure relationships. In another research, Rusby and Tasker (2008) investigated 859 respondents aged 62–72 who experienced the British evacuation of children during World War II. They found that respondents evacuated between the ages of 4 and 6 years showed lower incidences of secure attachment style (38% and 27% respectively), comparing to those who did not evacuate (64% and 44%). This indicated that early traumatic separation experience, even in a limited amount of duration and occurred as a single episode, did lead to disturbance in attachment formation. All these findings supported the attachment theory, and hinted that insecure attachment styles could potentially explain the correlation between early parental separation and mental health issues like depression and other personality disorders. According to the attachment theory, it is likely that the early experience of parental neglect or absence created barriers for the individuals to form and sustain secured and meaningful interpersonal relationship later in life, which eventually leads to psychopathology in later childhood or adulthood.

However, a deeper look into the literature yielded a more complicated picture than the straightforward assumption. First, research findings are not consistent for a wide range of psychopathology. The relationships between many severe mental disturbances and parental absence, including dissociative personality disorder and schizophrenia, are still in doubt (Furukawa et al., 1998; Harris, Brown, & Bifulco, 1986; Haslam, 1978; Krueger, 1983; Letzter-Pouw & Werner, 2012; Malone et al., 2011; Mishne, 1979; Räikkönen et al., 2011; Roy, 1980; Schiffman et al., 2001; Srinivasan & Raman, 1988). Second, the limitation of research methods and the misinterpretations of the findings also raised criticism (Tennant, 1991; Tennant et al., 1980). The poorly defined concept of parental absence, the complexity of its underlining psychological process (Krueger, 1983) and the unclear pathway are the main doubts raised by previous researches. Some researchers (Kendler et al., 1992; Tennant, 1991) believe that the correlation between early separation experience

and psychological disturbance “...are quite brittle, largely because the confounding effects of genetic and environmental factors preceding the loss have not been adequately accounted for”. In research, many factors were found to affect the correlation between early separation from parents and adult psychopathology, including gender, parental loss or maternal loss, culture background, Social Economic Status (SES) before and after the separation, parenting status after separation, and age when separation happened (Coffino, 2009; Harris et al., 1986; McLeod, 1991; WIM Meeus, Oosterwegel, & Vollebergh, 2002; Schiffman et al., 2001; Srinivasan & Raman, 1988; Tennant, 1991). Coffino (2009) in a prospective longitudinal study found that, only experience of parental separation between age five and second grade showed strong correlations to adult major depression disorder (MDD), which the time frame is well beyond the critical developmental time point proposed in the attachment theory (before age 4) (Bowlby, 1969). Also, similar research conducted in India and Japan (Kunugi et al., 1995; Srinivasan & Raman, 1988) on the different effects from paternal loss and maternal loss revealed contradictory results. Srinivasan and Raman (1988) found that only paternal loss contributed to later psychopathology of children, and they claimed that it may be due to the central role of father in Indian families, as a foundation of family income and SES. However, Kunugi et al. (1995) found that in Japan maternal loss created severer influences on children because mothers play a crucial role as caregiver, while Japanese fathers were likely in lack of proper skills in raising children since those skills were considered as “woman’s job” in their culture. Other researches (Räikkönen et al., 2011; Rusby & Tasker, 2008) also implied the buffer effect of SES on attachment formation and psychopathology among children with early parental loss experience, either by death or by separation. These findings imply that, the possible negative consequences of parental loss, like decreased family income, lower family SES, shorten caring time from remained parent due to longer working time in reaction to financial pressure, rather than attachment disruption per se, enhanced the change of child’s aberrant symptoms and behaviors. In other words, “lack of parenting” could be a more important factor than “lack

of parents/attachment” in this process. Therefore, doubts remained in the assumptions that early parental separation/loss would lead to mental health issues later in life, and cogent conclusion is yet to be claimed. The trajectory which leads the children from early traumatic experience to adult mental problems also remains unclear.

In this paper, we aim to investigate the relationship between early separation from parents and later mental health status during puberty, and compare potential mediators for this relationship. To aim for a better control of the confounding effects, we collected our sample from a unique population in China, the so called “Left-behind children”. “Left-behind children” is usually referring to the kids of the migrant workers in China. As a result of the economic boom in China, more and more citizens from the rural area migrate into the urban area to join the labor forces in hope of a better household income. According to the Fifth National Population Census of the People’s Republic of China (citation needed), 42.4 million people living outside of their home provinces (i.e., outside of the province where they were legally domiciled). Because of the population regulation policy in China, these migrated workers have no access to local public education resources and therefore their children usually would have to stay in their original province to receive free public education. “Left-behind children” usually were taken care of by their other relatives, have similar or higher house hold income comparing to their local peers, and receive the same public education as other children(citation needed). Therefore, the “Left-behind children” formed a natural “control group” which the only difference from their local peers group is their tragic physical separation from their parents.

Also, we proposed that identity formation (E. Erikson et al., 1968) as another important developmental process, could potential serve as the mediator between early experience of parental separation and later mental health issues. Identity formation is one of Erikson’s eight developmental stages (E. Erikson et al., 1968). In Erik-son’s theory, adolescents of age 13–18 are likely to encounter the stage of “Identity vs. Role Confusion”. In this stage, adolescents grow both occupationally and ideologically. It requires them to

incorporate new information and childhood experience to achieve a new identification of self. Those who successfully go through this challenge would develop a quality named “fidelity”, which Erikson referred to as “...the ability to sustain loyalties freely pledged in spite of the inevitable contradictions and confusions of value systems” (E. H. Erikson, 1978, p. 28). Researchers have found that the relationship with parents have an influence on an adolescent’s identity formation (Bartle-Haring, Brucker, & Hock, 2002; Grossman, Shea, & Adams, 1980; Grotevant & Cooper, 1985; Guerra & Braungart-Rieker, 1999; Lucas, 1997; Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, 2007). In a research done by Grotevant and Cooper (1985), the quality of communication within family were associated with identity exploration for female adolescents, while for male adolescents, only father-son interactions were relevant. According to Bartle-Haring et al. (2002), mothers’ sense of providing a secure base for their children in college influences their children’s identity achievement, whereas fathers’ anxiety about distancing has both negative and positive influences on their children’s foreclosure depending on the gender of the child. On the other hand, theories based on the Eriksonian developmental models also predict that the failure to fulfill identity formation could lead to mental health problem including low self-esteem, depression, anxiety, and borderline personality disorder during adolescence (Berzonsky, 2003), which is supported by a few empirical research (Wim Meeus, 1996; Waterman, 1982). In Luyckx, Goossens, Soenens, and Beyers (2006), Luyckx proposed an four-dimensional structure (Commitment Making, Identification with Commitment, Exploration in Depth, and Exploration in Breadth) to capture identity formation, and the result indicated that Commitment Making and Identification with Commitment were negatively correlated to participants’ depression symptoms, while Exploration in Breadth was positively correlated to participants’ depression symptoms. In a recent extension of the previous research, Luyckx et al. (2008) added a fifth dimension (Ruminative or Maladaptive Exploration) as a complement to the exploration in breadth and in depth, in order to capture the specific part within the identity developmental process that is related

to anxiety and depression. It is believed that those who struggled much in exploration and failed to reach a commitment (Moratorium) may be more prone to psychopathology than those were inactive in both exploration and commitment (Diffusion), because engaging in perpetual moratorium may lead to experience of aggravated identity confusion and dissolution (Berzonsky, 1985; Marcia, 2002; Stephen, Fraser, & Marcia, 1992). These individuals seemed to be locked in a ruminative cycle of continuing exploration, characterized by a repetitive and passive focus resulting in a sense of hopelessness and uncontrollability of their current situation.

Hypothesis

Therefore, given the doubts and possible alternative pathway models mentioned above, our hypotheses for this study were: A. early separation from parents, and poor child-primary caretaker relationship are associated with an adolescent's mental health condition (depression, anxiety and borderline personality tendency); B. identity formation status is a mediator for the relationship proposed in Hypothesis A.

Method

Participants

Participants of this study ($N = 196$) were sampled from a school that enrolled around 1,500 students from seven grade to nine grade in the Da Yu County, which belongs to the region of Gan Zhou in Jiang Xi province, China. Following the government's new policy for "left-behind" children, the school keeps a list of all the students with one or both parents working in cities away from home. There were 153 students on the list at this school. 114 students on the list were recruited according to their availability during testing as experiment group. All of them had experience of early separation with at least one of their parents. Another 82 students from eight grade who grow up with both parents were recruited as the control group. Every participant was assigned a participant number and

was asked to complete an online survey using Qualtrics in the school's computer room. No identifiable information was collected online. Their names and contact information were collected and stored separately. Each participant signed a consent form electronically on Qualtrics before starting the survey.

Materials

Information on participants' age, gender, and family income were collected. Measurements assessing their friendship quality, mental health outcomes and identity formation were applied. Participants were asked to choose their family net income from one of the four categories: less than 1,000RMB (< \$150) per month; 1,000 - 5,000 RMB (\$150 - \$750) per month; 5,000 - 10,000 RMB (\$750 - \$1,500) per month; more than 10,000 RMB (> \$1,500) per month. Participants were asked to evaluate their relationship with their primary caretakers at early ages in a seven-point scale (From "1- Very Bad" to "7-Very Good"). Mental health related measurements are as followed:

Patient Health Questionnaire-9 (PHQ-9). PHQ-9 is a self-administrative diagnostic instrument for depression. It scores each of the nine symptoms of depression (based on the Diagnostic and Statistical Manual of Mental Disorders - IV) from 0 (not at all) to 3 (almost everyday). It is widely used in clinical research to evaluate the severity of depression symptoms (Kroenke & Spitzer, 2002). The Chinese version of PHQ-9 has established its validity and reliability in mainland China. It is also recommended as a screening tool for adolescent depression in China, with a sensitivity of 89.5%, and specificity of 77.5% in Chinese adolescents (S.X. Zhou, 2012). Higher scores on PHQ-9 indicate more depression symptoms.

GAD-7. GAD-7 is a seven-item general anxiety disorder scale. It has good reliability, as well as criterion, construct and factorial and procedural validity (Spitzer, Kroenke, Williams, & Löwe, 2006) It is also translated into Chinese and widely used among Chinese adolescents. Higher scores on GAD-7 indicate more anxious symptoms.

The Friendship Scale. The friendship scale was originally developed to measure social isolation, which represented as a lack of support from others who can provide social integration, nurturing, alliance and guidance. It is a short and comprehensive self-administrative scale that measures different domains of friendship quality and social isolation. It has good reliability (Cronbach's alpha= .76), and good content validity, construct validity and criterion validity in all age groups (Hawthorne & Griffith, 2000). It was translated by the author of this paper, and back translated by another native Chinese speaker. The back translation showed that the translation accurately expresses the original meaning of the scale. Higher scores indicate a better relationship with friends in general.

SNAP-2 Borderline Personality Sub-scale (33 items). The Schedule for Nonadaptive and Adaptive Personality-2TM (SNAP-2TM), designed primarily as a clinical instrument, is a factor-analytically derived, self-report test including 390 True/False items designed to assess trait dimensions in the domain of personality disorders. The SNAP-2 has been studied in both patient and non-patient samples about a wide range of self-report and clinician-rated measures, including the Minnesota Multiphasic Personality Inventory (MMPI), MPQ, Five-Factor Model of Personality, state and trait mood, and interview-based ratings of personality disorder criteria. In our research 33 items from SNAP-2 utilized in Borderline Personality diagnosis were selected and translated into Chinese by the author of this paper, and the result of back translation was satisfying. If participants answer "Yes" to the question, they will score 1 point for that item, and if they answer "No", they will score 2 points. Therefore higher scores indicate fewer symptoms for borderline personality tendency in our analysis.

Dimensions of Identity Development Scale. Dimensions of Identity Development Scale (DIDS) (Luyckx et al., 2008) was developed to assess the identity formation process, with a comprehensive model for identity measurement in general context, which were constructed with with five dimensions including commitment making, identification with commitment, exploration in breadth, exploration in depth and

ruminative exploration. It includes 25 items (5 items for each dimension). Items were answered according to subject's personal perception of their lives in a five-point scale from strongly agree to strongly disagree. The DIDS were proved to be valid and reliable for measuring and distinguishing identity status among adolescence population.

Design

All measures mentioned above were considered as target variables for exploratory data analysis. Experience of early separation with parents was considered as grouping variable for all between group analysis. A chi-squart test was performed to evaluate the between group differences on demographic variables. A t-test was done to compare between group differences on both mental health and identity formation variables. Correlations between variables from relationship status, mental health and identity formation factors were investigated as exploratory analysis. A regression modelling approach was planned but aborted based on the results from correlation analysis.

Procedure

The measurements were conducted online via the Qualtrics. Participants were asked to finish a survey in a computer lab in the middle school. Participants were organized and instructed into 5 random groups to take their survey, due to the limited numbers of available computers. Each group had 40 participants and they finished the survey in 5 different times within the same day.

Results

Four cases were excluded due to missing data of parental migration status; two cases were excluded due to missing data of mental health scales (PHQ and GAD). The rest 190 cases were analyzed with SPSS 22.0.

Demographics

The ages of all participants ($N = 190$) ranged from 12 to 16 years old ($M = 13.70, SD = .81$). The participants in the experimental group ($M = 13.53, SD = .82$) were younger than those in the control group ($M = 13.95, SD = .73; p < .01$). There was no significant difference in terms of family income between the two groups. Table 1 summarized the information about gender and family income of the two groups.

Influence from Being Left-Behind Children

Between the left-behind children and the control group, there was no significant difference found on depression symptoms score, SNAP-BD score, Friendship Scale score, all the five dimensions of DIDS, nor their early relationship with primary caretakers. Left-behind children scored significantly lower than control group did on GAD score ($df = 188, p = 0.026 < 0.05$; See Table 2 for Independent Sample T-Test statistic)

Influence from Early Relationship with Primary Caretaker

Depression, Anxiety and Borderline Personality Tendency. Self-reported early relationship with primary caretakers was not significantly correlated with participants' scores on PHQ-9, GAD or SNAP-BD (See Table 3 for the correlations statistics).

Friendship Scale. Self-reported early relationship with primary caretakers was not significantly correlated with participants' scores on the Friendship Scale (See Table 3 for the correlations statistics).

Identity Formation. Self reported Early Relationship with Primary Caretakers was found significantly correlated to scores on two of the five dimensions of DIDS, the Exploration in Breath ($r = 0.165, p = 0.028 < 0.05$) and Commitment Identification ($r = 0.166, p = 0.024 < 0.05$). Better self-reported Early Relationship with Primary Caretaker indicated higher scores on Exploration in Breath and Commitment Identification

(See Table 4 for correlation statistic).

Identity Formation and Mental Health Issues

Exploration in Depth was significantly correlated to GAD scores ($r = 0.15, p = 0.04 < 0.05$). Higher scores on Exploration in Depth indicated more symptoms on anxiety. Ruminative Exploration was significantly correlated to PHQ-9, GAD-7, and SNAP-BD scores ($r = 0.27, p < 0.001; r = 0.30, p < 0.001; r = -0.31, p < 0.001$). Higher scores in Ruminative Exploration indicated more depression symptoms, anxiety symptoms and borderline personality tendency. No other statistically significant correlation was found between identity formation and mental health variables (See Table 5 for correlation statistic).

Discussion

In general, the research outcome did not support our hypothesis of the relationship between early parental relationship or separation experience and mental health status such as depression, anxiety, and borderline personality tendency. In our results, experience of early separation from parents did not indicate worse early relationship with primary caretaker. Neither the experience of early separation from parents nor the early relationship with primary caretaker was related to worse mental health at adolescence outcomes. In addition, neither early separation experience nor low scores in early relationship with primary caretaker could predict worse peer relationship. For identity formation process, early separation experience did not have a significant influence on participants' scores on any one of the five dimensions. Parental migration did not seem to influence these children's relationship with their parents, their abilities of making friends and seeking support from them, nor their identity formation process.

On the other hand, the second hypothesis was partially supported by research outcomes. First, early relationship with primary caretaker was found positively correlated to two identity formation dimensions, the exploration in breath and identification with

commitment. According to Luyckx et al. (2006), the exploration in breadth was defined as “involving the investigation of a number of different options”, while identification with commitment was a status that involved with “Identity-related activities consistent with one’s potentials characterized by feelings of happiness, certainty, and completeness”. This outcome seems to be consistent with the attachment theory. Specifically, it is likely that a good early attachment with primary caretaker is critical for offering a secure view of world and supporting individuals in exploring their environments. Second, one of the five identity formation dimensions, the ruminative exploration, was found positively correlated to mental health problem including depression, anxiety, and borderline personality tendency. This is consistent with Luyckx et al. (2008)’s previous research, and it reflects the concept of Identity Crisis in Erikson’s Identity Theory (E. Erikson et al., 1968). However, even though research outcomes support the second hypothesis about the link between early relationship with primary caretaker, identity formation and mental health outcomes, the original research question, which is whether identity formation serves as a pathway leading early relationship with primary caretakers to psychopathic mental health outcomes, was not supported by the research outcomes. Early relationship with primary caretaker and mental health outcomes at adolescence were correlated with identity formation for different dimensions respectively. This finding is also consistent with the “missing” correlation between early experience of separation (or worse self-reported early relationship with parents) and mental health outcomes.

Our research did not support the main hypothesis that negative early relationship with primary caretaker or having early separation experience from parents is related to problematic mental health outcomes at adolescence. Surprisingly, early experience of separation from parents is not correlated to early relationship with primary caretaker or any other target variables, including both mental health outcomes (PHQ, GAD, BD) and social indexes (identity formation and peer relationship). Even though limited supports were found for both the attachment theory and the identity formation theory, the results

did not support the hypothesis that identity formation serves as the mediator for the potential correlation between early negative parental experience and later mental health risks. This finding, on the other hand, seems to be consistent with those previous literature which emphasize the role of other social factors (SES, parental education level, etc.) instead of the separation experience as adolescence mental health risks indicators. Among this controlled sample, the positive correlation between early separation experience and problematic mental health conditions at adolescence seems to disappear.

It is also possible that we failed to find the potential correlations because of the several limitations in conducting the research. First, due to insufficient control over data collection, only a very limited amount of the subjects reported the age when their parents first left them and moved to cities. Lacking information about age of separation makes it difficult to evaluate the homogeneity within experimental group. Age of separation is important according to the attachment theory as earlier age of separation is believed to be related to worse mental health outcome. Second, the mean age of our research's experimental group is 13.53 years old. It is younger than the average age of onsets for most of the mental health disorders, and the participants are on the very beginning of their identity formation stage according to Erikson's theory. This may explain why the research outcomes were different from most of previous literature which report that left-behind children are at risk for mental health issues at adolescence. Third, due to recruitment restriction from school schedule, the control group had only eight-grade students while the left-behind group had both seven-grade and eight-grade students. This had led to smaller mean of age in the left-behind group. Although data showed no correlation between age and other variables we measured, this may be a potential influential issue in data analysis. It is possible that the eight-graders have much higher life pressure from school due to the intensive preparation for the upcoming high school entrance examination. Nonetheless, further studies are needed to draw confident conclusion on the relationship between early parental separation experience and later mental health issues. Future researches could

consider designs that focus on situational and domain-specific variables such as emotional regulation, intimacy relationship, and social interactions.

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Table 2

t-test for target variables between control group and left-behind children

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
PHQ	1.82	188	0.07	1.31	0.72
GAD	2.25	188	0.03*	1.31	0.58
BD	-1.82	188	0.07	-1.50	0.82
CommitMaking	0.47	178	0.64	0.29	0.61
ExploreBreath	-1.29	176	0.20	-0.66	0.51
ExploreRuminative	-0.30	182	0.76	-0.16	0.52
CommitIndentification	-0.82	184	0.41	-0.46	0.56
ExploreDepth	-0.09	179	0.93	-0.04	0.48
Friendship	0.73	180	0.47	0.35	0.47
Early Relationship with Primary Caretaker	0.49	187	0.63	0.09	0.19

Note. * $p < .05$ (2-tailed).

Table 3

Correlations Between Mental Health Indexes and Early Relationship with Caretaker

		PHQ	GAD	BD	Friendship	Relationship
PHQ	<i>r</i>	1	.67**	-0.59**	-0.13	-0.02
	Sig.		0.00	0.00	0.09	0.74
	<i>N</i>	190	190	190	182	189
GAD	<i>r</i>	.67**	1	-0.57**	-0.17*	-0.07
	Sig.	0.00		0.00	0.02	0.37
	<i>N</i>	190	190	190	182	189
BD	<i>r</i>	-0.59**	-0.57**	1	0.22**	0.13
	Sig.	0.00	0.00		0.00	0.08
	<i>N</i>	190	190	190	182	189
Friendship	<i>r</i>	-0.13	-0.17*	0.22**	1	-0.10
	Sig.	0.09	0.02	0.00		0.17
	<i>N</i>	182	182	182	182	181
Early Relationship with Primary Caretaker	<i>r</i>	-0.02	-0.07	0.13	-0.10	1
	Sig.	0.74	0.37	0.08	0.17	
	<i>N</i>	189	189	189	181	189

Note. * $p < .05$ (2-tailed). ** $p < .01$ (2-tailed).

Table 4

Correlations Between Identity Formation and Early Relationship with Caretaker

	Relationship		Explore		Commit		Explore		Commit	
	<i>r</i>	<i>N</i> ^d	Breath	Ruminative	Making	Indentification	Breath	Ruminative	Making	Indentification
Early Relationship with Primary Caretaker	1		0.17*	0.02	0.08	0.17*	0.03	0.80	0.30	0.02
		189 ^d	177 ^d	183 ^d	179 ^d	177 ^d	177 ^d	183 ^d	179 ^d	185 ^d
CommitMaking	0.08		0.50**	0.03	1	0.67**	0.03	0.67**	1	0.67**
		0.30	0.00	0.65	0.30	0.00	0.00	0.65	0.30	0.00
		179 ^d	170 ^d	176 ^d	180 ^d	177 ^d	176 ^d	176 ^d	180 ^d	177 ^d
ExploreBreath	0.17*		0.30**	0.00	0.50**	0.47**	0.30**	0.00	0.50**	0.47**
		0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		177 ^d	178 ^d	173 ^d	170 ^d	177 ^d	173 ^d	173 ^d	170 ^d	175 ^d
ExploreRuminative	0.02		0.30**	1	0.03	0.13	0.30**	1	0.03	0.13
		0.80	0.00	0.09	0.65	0.09	0.00	0.09	0.65	0.09
		183 ^d	173 ^d	184 ^d	176 ^d	181 ^d	173 ^d	184 ^d	176 ^d	181 ^d
CommitIndentification	.17*		.47**	.13	.67**	1	.47**	.13	.67**	1
		0.02	0.00	0.09	0.00	0.00	0.00	0.09	0.00	0.00
		185 ^d	175 ^d	181 ^d	177 ^d	186 ^d	175 ^d	181 ^d	177 ^d	186 ^d
ExploreDepth	0.12		0.61**	0.35**	0.50**	0.44**	0.61**	0.35**	0.50**	0.44**
		0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		180 ^d	170 ^d	177 ^d	172 ^d	178 ^d	170 ^d	177 ^d	172 ^d	178 ^d

Note. * $p < .05$ (2-tailed). ** $p < .01$ (2-tailed). ^d*N* variates due to missing data.

Table 5

*Correlations Between Mental Health Indexes and
Identity Formation*

		PHQ	GAD	BD
CommitMaking	<i>r</i>	-0.07	0.00	0.04
	Sig.	0.38	0.96	0.59
	<i>N</i>	180	180	180
ExploreBreath	<i>r</i>	-0.07	0.02	-0.01
	Sig.	0.33	0.75	0.85
	<i>N</i>	178	178	178
ExploreRuminative	<i>r</i>	0.27**	0.30**	-0.31**
	Sig.	.00	.00	.00
	<i>N</i>	184	184	184
CommitIndentification	<i>r</i>	-0.13	-0.05	0.07
	Sig.	0.08	0.54	0.33
	<i>N</i>	186	186	186
ExploreDepth	<i>r</i>	0.00	0.15*	-0.03
	Sig.	0.96	.04	0.68
	<i>N</i>	181	181	181

Note. * $p < .05$ (2-tailed). ** $p < .01$ (2-tailed).