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The Organizational Properties of the Self-Concept and Instability of Affect

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Affect instability, a core symptom of several major mental illnesses, contributes to high levels of subjective distress and impaired self-care abilities. The findings of previous studies have shown that, in asymptomatic samples, the organizational properties of the self-concept impact short-term affect regulation. In this study, that work is extended to examine the association between the organizational properties of the self-concept and instability of affect in adults with a major mental illness. Subjects were 19 adults with a major mental illness (clinical) and 10 asymptomatic adults. Zajonc's card-sorting task was used to measure two organizational properties: (a) differentiation—the number of attributes included in the self-concept, and (b) unity—the degree of interdependence among the attributes. An experience sampling procedure was used to obtain 50 measures of affect across a 10-day period. The clinical group experienced more instability of negative affects than the asymptomatic group. Furthermore, the clinical group had lower differentiation and higher unity of the self-concept than the asymptomatic controls, although both organizational properties were related to education. In the total sample, differentiation was not related to instability of affect. Unity accounted for 21% of the variance in instability of negative affect.

Affect instability, rapid and extreme shifts from baseline to high levels of negative affect, is a core symptom of several major mental illnesses including borderline, schizotypal, and histrionic personality disorders, eating disorders, and atypical depression (Cowdry, Gardner, O'Leary, Leibenluft, & Rubinow, 1991; Ellison & Adler, 1990; Gunderson, Zanarini, & Kisiel, 1991; Rodin, Silberstein, & Striegel-Moore, 1984; Siever, Klar, & Coccaro, 1985; Striegel-Moore, Silberstein, & Rodin, 1986). Unlike the affect dysregulation associated with major mood disorders in which people experience stable levels of sadness or elation over a period of days or even weeks, affect states in these clinical populations are highly volatile with extreme changes occurring within a period of only a few hours. Individuals with these disorders tend to be highly sensitive to stressors, particularly interpersonal criticism and rejection, and react with abrupt increases in anger, anxiety, and despair.

In addition to the obvious subjective distress associated with affect instability, the symptom is of concern to psychiatric nurses because it interferes with the consistent enactment of a number of fundamental self-care behaviors. Since individuals with affect instability tend to express or relieve their emotional distress by engaging in impulsive and sometimes self-destructive behaviors, their ability to ensure their own safety is often severely compromised (Ellison & Adler, 1990). Furthermore, the frequent and often unexpected high levels of negative affect and the subsequent expression of those feelings seriously impair the development and maintenance of meaningful interpersonal relationships. Yet de-

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spite the serious consequences of affect instability on the individual's health and well-being, little is currently known about the mechanisms underlying affect regulation in these clinical populations and, therefore, few theory-driven intervention strategies are available. In this study, the role of the self-concept in affect regulation was explored. More specifically, the purpose was to examine the organizational properties of the self-concept in adults with a diagnosed mental illness that is associated with dysregulated affect and to explore the relationship between the organizational properties and affect instability.

A number of theoretical models suggest that the person's self-concept plays an important role in the regulation of affect (see Beck, 1987; Beck & Freeman, 1990; Kernberg, 1975; Lazarus, 1984; Markus & Wurf, 1987). In these models, the self-concept is defined as a complex and multifaceted knowledge structure that consists of a stable and enduring collection of images, beliefs, and attitudes about the self (Beck, 1967; Cantor & Kihlstrom, 1987; Horowitz, 1977; Kernberg, 1975; Markus, 1977). The individual conceptions of the self that comprise the self-concept are established in memory during the course of development. They reflect the categorizations and evaluations of one's physical and behavioral characteristics made both by the self and others in the social environment. As a total unit, the self-concept is viewed as a fundamental component of the cognitive system that functions as an interpretative framework enabling rapid and efficient processing of internal and external stimuli.

Some theorists suggest that the *content* of self-conceptions is key to understanding individual differences in emotional responses to stimuli. In these theories, the role of the self-concept in determining the type of affect experienced is emphasized. For example, Lazarus (1984) posits that affect states such as sadness or anger are the outcome of a series of judgments made about the self-relevance of a stimulus and about one's capacity to effectively respond. Similarly, Beck (1987) suggests that the sustained sad mood and feeling of hopelessness associated with depression stem from negative beliefs about the self that bias and distort the processing of information from the environment. In these models, the self-concept serves as the framework for evaluating the importance of the stimulus and attributing meaning to it.

Other theorists who specifically address affect instability focus on characteristics of the way information about the self is *organized* in memory (Horowitz, 1987; Kernberg, 1975; Linville, 1985; 1987; Masterson, 1990). In these theories it is suggested that people vary according to the number of self-conceptions included in the self-concept and the extent to which these individual units of information are interrelated. Some theories, particularly those from the psychoanalytic tradition, emphasize the value of a unified and integrated collection of self-conceptions, whereas more contemporary, empirically based theories within the field of social psychology suggest that the availability in memory of many independent self-conceptions is associated with lower levels of emotional responsivity to stressors (Stein & Markus, 1994).

The psychoanalytically based object relation theorists suggest that affect instability, particularly in adults with severe personality disorders, is caused by a lack of integration of the self-concept (Jacobson, 1964; Horowitz, 1977; Kernberg, 1975). According to this perspective, the self-concept is formed during the first 2 to 3 years of life as the child learns that the self is a separate and autonomous agent (Mahler, Pine, & Bergman, 1975). During this process of separation and individuation, the formation of the self-concept occurs in predictable stages moving from a collection of fragmented and unrelated images of discreet aspects of the self to an organized, coherent, and unified collection of images that reflects the whole person. Failure of the interpersonal environment to respond appropriately to the child's needs around separation and individuation interferes with the integration of the self-conceptions, and the self-concept remains a collection of discreet images that lack coherence and organization (Horowitz, 1977; Jacobson, 1964; Kernberg, 1966, 1984). According to these theorists, the lack of integration of the self-concept leads to affect instability because each time a self-relevant stimulus is encountered, a distinctly separate conception of the self and related self-evaluative feelings are activated. Since each conception of the self is distinct and isolated from the others, no other opposite-valenced conception of the self is available to modulate or offset the currently activated perspective of the self. Consequently, affective reactions to stimuli are extreme, behavioral responses erratic, and the self is subjectively experienced as a series of disjointed, unrelated states.

The idea that the organization of information within the self-concept impacts emotional reac-

tivity to stimuli also has been explored within the field of cognitive social psychology. However, the findings of these studies offer a preliminary challenge to the object relations theory that a lack of integration of the self-conceptions contributes to instability of affect. Building on the spreading activation model of memory, investigators posited that the availability in memory of many independent conceptions of the self may actually serve as an internal resource that limits the negative consequences of a self-relevant threat (Dixon & Baumeister, 1991; Linville, 1985, 1987; Niedenthal, Setterlund, & Wherry, 1992). According to the spreading activation model, phenomena are represented in memory as concepts or nodes that are linked together to form a rich and complex network (Collins & Loftus, 1975). Concepts that are semantically similar or related to each other in other ways are thought to be linked in memory such that activation of one node readily spreads to the other. In contrast, objects that are not related do not have direct linkages between them and, therefore, activation of one node will not affect the other. Extending this theoretical framework to the self-conceptions, investigators posited that in cases in which the person has few conceptions of the self that are highly interrelated, and, hence, tightly interconnected in memory, an event that triggers a negative evaluation of one aspect of the self will quickly spread throughout the entire structure and result in a generalized sense of self-dissatisfaction and negative mood. In contrast, the same threat to a single self-conception in a more fully elaborated and less unified self-concept will be more contained and negative feelings limited to a smaller proportion of the total self-concept (Niedenthal et al., 1992).

The findings of a series of studies with asymptomatic college-aged samples lend support to the theoretical predictions. In one study, subjects with many independent self-conceptions included in the self-concept and those with relatively fewer more interdependent self-conceptions were given false feedback about their performance on an intelligence test (see Linville, 1985). Some subjects were told that they scored above average on the test while others were told that they scored significantly lower than their peers. Subjects' mood and self-evaluations were measured both before the intelligence test was given and after the feedback was received. Subjects with many independent conceptions of the self articulated in memory experienced less extreme emotional reactions to feedback than those with fewer, more interdependent conceptions of the self.

Since Linville's original work, a number of investigators have both replicated the findings (see Campbell, Chew, Scratchley, 1991; Niedenthal et al., 1992 for examples) and extended the work to examine other emotional and behavioral responses to self-relevant threats. For example, investigators have shown that individuals with many independent attributes included in the self-concept are more receptive to feedback that challenges their established view of themselves (Stein, 1994), and experience less emotional distress and physical illness in response to stressful events (Linville, 1987) than those with fewer independent self-conceptions.

Although the link between the organizational properties of the self-concept and affect regulation has been documented in asymptomatic college-aged young adults, no studies have been done to explore the linkage in adults who experience dysregulated affect. Identification of properties of the self-concept that impact affect regulation in clinical populations has important implications for nursing practice. Self-concept disturbances are broadly recognized within the discipline of nursing as an important focus for intervention (Carpenito, 1992; Roy & Andrews, 1991). However, to date, most nursing interventions have tended to focus narrowly on one aspect of the self-concept: global self-esteem (Stein, 1995). Focusing on the organizational properties of the self-concept holds the potential for expanding nursing's focus on the self-concept beyond self-esteem to other important dimensions of the self-concept. If specific deviations in the organizational properties of the self-concept can be identified, and the mechanisms that link the deviations to affect dysregulation understood, more refined, theoretically-based intervention strategies can be developed.

Consistent with other contemporary models, the self-concept was defined in this study as a complex memory structure that is comprised of multiple self-conceptions or attributes (Cantor & Kihlstrom, 1987; Greenwald & Pratkanis, 1984; Markus, 1977). Two organizational properties of the self-concept were addressed: (a) differentiation—the number of attributes included in the self-concept, and (b) unity—the degree of interdependence among the attributes. Based on the findings of studies with asymptomatic samples, it was predicted that adults with a major mental illness would have lower differentiation and higher unity of the self-concept than asymptomatic adults and that these two properties of the self-

concept would reliably predict instability of affect.

METHOD

Sample

Two groups of subjects participated in this study, the clinical group (n = 19) and the asymptomatic control group (n = 10). The clinical group included adults with either a primary psychiatric diagnosis of borderline personality disorder (BPD) (n = 15) or anorexia nervosa (AN) (n = 4). These two disorders were selected for study because: (a) instability of affect is recognized as an important symptom of both disorders (Cowdry et al., 1991; Goodsitt, 1983), and (b) the severity of the disorders are comparable in that both are associated with severe impairments in self-care abilities that often necessitate inpatient hospitalization.

Clinical subjects were recruited from three inpatient psychiatric units at local hospitals. The Diagnostic Inventory for Borderlines (DIB) (Gunderson, Kolb, & Austin, 1981) and a clinical history were used to establish primary diagnosis and group placement. To establish a diagnosis of BPD, the individual had to meet *DSM-III-R* (American Psychological Association, 1987) criteria for BPD and score 7 or above on the DIB. Similarly, to establish a diagnosis of AN, the individual had to meet *DSM-III-R* criteria for AN and score 5 or below on the DIB. Individuals were considered asymptomatic if they had a negative history for psychiatric disorders and scored 5 or below on the DIB. Additional criteria for participation in the two groups included: (a) no history of organic, developmental, and chronic psychotic disorders, and (b) literacy in English.

The DIB is a semistructured interview that focuses on five areas of functioning (Gunderson & Kolb, 1978). Scores range from 0 to 10 with a score of 7 or above necessary for the diagnosis of BPD. Discriminate and known group techniques have been used to support the validity of the measure (Soloff & Ulrich, 1981).

The DIB was designed to be administered by a skilled psychiatric clinician (Cornell, Silk, Ludolph, & Lohr, 1983). In this study, approximately half of the subjects in the Clinical group (n = 8) were recruited from an ongoing Personality Disorders Research Project. For these subjects the DIB was administered by a member of the Personality Disorders research team prior to entry into this study. An acceptable level of interrater reliability for the team was established (kappa = .80) (Baker, Silk, Weston, Nigg, & Lohr, 1992). For all other subjects the DIB was administered by the principal investigator, who was trained in the administration of the DIB. The investigator was considered a reliable interviewer after concurrently rating five patients with a member of the Personality Disorders research team and successfully establishing: (a) the same group placement, and (b) a total DIB score that was within one scale point of that assigned by the experienced interviewer.

Sixteen (84%) of the subjects in the clinical group and nine (90%) asymptomatic subjects were female. The mean age was 27.3 (SD = 6.9) years for the clinical group and 29.3 (SD = 7.0) years for the asymptomatic group (p = ns). Subjects in the asymptomatic group had higher level of education (M = 17.2, SD = 2.5) than those in the clinical group (M = 14.3, SD = 3.1), $t(27) = -2.57$, $p < .02$. In the clinical group, 11 subjects were single, 2 married, and 6 were divorced; in the asymptomatic group, 4 subjects were single and 6 were married.

Forty-two percent of the clinical subjects (n = 8) were on no psychotropic medication at the time of data collection. Of the 58% (n = 11) on psychotropic medications, four (21%) were on a mood stabilizing drug, two (11%) were on antidepressants, two (11%) were on an antipsychotic medication and three (16%) were receiving a combination of antidepressant, mood stabilizing, and antipsychotic drugs. Of the 11 subjects on medication, 8 had started the medication during the current hospitalization, and 3 had begun the medication prior to admission.

Measures

Differentiation and unity of the self-concept, a card-sorting task developed by Zajonc (1960) to measure the organizational properties of cognitive structures, was used to measure differentiation and unity of the self-concept. This measure consists of three tasks, two of which were used for this study. First, subjects were given a stack of blank index cards and were asked to write down all the attributes that are important to who they are. Subjects were asked to write only one self-defining attribute on each card and were encouraged to use as many or as few cards as necessary to thoroughly describe themselves. Subjects were given as much time as needed to complete the task. Next, subjects were asked to consider each of their attributes separately and

to "identify all other attributes that would change if the targeted attribute was somehow changed, absent, or untrue of you."

Responses to the two tasks were used to compute the differentiation and unity scores. Differentiation refers to the number of attributes included in the self-concept and is computed by counting the number of attributes generated. Unity refers to the degree of interdependence among the attributes included in the self-concept. Responses to the second task were used to construct a dependency matrix such that when attribute *Aj* caused a change in attribute *Ai* a value of 1 was assigned and when no change in *Ai* occurred a value of 0 was assigned. The total dependency of an element was calculated by summing the row entries and the total dependency of self-concept was calculated by summing the dependencies across all attributes (see formula). To compare the degree of unity across self-concepts of varying levels of differentiation, the measure of unity was normalized by dividing the sum by the total number of possible dependencies of the structure. Possible values for the unity measure range from 0 to 1.0.

$$\text{Unity} = \frac{\sum_{i=1}^{n} \text{dependency } (A_i)}{n(n-1)}$$

The results of previous studies provide evidence to support the validity of the card-sorting technique as a measure of differentiation and unity of the self-concept. To address the competing hypothesis that the card-sorting task measures ability and motivation to communicate one's thoughts in writing rather than the organizational properties of the self-concept, Stein (1994) examined the relationship between differentiation and unity of the self-concept and written fluency. A sample of 151 college-aged men and women were asked to write an essay about a photograph they were shown and the number of words written was used as an indicator of written fluency. The results of the study showed no relationship between written fluency and the differentiation and unity scores. A second finding of the study—that differentiation and unity scores were not related to college entry examinations (i.e., ACT and SAT scores) provides evidence to suggest that the variability in the differentiation and unity scores was not related to intelligence.

In a second study, a criterion-related approach was used to address the validity of the card-sort measure. Stein (1990) examined the relationship between differentiation and unity scores derived from the Zajonc card-sorting task and Linville's (1987) Self-Complexity measure. The Linville measure provides a single score that represents the number of independent, nonoverlapping conceptions included in the self-concept with higher scores reflecting more independent self-conceptions articulated in memory. The results revealed an expected positive correlation between the Linville Self-Complexity and differentiation scores, $r(36) = .51$, $p = .001$, and an expected negative correlation with the unity score, $r(36) = .39$, $p = .01$.

Finally, Stein and Markus (1990) found predicted differences between individuals who rated a domain of self-knowledge as central to their self-definition and those who did not view the domain as core. Individuals who rated the domain of independence as centrally self-defining tended to have higher differentiation and unity scores than those who did not view the domain as self-defining. Furthermore, to rule out a competing hypothesis of response style bias, in this study the two groups of subjects also completed the card-sorting task while considering an unfamiliar inanimate object. As expected, when describing the unfamiliar object, no group differences were found in differentiation or unity scores.

A moderate level of test–retest reliability has been shown for the differentiation measure at 2-week, $r(36) = .26$, $p = .06$, and 18-month, $r(34) = .49$, $p < .01$, intervals. A high level of test–retest reliability was found for the unity measure at 2 weeks, $r(36) = .64$, $p < .001$, and a moderate level at 18 months, $r(34) = .34$, $p < .05$ (Stein, 1990).

Instability of affect. In order to examine instability of affect, it was necessary to measure affect states repeatedly over time. The experience sampling method (Hormuth, 1986; Larson & Csikszentmihalyi, 1983) was used to obtain multiple measures of affect during the person's everyday activities. Subjects were asked to wear an alarm watch for a period of 10 days. The watch was set to signal the subject five times daily at random intervals between the hours of 9 a.m. and 9 p.m. During the experience sampling period subjects carried a notebook of diaries with them. At each signal, subjects were instructed to immediately complete a one-page diary type questionnaire that included a measure of affect.

The Self-Report Affect Circumplex Scale (Larsen & Diener, 1991) was used to measure instability of affect. This measure is based on the circumplex model of affect in which it is posited that two main dimensions are underlying the majority

of affect states: hedonic valence (pleasant and unpleasant dimension) and activation (high and low energy dimension). Four additional dimensions of affect are identified that reflect combinations of the two main dimensions. They include: (a) activated–pleasant, (b) unactivated–pleasant, (c) activated–unpleasant, and, (d) unactivated–unpleasant affects. Subjects are asked to rate 48 mood adjectives on a 5-point scale according to "how you are feeling now." Eight affect scales, each consisting of six adjectives, are included in the measure; Cronbach alpha coefficients for the scales ranged from .70 to .94.

For this study, the within-subject standard deviation across the repeated measures of the affect state was used as an index of instability of the affect. Six of the affect scales derived from the Self-Report Affect Circumplex Scale were used to compute two main outcome variables: instability of positive affects and instability of negative affects. To compute the individual's instability of positive affects score, the within-subject standard deviation across the repeated measures of the affect was computed for each of the pleasant affect scales including the pleasant, activated–pleasant, and unactivated–pleasant scales. The individual's three pleasant affect standard deviation scores were then summed to compute an instability of positive affects score. The individual's positive affects instability score was used to calculate a group mean positive affects instability score. Similarly, for an individual's instability of negative affects score, the within-subject standard deviation across the multiple measures of the affect was computed for each of the unpleasant affect scales including the unpleasant, activated–unpleasant, and unactivated–unpleasant scales. The individual's three unpleasant affect standard deviation scores then were summed to compute an instability of negative affects score. The individual's negative affects instability score was used to compute the group mean instability score. The high activation and low activation scales were not addressed in this study. Two subjects, both in the clinical group, failed to complete more than five of the repeated measures of affect. Consequently, their data were dropped from all analyses of the affect data.

Procedures

All subjects completed a written informed consent before participating in the study. For all subjects, except the BPD subjects who were recruited from the Personality Disorder Project, the DIB was administered by the investigator. To ensure that acute cognitive changes associated with starvation did not confound measurement of the study variables, individuals with anorexia nervosa were recruited into the study after they had successfully completed nutrition classes and a nutrition examination. These two components of the treatment protocol indicate an ability to process and retain complex information and, therefore, were used as markers of an acceptable level of cognitive functioning.

Approximately 3 days after completing the DIB interview, subjects completed a packet of written questionnaires that included the card-sorting task. Subjects then were oriented to the experience sampling procedure. A member of the research team met with the subject approximately every 3 days during the experience sampling period to reset alarm times and to collect completed diaries. Subjects were paid $40 for their participation.

Each subject was signaled a total of 50 times over the 10-day period. All subjects in the clinical group began the experience sampling during inpatient hospitalization. For those subjects who were discharged before the end of the experience sampling, data collection continued during their return to community living. For the clinical group, 54% of the diaries were completed during inpatient hospitalization. Response rate for diaries was 74% for the clinical group and 89% for the asymptomatic group.

RESULTS

One main assumption underlying this study was that adults with either a borderline personality disorder or anorexia nervosa experience more instability of affect than asymptomatic adults. To examine this assumption, group differences in instability of positive and negative affects were examined using a Student's t test. As expected, the clinical group experienced significantly more instability of negative affects across the repeated measures ($M = 2.32$, $SD = 0.57$) than the asymptomatic group ($M = 1.13$, $SD = 0.38$), $t(25) = 5.85$, $p < .001$. However, the two groups did not differ in instability of positive affects (Clinical: $M = 1.81$, $SD = 1.12$; asymptomatic: $M = 2.16$, $SD = 0.59$).

As a first step in exploring the role of the organizational properties of the self-concept in instability of mood, the relationship between group membership and differentiation and unity scores was examined using simple regression analyses.

Table 1. Results of Regression Analyses of Organizational Properties on Group Education

Criterion/Predictor	Beta	*t*	*F*
Differentiation			
Group	0.38	2.13*	4.52*
Unity			
Group	−0.43	−2.50*	6.25*
Differentiation			
Education	0.53	3.28**	10.75**
Unity			
Education	−0.42	−2.39*	5.73*
Differentiation			
Group	0.18	0.97	
Education	0.46	2.51*	5.84**
Unity			
Group	−0.31	−1.63	
Education	−0.28	−1.49	4.37*

Note. Beta equals standardized regression coefficient.
*$p \leq .05$. **$p \leq .01$.

In the first analysis, differentiation was regressed on group, which was entered as a dummy variable. As shown in Table 1, group was a significant predictor of differentiation of the self-concept, accounting for 14% of the explained variance in differentiation scores. Because of the small sample included in this study, the amount of shrinkage or decrease in explained variance between this sample and the true population was considered (Prescott, 1987). For this model the adjusted R^2 was 11%, suggesting that the estimated relationship between group and differentiation can be expected to shrink by 3% in the population. In the second analysis, unity of the self-concept was regressed on group. Group was a significant predictor of unity, accounting for 19% of the variance in unity scores. For this model the adjusted R^2 was 16%. For both models, the standardized regression coefficients and the *t*-value for the predictor variable are shown in Table 1. For the clinical group, the mean differentiation score was 25.8 (SD = 11.6) and the mean unity score was 0.30 (SD = 0.19). For the asymptomatic group the mean differentiation score was 35.2 (SD = 10.8) and the mean unity score was 0.13, (SD = 0.11).

Because group differences were found in level of education, the relationship between the organizational properties and level of education also was examined using simple regression analyses. Education accounted for 29% of the variability in differentiation of the self-concept (adjusted R^2 = 26%) and 18% of the variance in unity of the self-concept (adjusted R^2 = 14%). Standardized regression coefficients and *t*-values for both models are shown in Table 1.

Finally, to examine the relative contribution of group and education on the organizational properties of the self-concept, two multiple regression analyses were completed. Education and group were entered into these analyses simultaneously with each predictor variable tested for significance while the effects of the other variable were controlled; the results are shown in Table 1. The two-predictor model accounted for 31% of the variance in differentiation scores (adjusted R^2 = 26%), but in this model only education was a significant predictor. For unity of the self-concept, the two-predictor model accounted for 25% of the explained variance (adjusted R^2 = 19%), but neither group nor education was a significant predictor.

To examine the role of differentiation and unity of the self-concept in predicting instability of affect, two simultaneous regression analyses were completed. In these analyses each of the organizational properties was tested for significance while the effects of the other were controlled. As shown in Table 2, a multiple regression analysis with differentiation and unity used to predict instability of positive affect was not statistically significant. Furthermore, a multiple regression analysis with differentiation and unity used to predict instability of negative affect revealed that differentiation of the self-concept was not a significant predictor. However, unity of the self-concept was statistically significant, accounting for 27% of the variance in instability of negative affects (adjusted R^2 = 21%).

Because of the relationship found between uni-

Table 2. Results of Multiple Regression Analyses of Instability of Affect on Differentiation and Unity

Criterion/Predictor	Beta	*t*	*F*
Affect Instability—Positive			
Differentiation	0.31	1.40	
Unity	0.11	0.51	0.99
Affect Instability—Negative			
Differentiation	0.01	0.03	
Unity	0.52	2.66**	4.36*
Affect Instability—Positive			
Education	0.08	0.36	
Unity	0.01	0.06	0.07
Affect Instability—Negative			
Education	−0.09	−0.45	
Unity	0.48	2.47*	4.50*

Note. Beta equals standardized regression coefficient.
*$p \leq .05$. **$p \leq .01$.

ty of the self-concept and education, two additional regression analyses were completed to examine the effects of education on instability of affect. In these analyses level of education and unity of the self-concept were entered simultaneously into the equations. For both the positive and negative affect states, level of education was not a reliable predictor of instability of affect. However, unity remained a significant predictor of instability of negative affect (see Table 2 for standardized regression coefficients).

DISCUSSION

Because of the small sample size, the results of this study must be viewed as preliminary. However, the findings do lend preliminary support to the hypothesis that the organizational properties of the self-concept are an important factor contributing to the affect instability experienced by adults with certain major mental illnesses. As expected, the clinical sample did report significantly more instability of negative affects over the 10-day period. Furthermore, in the total sample, unity of the self-concept was a significant predictor of instability of negative affects. Individuals with a highly unified or interdependent collection of self-defining attributes experienced significantly more variability in negative affect states over the experience sampling period than those with a less unified self-structure.

These results are consistent with the hypothesis, put forth by Linville (1985), that the availability in memory of a collection of discreet, unrelated conceptions of the self serves as an internal resource that limits the negative affective consequences of an event and, thereby, contributes to emotional stability. Apparently, when the self-concept consists of a collection of independent self-conceptions, a threat to any single aspect is contained within that domain. The many other self-conceptions remain unaffected and, therefore, can function to stabilize self-feelings and affect. From this view, the collection of independent self-conceptions buffers the impact of any threat to self and enables the individual to maintain a more constant level of affect. In contrast, when the self-concept is a highly unified, cohesive cluster of self-conceptions, a threat to a single aspect of the self may spread throughout the entire self-concept. In this case there may be fewer uninvolved dimensions of the self available to offset the threat and stabilize self-feelings and affect and, therefore, rapid and marked increases in negative affect can be expected.

It is interesting to note that differentiation of the self-concept was not a reliable predictor of instability of affect. Consistent with the findings of other studies (see Linville, 1987), the number of attributes alone did not affect the amount of fluctuation in affect states. This finding points to the fact that simply knowing the number of attributes articulated in memory provides little information about the structure underlying the array. Although an individual may report a large number of self-defining attributes, those attributes may be tightly clustered around a single underlying dimension and, therefore, represent one rather than several unique components of the self-system.

One unexpected finding of this study was that the organizational properties of the self-concept were associated with education. Contrary to the research hypothesis, the results showed that when the effects of group membership and education were considered together, only education was a significant predictor of differentiation of the self-concept. For unity, both group membership and education together accounted for a statistically significant proportion of the variance, but neither variable was a significant predictor when the effects of the other were controlled. Although the failure to detect a statistically significant relationship between group membership and the organizational properties, particularly unity, may have been due to the small sample, these results raise important questions about the source of variability in the self-concept.

One competing hypothesis that must be considered is that the observed variability in differentiation and unity of the self-concept is an epiphenomena, reflecting differences in written fluency associated with education rather than true differences in the self-concept. Several pieces of empirical evidence are available to challenge this rival hypothesis. First, the findings of other studies in which the validity of the Zajonc card-sorting measure was examined have shown that the organizational properties of the self-concept are not related to ability or motivation to express oneself in writing (Stein, 1994). Stein and Markus (1990) showed that expected group differences in differentiation and unity of the self-concept were not found when the subjects described an unknown inanimate object. These last findings are particularly relevant to this rival hypothesis because, if observed differences in the self-concept were simply an epiphenomena reflecting differences in ability to articulate and written fluency, differences should be evidenced in all domains, not just when describing oneself.

Second, the findings that (a) unity of the self-concept was a significant predictor of instability negative affect and (b) education was unrelated to instability of negative affect lend support to the idea that unity of the self-concept is a distinct variable, not just an alternative expression of level of education.

A second, and perhaps more plausible, hypothesis is that the organizational properties of the self-concept are, indeed, influenced by education. Higher levels of education may be associated with increased opportunities to engage in diverse behavioral domains. Since conceptions of the self are constructed through experience and interaction with the environment (Cantor, 1990; Cantor & Kihlstrom, 1987; Markus, 1977), individuals with a richer and more diverse set of experiences may have more independent conceptions of themselves articulated in memory. For example, an individual with a high level of education may be more likely to have a professional job with multiple and complex role demands that could lead to a more diverse collection of self-conceptions even within the single domain of work. In contrast, individuals with lower levels of education may have, for financial and a variety of other reasons, a more limited range of interests and experiences. In this case, there would be fewer behavioral domains that the individual could claim as self-definitional and the domains that are considered part of the self may be more closely interrelated.

Another interesting finding to note is that despite the fact that 60% of the clinical sample was on at least one psychotropic medication, their mean level of instability of negative affect was approximately double the level reported by the asymptomatic subjects. This finding is consistent with other psychopharmaceutical studies in which it has been shown that psychotropic medications have only a small effect on instability of affect (Gruber, Janowsky, Mandell, Risch, & Huey, 1984; Lucas, Gardner, Wolkowitz, & Cowdry, 1987). Although clearly there is evidence available to support the view that biological mechanisms play a role in affect instability (see Ellison & Adler, 1990; Soloff, 1987; Soloff, Cornelius, & George, 1991), the findings, when taken together with the biologically based studies, raise the question of whether cognitive mechanisms also may be involved.

As already mentioned, a limitation of this study is the small sample. Replications with larger and more diverse groups of adults who experience marked instability of affect are critical before the findings can be confidently translated into specific clinical recommendations. However, the findings offer a preliminary challenge to the object relations perspective that affect instability is associated with a lack of integration of the self-concept and that affect stabilization can be achieved by interventions that help the individual bring disparate views of the self together in conscious thought, so that the self is experienced as a unified whole. Contrary to this existing model of intervention, the findings offer preliminary evidence to suggest that affect instability may be reduced by therapeutic efforts directed toward helping the individual think of the self in new ways and to see this new evolving view as different from, rather than similar to, existing conceptions of the self.

Nursing's emphasis on working with the individual's strengths rather than weaknesses in fostering adaptation to illness may provide an important focus for interventions designed to expand the existing self-view. Rather than striving to diminish or change an existing negative aspect of the self, an important focus of treatment may be to help the individual identify and elaborate unacknowledged strengths and abilities. Further, these findings suggest that an important component of the intervention may be to help the individual view new conceptions of the self as separate and unrelated to their problem areas.

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