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# A Factor Analytic and Psychometric Examination of Pathology of Separation-Individuation



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Two studies are described that attempt to determine if standard-scale-reduction techniques could yield a construct-valid diagnostic screen of pathology of separation-individuation for use in nonclinical university settings. In Study 1 ( $N = 210$ ), a measure of pathology of separation-individuation (PATHSEP) was reduced successfully to a single, internally consistent factor, accounting for 36% of the variance. In Study 2 ( $N = 304$ ), these items also coalesced around a single factor, accounting for 35% of the variance. Study 2 also showed that PATHSEP is correlated moderately and positively with indices of insecure attachment, with the Center for Epidemiological Studies-Depression Scale, and with indices of psychiatric symptomatology (Hopkins Symptom Checklist). PATHSEP also was associated with a poorer profile of adjustment to college. Males reported more pathology of separation-individuation than did females. Evidence supports the construct validity of a shortened version of PATHSEP. Directions for future research are noted. © 2001 John Wiley & Sons, Inc. *J Clin Psychol* 57: 915-932, 2001.

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Separation–individuation is an ego-developmental process that first was identified by Mahler (Mahler, Pine, & Bergman, 1975) and Pine (1979). In their view, the child gradually forms self–other boundaries (“separation”) as well as the intrapsychic representations that encourages autonomy and individuation during the first 36 months of life. Disturbances in infantile separation–individuation are assumed to affect adversely psychosocial functioning across the lifespan, resulting in various characterological and relational dysfunctions. However, separation–individuation is not a process that is completed by the end of infancy. Indeed, there is now a consensus that adolescence and young adulthood represent a “second phase” wherein these issues are revisited and renegotiated in light of the developmental tasks common to this age period. Although the dynamics of the second phase have been conceived variously (e.g., Blos, 1962; Josselson, 1988; White, Speisman, & Costos, 1983), there is considerable agreement that the task of the young adult is to differentiate his or her self-image from parental identifications and to establish it on an independent footing in the context of mutually validating relationships (Lapsley, Rice, & Shadid, 1989).

A number of assessment strategies have been devised to measure elements of separation–individuation in adolescents (Hansburg, 1980; Levine, Green, & Millon, 1986) and young adults (Hoffman, 1984), although these measures have proven to be of limited use to counselors and clinicians. For example, the Psychological Separation Inventory (PSI; Hoffman, 1984) is a 138-item inventory that assesses four dimensions of psychological independence, but separate forms are required to gauge the degree of psychological independence from mother and father. Moreover, these dimensions are not related uniformly to adjustment. The Separation–Individuation Test of Adolescence (SITA; Levine et al., 1986) also assesses numerous aspects of ego development, but no summative score can be derived from the assessment, and there are few guidelines to help clinicians interpret profile scores from SITA. Finally, Hansburg’s (1980) assessment of Adolescent Separation Anxiety is a lengthy projective procedure, and therefore is handicapped by the psychometric constraints that attend all projective procedures. The extant measures of separation–individuation, then, are inordinately lengthy, cumbersome to administer, or difficult to interpret for purposes of clinical screening or assessment.

In this context, a measure designed by Christenson and Wilson (1985) holds more promise. This measure (denoted here as PATHSEP) purports to assess “adult manifestations of pathology” in the developmental process of separation–individuation (p. 561). If true, this measure would be a useful addition to the diagnostic tools available to counselors who work with young adults in clinical settings, and it would facilitate greatly empirical research on the dynamics of ego development in early adulthood. Yet very little is known about the psychometric properties and construct validity of this measure. The purpose of this article is to report on two studies that provide the first extensive and independent analysis of the structural and measurement properties of this promising measure of pathology of separation–individuation.

### Theory and Scale Development

The original construction of PATHSEP was guided by Mahler’s (Mahler et al., 1975) theoretical and observational analysis of separation–individuation. According to Mahler, separation–individuation unfolds, over the first years of life, through several phases of increasing differentiation. Advances in motor skills (“practicing”) facilitate the child’s emerging sense of autonomy and independence. However, the emergent sense of independent existence and agency (“separation”) comes at the cost of realizing that one no longer can coerce omnipotently the presence of caregivers or their participation in one’s

exploration. Nor can caregivers be counted on to smooth away automatically frustrations and impediments. The child's mounting ambivalence over autonomy leads, then, to a *rapprochement* crisis that is characterized by contradictory behaviors that seemingly are motivated by a desire for both closeness and merger ("shadowing") and independence ("darting away"; saying "No!"). Moreover, the toddler resorts to defensive strategies (e.g., splitting) in order to manage the affective consequences of this developmental crisis. This first phase of separation–individuation is brought to partial closure when self- and object representations (of caregivers) are consolidated into a stable intrapsychic image ("object constancy") that is comforting to the child in the caregivers absence.

The adult clinical manifestations of a disturbance in separation–individuation have been articulated by Pine (1979). In his view, these manifestations can take two forms. A "lower-order" disturbance is characterized by uncertain boundaries between self and others, by an experience of merger with another, and by the loss of the sense of the existential self. A "higher-order" disturbance is marked by an inability to tolerate aloneness, by an attempt to re-establish coercive omnipotent control over others, and by deficits in object constancy. On the basis of these developmental (Mahler et al., 1975) and clinical (Pine, 1979) considerations, then, Christenson and Wilson (1985, p. 562) argued that "disturbances in separation–individuation are manifested in difficulty in differentiation of self from others, in splitting of the self and other internal representations into 'good' and 'bad', and in relationship disturbances in aloneness tolerance, coercion, and object constancy." Moreover, Christenson and Wilson (1985) argued that this symptom pattern resembles the manifestations of borderline personality disorder, and that it is indeed likely "that many individuals with borderline personality have separation–individuation disturbance" (Christenson & Wilson, 1985, p. 562), a view that is supported elsewhere (Mahler, 1971; see Stone, 1986).

The initial version of the scale developed by Christenson and Wilson (1985) to assess pathology in the separation–individuation process contained 65 items that reflected the three features noted earlier (differentiation, splitting, relationship disturbance). This preliminary study found that 39 items discriminated a sample of adults diagnosed with borderline personality disorder (by DSM-III criteria) from a random control sample of university employees. Moreover, the 39-item scale demonstrated satisfactory internal consistency ( $\alpha = .92$ ) and a unitary factor structure, accounting for 49% of the variance. Based on their data, Christenson and Wilson (1985) found the majority of adults with borderline personality disorder scored 190 or above on PATHSEP. Therefore, a preliminary cutoff value of 190 and above was felt to be indicative of more serious pathology, and with borderline personality disorder in particular.

Only three studies have used PATHSEP in subsequent research. One study showed that women reported fewer signs of pathology of separation–individuation than did males (McChrystal & Dolan, 1994), although another study reported no gender differences (Allen & Stoltenberg, 1995). Ryan and Lynch (1989, Study 3) found that PATHSEP was correlated significantly with various dimensions of emotional autonomy and self-esteem in the predicted direction. Moreover, PATHSEP similarly was correlated with indices that measure the extent to which parents communicate acceptance (vs. rejection) and encourage independence (vs. overprotection).

This initial evidence, then, although promising, leaves numerous issues unaddressed. For example, estimates of internal consistency rarely are reported in the extant literature. In addition, as Allen and Stoltenberg (1995) have pointed out, more evidence of construct validity is needed for this scale, particularly with respect to its potential use with non-clinical samples of young adults. Moreover, some of the uses of this scale are potentially problematic. There have been attempts, for example, to decompose the scale into differ-

entiation, splitting, and relationship-disturbance subscales, although there is no apparent empirical warrant for doing so (Allen & Stoltenberg, 1995). Finally, although a 39-item scale is certainly acceptable for research purposes, its length potentially limits the clinical utility of the scale. The original study by Christenson and Wilson (1985) successfully reduced the scale from 65 to 39 items, although little information was provided about how this was done. It would be desirable to derive a construct-valid scale, one with fewer items that would increase the utility of PATHSEP as a diagnostic screen. Consequently, in light of these issues, we report on two studies that attempted to explore the factor structure of PATHSEP (Study 1) and to examine its relationship with allied constructs (Study 2), using university samples of young adults. Our goal in these studies was to determine if standard scale-reduction techniques could yield a construct-valid diagnostic screen of pathology of separation-individuation.

Our reason for seeking a validation of PATHSEP in nonclinical university samples is threefold. First, epidemiological surveys of the general, nonclinic population show that clinically relevant symptomatology is pervasive in a significant minority of (perhaps one-fifth) of young adults, and that perhaps as many as 60% of individuals report occasional symptomatology, although not serious enough to disrupt daily functioning (Weiner, 1992). Second, it now is recognized that separation-individuation may well underlie a number of presenting problems often seen in university counseling centers (Blustein, Walbridge, Friedlander, & Palladino, 1991; Friedlander & Siegel, 1990; Hoffman, 1984; Lapsley et al., 1989; Rice, 1992). Third, there has been a decided trend towards the development of assessments that detect symptomatology in nonclinical samples (e.g., Radloff, 1977). The need for such assessments is particularly acute in university settings given the fact that counseling centers now are reporting an increase in the number of student clients who present with more serious psychopathological symptoms (Robbins, May, & Corrazzini, 1985). In the first study, we simply examined the internal consistency and factor structure of PATHSEP in a sample of 210 young adults attending university. We particularly were interested in determining if the 39-item scale could be reduced successfully in a way that would increase its clinical utility. In the second study, we attempted to replicate the factor results of Study 1 with a new sample ( $N = 304$ ) of university students. We also explored the relationship between PATHSEP and indices of psychopathology, adjustment, and attachment style.

### Study 1—Method

#### *Participants*

Participants included 210 young adults (67 males, 143 females) who attended a large regional university in the American Midwest. The mean age was 21.27 years ( $SD = 4.57$ ). The ethno-racial composition of the sample was as follows: white/Caucasian, 89%; black/African American, 8.1%; Latino/Hispanic, 1%; Asian, 1%; multiracial and other, 1.5%. Participants were mostly upperclassmen: 70 seniors (33.3%), 42 juniors (20%), 88 sophomores (41.9%), and 5 freshmen (2.4%). Participants were volunteers from courses in departments of educational and counseling psychology, which attract students from a variety of majors from across the university.

#### *Instruments and Procedure*

Christenson and Wilson's (1985) measure of pathology of separation-individuation (PATHSEP) consists of 39 items that reflect difficulty in differentiation from others ("Often,

when I am in a close relationship, I find that my sense of who I am gets lost”), splitting (“I find that people either really like me or they hate me”), and relational disturbances, manifested in terms of coercion, concerns about object constancy, and tolerating aloneness (“I need people around me to not feel empty”). Participants respond to these items along a 10-step Likert continuum, ranging from *not characteristic* (1) to *very characteristic* (10). Higher scores represent greater pathological symptomatology. Participants responded to this single scale in small group settings using standard instructions.

### Study 1—Results

The internal consistency of PATHSEP was quite adequate ( $\alpha = .92$ ). Next, the inter-item correlation matrix was explored in order to determine whether it was amenable to factor analysis. The determinant of the correlation matrix ( $R = .001$ ) was adequate. Moreover, the Kaiser–Meyer–Olkin statistic, another measure of sampling adequacy, was .86, which is considered “meritorious” (Kaiser, 1974). Consequently, the “factorability” of PATHSEP was deemed appropriate.

A factor analysis (extracting principal components) of the 39-item scale was conducted. We assumed, following Christenson and Wilson’s (1985) earlier work, that PATHSEP represented a unitary and cohesive construct. An inspection of the resulting scree plot indicated that a single-factor model was indeed appropriate, accounting for 28% of the variance. According to Gorsuch (1983), a one-factor model typically is indicated when at least 20% of the variance is accounted for by a single factor. However, an inspection of initial eigenvalues (see Table 1) suggested that as many as four factors could be viable, according to the parallel-analysis method (Lautenschlager, 1989). Consequently, a second factor analysis, with varimax rotation, was calculated to explore this possibility. The four extracted factors accounted for 43.25% of the variance. The rotated component matrix is reported in Table 2. As can be seen, the first principal component consisted of 19 items with factor loadings of at least .40. The second factor consisted of 9 items with factor loadings of at least .40. The third and fourth factors each consisted of 3 or 4 items, while the remaining items did not load cleanly onto any factor. No attempt was made to interpret the few items for factors 3 and 4. Moreover, both factor 1 and factor 2 were represented by differentiation, splitting, and relational-disturbance items in similar proportion. Hence, little distinction could be made with respect to item content. Consequently, we determined that the 19 items of factor one represented a parsimonious index of pathology of separation–individuation. This was explored further in a third factor analysis of the 19-item scale, which revealed just a single factor in accordance with both scree- and parallel-analysis criteria (see Table 1), accounting for 36.17% of the variance. Item-to-total correlations ranged from .36 (item 18) to .65 (items 29 and 32). The internal consistency of the reduced 19-item PATHSEP scale was comparable to the full-scale reliability,  $\alpha = .89$ . Factor loadings and item statistics are reported in Table 3.

### Study 1—Discussion

In their pioneering study, Christenson and Wilson (1985) derived a 39-item scale from an initial item pool of 65 items, yielding a single-factor index of pathology of separation–individuation. This data-reduction strategy was extended in the present study. Although the standard scree criteria suggested just a single factor, alternative criteria for determining the number of factors to retain in a principal-components analysis indicated the possibility of four factors. Subsequent analysis, however, showed that 19 items clearly coalesced around a single factor, while the remaining factors contained relatively fewer

Table 1  
*Initial Eigenvalues: Study 1 and Study 2*

Component	Study 1				Study 2	
	39-Item Scale		19-Item Scale		18-Item Scale	
	Total	% Variance	Total	% Variance	Total	% Variance
1	10.73	27.51	6.87	36.17	5.89	35.12
2	2.29	5.89	1.23	6.47	1.27	6.94
3	1.97	5.05	1.13	5.97	1.15	6.24
4	1.87	4.79	1.05	5.51	1.05	5.70
5	1.49	3.83	1.02	5.36	1.03	5.60
6	1.37	3.51	.899	4.73	.960	5.20
7	1.29	3.31	.863	4.54	.819	4.42
8	1.19	3.04	.748	3.94	.778	4.20
9	1.17	3.00	.712	3.75	.765	4.10
10	1.11	2.84	.676	3.56	.719	3.86
11	1.08	2.77	.626	3.29	.655	3.51
12	.986	2.53	.576	3.03	.617	3.33
13	.845	2.17	.520	2.74	.536	2.85
14	.823	2.11	.467	2.46	.511	2.71
15	.809	2.07	.407	2.14	.460	2.43
16	.741	1.89	.388	2.04	.368	1.96
17	.702	1.80	.382	2.01	.280	1.43
18	.656	1.68	.232	1.22	.139	.641
19	.637	1.63	.199	1.05		
20	.612	1.57				
21	.565	1.45				
22	.555	1.42				
23	.533	1.26				
24	.492	1.26				
25	.457	1.17				
26	.424	1.08				
27	.418	1.07				
28	.388	.995				
29	.357	.915				
30	.344	.882				
31	.325	.832				
32	.303	.776				
33	.269	.689				
34	.249	.639				
35	.221	.566				
36	.209	.535				
37	.195	.501				
38	.174	.445				
39	.139	.355				

items with no clear theoretical interpretation. Consequently, we elected to proceed with a parsimonious single-factor index of pathology of separation–individuation, consisting of the 19 items of the first principal component. This conclusion is consistent with the apparent aim of the original study by Christenson and Wilson (1985) to develop a reduced-item single-factor scale.

In the second study, we attempted to determine if our revised assessment of PATHSEP would show both an acceptable degree of internal consistency and a similar factor struc-

ture in an independent sample. We also attempted to determine if our revised measure of PATHSEP would yield a construct-valid pattern of convergent and discriminant relationships with indices of college adjustment, symptomatology, and measures of adult-attachment style.

## Study 2—Method

### Participants

Participants included 304 young adults (78 males, 221 females; 5 did not indicate gender) who attended a large regional university in the American Midwest. The mean age was 20.66 years ( $SD = 3.74$  years). The ethno-racial composition of the sample was as follows: white/Caucasian, 93%; black/African American, 3.3%; Asian, .3%; and other, 3%. Participants included 90 freshmen (29.6%), 100 sophomores (32.9%), 67 juniors (22%), and 47 seniors (15.5%). Participants were recruited from various courses in educational psychology for nominal course credit.

### Instruments

*Symptomatology.* In addition to the revised, 19-item PATHSEP, two additional measures of symptomatology were used in this study. Depressive symptomatology was assessed with the Center for Epidemiological Studies—Depression (CES-D) scale. The CES-D is a 20-item scale that measures depressive mood in nonclinical samples (Radloff, 1977). Participants rate the frequency with which they have experienced each of 20 depressogenic symptoms “during the past week” along a four-step continuum that ranges from *rarely or none of the time* (less than one day) to *most or all of the time* (5–7 days). Higher scores indicate more depressive symptomatology. The CES-D often is used in the literature and has strong psychometric properties (Myers & Weissman, 1980; Roberts, Andrews, Lewinsohn, & Hops, 1990). Internal consistency of this measure in the present study was strong ( $\alpha = .88$ ).

The Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) requires participants to report the extent to which they have experienced each of 58 symptoms “in the past several days” along a four-step continuum (*not at all to extremely*). Higher scores indicate more psychiatric symptomatology. Scale items (symptoms) are decomposed into several subscales, as follows: *somatization* ( $\alpha = .81$ ; complaints of distress arising from perceptions of bodily dysfunction); *obsessive–compulsive concerns* ( $\alpha = .82$ ; reports of unremitting thoughts, concerns, impulses, behaviors); *interpersonal sensitivity* ( $\alpha = .80$ ; feelings of personal inadequacy and inferiority; self-deprecation; acute self-consciousness in social contexts); *depression* ( $\alpha = .86$ ; dysphoria; hopelessness; lack of interest and motivation); and *anxiety* ( $\alpha = .79$ ; restlessness and nervous tension). Derogatis et al. (1974) have reported strong evidence of factorial invariance and construct validity.

*College Adjustment.* College adjustment was assessed by the social-adjustment subscale from the Student Adaptation to College Questionnaire (SACQ; Baker & Siryk, 1989). This subscale consists of eight items that are responded to along a 7-step continuum ( $\alpha = .76$ ). Scale items reflect satisfaction with social life (“*I am quite satisfied with my social life at college*”) as well as the participant’s friendship network (“*I am meeting as many people and making as many friends as I would like*”). Higher scores indicate greater social adjustment to college.

Table 2  
Rotated Component Matrix

Item Number	PATHSEP Item	1	2	3	4
38	I am tempted to try to control other people in order to keep them close to me.	.662	.197	.083	.067
28	Whenever I realize how similar I am to my parents, I feel very uneasy.	.640	.259	.041	-.18
34	Getting physical affection itself seems more important to me than who gives it to me.	.603	.037	.164	.005
32	I find that when I get emotionally too close to someone, I sometimes feel that I have lost a part of who I am.	.602	.353	.019	.086
39	I must admit that whenever I get emotionally close to someone, I sometimes want to hurt them.	.599	.039	.033	.138
5	People need to maintain control over others to keep themselves from being harmed.	.580	.136	.098	.213
29	Often, when I am in a close relationship, I find that my sense of who I am gets lost.	.564	.406	.103	.082
19	I find that, when I get emotionally close to someone, I occasionally feel like hurting myself.	.559	.437	.013	.028
13	I sometimes feel that part of me is lost whenever I agree with someone.	.545	.306	.231	-.11
35	I find it difficult to know another person really well.	.540	.202	-.01	.095
37	I must admit that whenever I see someone else's faults I feel better.	.527	.181	.120	.205
18	I find it relatively easy to make and keep commitments to other people. (R)	.521	-.03	.078	-.39
2	When someone gets too emotionally close to another person, they often feel worse.	.508	.435	.078	.100
22	I find it difficult to form mental pictures of people important to me.	.508	.135	.064	.156
27	In my experience, people always seem to hate me.	.485	.374	-.01	-.13
30	I find it difficult to see others as having both good and bad qualities at the same time.	.463	-.01	.278	.062
1	When people really care for someone, they often feel worse about themselves.	.435	.423	.024	.051



21	I often have dreams about falling that make me feel anxious.	.431	.261	.209	.136
24	I must admit that, when I feel lonely, I often feel like getting intoxicated.	.400	.277	-.02	.201
11	When I am by myself, I feel that something is missing.	.003	.682	.243	.064
25	Whenever I am angry with someone, I feel worthless.	.228	.670	.055	.088
12	I need other people around me to not feel empty.	.017	.617	.396	-.004
10	I find that I really vacillate between really liking myself and really disliking myself.	.262	.598	.008	.174
3	When people really get angry at someone, they often feel worthless.	.143	.560	-.016	.196
26	If I were able to tell my deepest thoughts, I would feel empty.	.394	.476	.038	-.123
4	It is when people start getting emotionally close to someone that they are most likely to get hurt.	.323	.463	.014	.361
14	Like others, whenever I see someone I really respect and to whom I look up to, I often feel worse about myself.	.452	.458	.088	-.02
16	Whenever I realize how different I am from my parents, I feel very uneasy.	.394	.452	.013	-.19
36	I find that it is important for me to have my mother's approval before making a decision.	.124	.042	.822	.123
17	In my experience, I almost always consult my mother before making an important decision.	.109	.041	.807	.122
33	Whenever I am away from my family, I feel very uneasy.	.128	.235	.654	.027
8	I find that people either like me or they hate me.	.057	.152	.226	.554
20	I find that others often treat me as if I am just there to meet their every wish.	.434	.079	.201	.491
15	I often find it easy to see myself as a distinct individual. (R)	.170	.437	.218	.476
31	I find that the only way I can be me is to be different from other people.	.059	.343	.051	-.459
7	I find it easy for me to see both my good and bad qualities at the same time. (R)	.439	.063	.267	.443
6	I find that people seem to change whenever I get to know them.	.211	.023	.340	-.389
23	I have, on more than one occasion, seemed to wake up and find myself in a relationship with someone and not be sure of how or why I am in the relationship.	.289	.358	.105	.378
		.323	.327	-.151	.367

Note. Items for each factor are indicated by underscored factor loadings.

Table 3  
Factor Loadings and Item Statistics: Study 1 and Study 2

Item Number <sup>1</sup>	Factor Loadings		Item Statistics			
			Study 1		Study 2	
	Study 1	Study 2	Mean	SD	Mean	SD
29	.716	.681	3.02	2.28	2.69	2.16
32	.709	.705	2.78	2.31	2.51	2.11
19	.696	.648	2.16	1.92	1.99	1.78
38	.695	.677	2.63	2.17	2.47	2.03
2	.690	.739	2.70	2.25	2.26	1.85
28	.672	.471	2.22	1.87	2.29	1.95
13	.640	.634	2.41	1.93	2.32	1.77
1	.612	.688	2.32	1.87	2.26	1.91
5	.602	.481	3.31	2.20	3.25	2.29
34	.577	.606	2.32	2.04	2.09	1.71
35	.572	.554	3.03	2.44	2.87	2.30
37	.572	.590	3.89	2.50	3.73	2.36
27	.570	.594	2.00	1.78	1.82	1.51
39	.569	.551	1.85	1.62	1.69	1.48
22	.540	.476	2.38	2.13	2.29	2.05
21	.537	.401	2.69	2.29	2.59	2.33
30	.464	.511	2.54	2.05	2.62	2.02
24	.463	.544	2.82	2.63	2.49	2.37
18 <sup>2</sup>	.412		7.42	2.24		

<sup>1</sup>Item numbers correspond to the original 39-item scale for comparative purposes.

<sup>2</sup>Item 18 was deleted from the analysis of Study 2 because of poor item-to-total correlation.

A second measure explored the participants felt academic pressure and stress. This measure consisted of seven items, four of which were derived from a measure developed by Dunkel-Schetter and Lobel (1990), and three of which were derived for the purposes of this study. These items measured the amount of pressure and worry students had concerning academic work (“*I am finding my academic obligations to be very stressful*”), and they were responded to along a 7-step continuum. Internal consistency was adequate ( $\alpha = .84$ ). Finally, participants also reported their typical grades (8 = *mostly A's* and 1 = *mostly D's and F's*).

*Adult-Attachment Style.* Individuals who show disturbances in separation–individuation also are expected to show, in theory, relational dysfunctions. In this study, both categorical and continuous assessments of adult-attachment style were used to assess felt-relationship quality. A categorical methodology designed by Bartholomew and Horowitz (1991) describes four attachment styles in brief statements. Participants are required to select the one statement that is most self-descriptive. The *secure*-attachment style is characterized by a positive sense of self-worth plus an expectation that others are trustworthy, reliable, and available. The secure statement is as follows:

It is easy for me to become emotionally close to others. I am comfortable depending on others and having others depend on me. I don't worry about being alone or having others not accept me.

The *dismissing* attachment style is characterized by a positive self-image, but a highly negative, dismissive view of others. The dismissing statement is as follows:

I am comfortable without close relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

The *preoccupied*-attachment style is characterized by an image of the self as unlovable or unworthy, but an otherwise positive view of others. The preoccupied statement is as follows:

I want to be completely, emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

Finally, the *fearful*-attachment style is characterized by a sense of self-unworthiness and a view of others as rejecting, untrustworthy, or unavailable. The fearful statement is as follows:

I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I sometimes worry that I will be hurt if I allow myself to become too close to others.

After endorsing one of these classifications, participants also were asked to rate the self-descriptiveness of *each* of the four attachment classifications along a 7-step continuum, ranging from *not at all like me* to *very much like me*. This rating provides a continuous (or *dimensional*) score for each participant on each of the four attachment styles. Hence, participants self-select a *single* attachment-style classification that best describes them, and they also provide a continuous rating on *each* of the four attachment styles. These attachment styles differentially predict numerous indices of relationship quality, emotional regulation, and coping (see Shaver & Hazan, 1993, for a review). They also predict various aspects of interpersonal functioning, self-concept, and family functioning (Bartholomew & Horowitz, 1991). Moreover, the association of attachment style and indices of symptomatology, risk behaviors, and self-concept appear to be largely invariant across age, gender, and racial groups (Cooper, Shaver, & Collins, 1998).

In the present sample, 154 participants (50.7%) selected the secure-attachment classification; 72 participants (23.7%) selected the fearful-attachment classification; 35 participants (11.5%) selected preoccupied attachment; 42 (13.8%) participants selected dismissing attachment; and one subject did not respond. This distribution of participants among the four attachment classifications is highly congruent with the distribution reported by Bartholomew and Horowitz (1991). In that study, 47% were classified as secure; 21% fearful; 14% preoccupied; and 18% dismissing.

A continuous measure of adult-attachment style developed by Simpson (1990) also was used. This scale consists of 13 statements that are rated along a 7-point scale, ranging from *strongly agree* to *strongly disagree*. Recent research (Shaver & Hazan, 1993; Simpson, Rholes, & Nelligan, 1992) suggests that this scale reduces to two factors: an *avoidant/secure* factor, and an *anxious*-attachment factor. The avoidant/secure scale contains 8 items and demonstrated an internal consistency of  $\alpha = .78$ . The anxious scale contains 5 items and demonstrated an internal consistency of  $\alpha = .55$ . Higher scores indicate greater avoidance (and lower scores greater security) and more anxiety, respectively.

### Procedure

Participants responded to these scales in small group settings, in accordance with standardized instructions. The order of presentation was completely random for each partici-

pant, as a control for sequencing effects. The time of testing was approximately 30 to 45 minutes.

## Study 2—Results

### *Reliability and Factor Structure*

We examined the inter-item correlation matrix to determine its adequacy for factor analysis. The determinant of the correlation matrix ( $r = .001$ ) was deemed appropriate. In addition, as in Study 1, the Kaiser–Meyer–Olkin statistic (.83) was “meritorious.” Consequently, the “factorability” of PATHSEP was supported. Although internal consistency was adequate ( $\alpha = .85$ ), one item (item 18) was correlated poorly ( $r = .09$ ) with the total PATHSEP score. Consequently, it was deleted from subsequent analyses, yielding an 18-item scale ( $\alpha = .89$ ). A principal-components factor analysis then was conducted on PATHSEP scores. As in Study 1, the scree plot indicated just a single factor, which accounted for 35% of the variance. An inspection of initial eigenvalues (see Table 1) also indicated a one-factor model, in accordance with parallel-analysis criteria (Lautenschlager, 1989). Factor loadings and item statistics are reported in Table 3.

### *Correlational Analyses*

Table 4 reports the correlations between PATHSEP and indices of symptomatology, adjustment, and adult-attachment style. As can be seen, PATHSEP was correlated strongly and positively with the CES-Depression scale ( $r = .59$ ) and with each dimension of the Hopkins Symptom Checklist ( $M_r = .46$ ). Hence, as anticipated, PATHSEP was associated strongly with various indicators of psychopathological symptomatology.

With respect to adjustment to college, PATHSEP was associated strongly and positively with felt academic pressure and worry ( $r = .29$ ). It also was correlated negatively with social adjustment to college ( $r = -.27$ ) and, to a lesser extent, with academic grades ( $r = -.15$ ).

Finally, PATHSEP was correlated significantly with various dimensions of adult-attachment style, in the predicted direction. For example, with respect to the Simpson et al. (1992) measure, PATHSEP was correlated positively with avoidant ( $r = .34$ ) and with anxious ( $r = .48$ ) adult-attachment style. With respect to dimensional ratings of attachment style (Bartholomew & Horowitz, 1991), PATHSEP was correlated negatively, as expected, with secure attachment ( $r = -.24$ ), and correlated positively with both fearful ( $r = .31$ ) and preoccupied ( $r = .29$ ) adult attachment. Interestingly, only the dismissing adult-attachment style was unrelated to pathology of separation–individuation. Previous research also has shown the dismissing attachment style to be unrelated to indices of dysfunction (Crowell, Fraley, & Shaver, 1999).

Note that although the correlations among PATHSEP and indices of adult-attachment style are moderate and significant, the magnitude of the correlations is not so high as to suggest that these measures are tapping a common construct. Another way to assess this is to examine the pattern of correlations among indices of adult-attachment style, adjustment to college, and symptomatology, and to compare the magnitude of these correlations with those obtained with PATHSEP. These data are reported in Table 5. As can be seen, the magnitude of the correlation between PATHSEP and social adjustment to college is similar to the magnitude between indices of adult-attachment style and social adjustment. However, there is greater divergence between PATHSEP and attachment style in their respective correlations with pathological symptomatology. Here, PATHSEP is a

Table 4  
*Correlation of PATHSEP with Indices of Symptomatology, Adjustment, and Attachment Style*

	Pathology of Separation-Individuation (PATHSEP)
Symptomatology	
CES-Depression	.59**
Hopkins Symptom Checklist	
somatization	.36**
obsessive-compulsion	.47**
interpersonal sensitivity	.52**
depression	.49**
anxiety	.44**
Adjustment	
Social Adjustment to College	-.27**
Academic Worry/Pressure	.29**
Grades	-.15**
Adult-Attachment Styles	
Avoidant/Secure <sup>1</sup>	.34**
Anxious <sup>1</sup>	.48**
Secure attachment <sup>2</sup>	-.24**
Fearful attachment <sup>2</sup>	.29**
Preoccupied attachment <sup>2</sup>	.35**
Dismissing attachment <sup>2</sup>	-.08

\* $p < .05$ ; \*\* $p < .01$ .

<sup>1</sup>Simpson, Rholes, & Nelligan (1992).

<sup>2</sup>Bartholomew & Horowitz (1991).

consistently (and often considerably) stronger correlate of depression, somatization, obsessive-compulsion, interpersonal sensitivity, and anxiety than are the various measures of adult-attachment style. Indeed, PATHSEP still is correlated significantly with the CES-D scale even when indices of avoidant ( $r = .53$ ) and anxious ( $r = .40$ ) adult attachment are partialled from the respective correlations. Similarly, PATHSEP is correlated significantly with each index of the Hopkins Symptom Checklist when indices of avoidant ( $M_r = .41$ ) and anxious ( $M_r = .34$ ) attachment are partialled from the respective correlations. Hence, PATHSEP does not appear to be a surrogate measure of insecure attachment.

### *Tests of Means*

Next, we wanted to determine if significant mean differences on PATHSEP scores would emerge among the four adult-attachment-classification groups. We also wanted to revisit the issue of gender differences, given the conflicting findings previously reported in the literature. Consequently, an Attachment Group (4)  $\times$  Gender (2) ANOVA was calculated on PATHSEP scores. A significant effect was found for Attachment Group,  $F(3, 290) = 7.75$  ( $p < .01$ ,  $\eta^2 = .067$ ) and for Gender,  $F(1, 290) = 11.13$  ( $p < .00$ ,  $\eta^2 = .03$ ). The interaction term was not statistically significant. The Gender effect was accounted for by significantly higher mean PATHSEP scores reported by males ( $M = 39.96$ ;  $SD = 17.74$ )

Table 5  
*Correlation of Attachment Style, PATHSEP, and Indices of Adjustment and Psychopathology*

	Adult-Attachment Style <sup>1</sup>			Adult-Attachment Style <sup>2</sup>			
	PATHSEP	Avoidant/Secure	Anxious	Secure	Fearful	Preoccupied	Dismissing
CES-Depression	.59**	.35**	.50**	-.30**	.32**	.29**	-.12
Hopkins Symptom Checklist somatization	.36**	.25**	.29**	-.12*	.19**	.14*	-.03
obsessive-compulsion	.47**	.28**	.38**	-.18*	.21**	.23*	-.10
interpersonal sensitivity	.52**	.25**	.44**	-.18*	.27**	.31**	-.10
depression	.49**	.28**	.43**	-.26**	.31**	.27*	-.16*
anxiety	.44**	.20**	.35**	-.12*	.25**	.15*	-.17*
Adjustment to College							
social adjustment	-.27**	-.41**	-.30**	.31**	.21**	-.09	-.07
academic pressure/worry	.29**	.14*	.23**	-.03	.17**	.18**	-.18
grades	-.15*	-.11	-.08	.09	-.13*	-.02	.05

\* $p < .05$ ; \*\* $p < .01$ .

<sup>1</sup>Simpson, Rholes, & Nelligan (1992).

<sup>2</sup>Bartholomew & Horowitz (1991).

Table 6  
Means and Standard Deviations of PATHSEP Scores  
among Adult-Attachment-Style Classification

	Adult-Attachment Classifications			
	Secure	Fearful	Preoccupied	Dismissing
Mean	29.23 <sup>a,b</sup>	40.51 <sup>a,c</sup>	39.41 <sup>b</sup>	31.81 <sup>c</sup>
Standard Deviation	13.75	18.87	15.61	14.83
<i>N</i>	154	72	35	42

*Note.* Means that share a common superscript are significantly different from each other.

than by females ( $M = 31.02$ ;  $SD = 15.07$ ). Post-hoc analysis (Scheffe contrasts) of the Attachment Group's main effect showed that participants in the fearful- and preoccupied-attachment groups reported significantly greater pathology of separation–individuation than did participants in the secure-attachment group. Participants in the fearful-attachment group also reported more pathology of separation–individuation than did participants in the dismissing-attachment group. The mean difference between secure and dismissing attachment was not statistically significant. Means and standard deviations of PATHSEP scores among attachment-style classifications are reported in Table 6.

### Study 2—Discussion

In this second study, we found that the revised measure of PATHSEP (18 items) coalesced around a single factor, with strong internal consistency. We also found evidence of convergent–discriminant validity. Scores on PATHSEP converge, for example, with attachment styles that are variously characterized as avoidant, anxious, fearful, and preoccupied. Moreover, PATHSEP was correlated negatively with secure-attachment style. Hence, as expected, PATHSEP is correlated differentially with indices of secure- and insecure-attachment style. This pattern also was evident in test of means. In these analyses, participants whose attachment styles were classified as fearful or preoccupied reported significantly higher PATHSEP scores than did participants with secure-or dismissing-attachment styles. Pathology of separation–individuation was associated clearly with styles of relating to others that are insecure and dysfunctional.

The pattern of correlations also suggests, however, that PATHSEP cannot be reduced simply to insecure attachment. Individuals who show a disturbance in separation–individuation also would be expected to demonstrate insecure patterns of relating to others. Indeed, the moderate, positive correlations reported here between PATHSEP and indices of anxious- and avoidant-attachment styles, and with fearful and preoccupied attachment, bear this out. But the fact that the magnitude of these correlations are only moderate, at best, and the fact that PATHSEP is a much stronger predictor of psychopathological symptomatology than are the indices of attachment style, supports the conclusion that these two constructs conceptually are distinct and appear to point to somewhat different aspects of personal and relational dysfunction.

The correlations between PATHSEP and indices of symptomatology were quite robust. Hence, individuals who reported more pathology of separation–individuation also reported more depressive symptoms, more anxiety, more personal inferiority, self-deprecation,

and self-consciousness (“interpersonal sensitivity”), more bodily symptoms and more obsessive–compulsive concerns. Indeed, PATHSEP accounted for 35% of the variance in depression scores, and from one fifth to one third of the variance in anxiety, interpersonal sensitivity, and obsessive–compulsion scores. Pathology of separation–individuation also was associated with more felt academic pressure and worry, along with poorer social adjustment to college and academic achievement. Hence, PATHSEP is associated not only with allied relational constructs, such as attachment style, but also with other indices of psychological symptomatology.

This study also demonstrated a clear gender difference in reported pathology of separation–individuation. Males had significantly higher PATHSEP scores than did females. McChrystal and Dolan (1994) have reported a similar finding. Although there are few strong theoretical expectations for gender differences in pathology of separation–individuation, it indeed may be the case that separation–individuation is a more perilous developmental journey for males than it is for females. Perhaps this is because traditional gender-role socialization for males emphasizes the themes of separation, independence, and autonomy more than it does the relational themes more typical of feminine gender-role socialization. If this is true, males would be more likely to negotiate the transition to adulthood, and its ideal of autonomy and individuation, without the relational connections that would otherwise buffer stress and promote resilience. This would put males more at risk for a disturbance in ego development than females. This is a speculation, of course, and additional research is needed on the issue of gender (and cultural) differences in pathology of separation–individuation. But previous research has indicated that young-adult females indeed do report more psychological “dependencies” on parents than do males, and that this stronger, felt connection to parents is associated with successful adaptation to college (Lapsley et al., 1989).

### Summary and Conclusion

A shortened measure of pathology of separation–individuation (PATHSEP) has been derived and shown to possess adequate psychometric and factor properties. Across two studies, PATHSEP demonstrated adequate internal consistency and a unitary-factor structure. It was correlated positively and moderately with indices of insecure-adult-attachment style, and correlated negatively with secure adult attachment. Moreover, young adults with fearful and preoccupied adult attachments reported higher mean PATHSEP scores than did young adults with secure- and dismissing-attachment styles. In addition, males reported more pathology of separation–individuation than did females. Finally, PATHSEP was correlated significantly with indices of psychopathological symptomatology and college adjustment. These results indicate that the shortened version of PATHSEP is a reliable and construct-valid measure.

Construct validity is, of course, an ongoing process, and additional studies are needed. For example, it would be of interest to chart the performance of PATHSEP with respect to allied constructs, such as parental bonding, and numerous assessments of family functioning. In addition, developmental studies that chart age differences over time would provide valuable information concerning the temporal dynamic of separation–individuation. For example, age differences during the adolescent years may be evident since separation–individuation is a process initially recapitulated during the adolescent years. Moreover, additional studies are needed to examine possible response sets in the administration of PATHSEP. The original 39-item scale has just three items that are reverse scored. The revised, shortened version has no such items. Indeed, all of the reversed-scored items either showed poor factor loadings or poor item-to-total correlations. It is not desirable



for all of the items to be scored in the same direction, although what effect this has for the construct validity of PATHSEP cannot be determined yet. Finally, the utility of PATHSEP in differentiating between control groups and participants with diagnosed psychological disturbances, such as borderline personality disorder, should be explored in future research. One advantage of the longer 39-item scale was that a preliminary cut-off score ( $>190$ ) has been established for purposes of identifying patients with borderline personality. As yet, no such criterion has been established with the shorter scale derived here. Although the revised scale has demonstrated a degree of construct validity, further research will need to examine its utility for discriminating various diagnostic classifications.

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