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Emerging from the CAVE: Attributional Style and the Narrative Study of Identity in Midlife Adults

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It has been widely documented that individuals who explain negative life events with a depressogenic attributional style (stable, global attributions) tend to have increased rates of depression and other poor outcomes (e.g., Sweeny, Anderson, & Bailey, 1986). The Content Analysis of Verbatim Explanations (CAVE) is a method of assessing attributional style in spontaneously-generated causal attributions appearing in accounts of real events (Peterson, Schulman, Castellon, & Seligman, 1992). Seventy life story interviews obtained from a diverse community sample of midlife adults were coded for attributional style with the CAVE technique and also for the theme of contamination (scenes in which good events turn to bad outcomes, McAdams, Reynolds, Lewis, Patten, & Bowman, 2001). While depressogenic attributional style and contamination sequences were unrelated to each other, both were shown to independently predict self-reported depression and low life satisfaction. In addition, while the observed relationships between depressogenic attributional style and these self-report variables were no longer significant after controlling for neuroticism, a similar pattern was not observed for contamination sequences. This study forges possible connections between cognitive theories of depression and the narrative study of adult identity.

KEY WORDS: attributional style; CAVE; contamination sequences; narrative.

The use of content analysis-based methodologies represents a relatively recent development in research on cognitive theories of depression. While self-report measures such as the Attributional Style Questionnaire (ASQ; Peterson et al., 1982) have traditionally served as the standard for assessing depressogenic thinking (e.g. Sweeny, Anderson, & Bailey, 1986), some researchers have turned to alternative approaches such as the Content Analysis of Verbatim Explanations (CAVE; Peterson,

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Schulman, Castellon, & Seligman, 1992) that focus on cognitive patterns expressed in open-ended accounts of personal experiences. In a parallel vein, personality researchers have recently sought to augment traditional self-report trait scales (e.g., Costa & McCrae, 1985) with assessments of cognitive, motivational, and emotional themes in autobiographical narratives (e.g., McAdams, 2001; Singer, 2004; Woike, 1995). McAdams (1995) has argued that narrative methodologies tap into a deeper level of personality than typically accessed with trait scales—the level of identity as a *life story*. Adults living in modern societies typically construct and internalize autobiographical stories of the self—narrative identities—to provide their lives with meaning and purpose (e.g., Giddens, 1991; McAdams, 1996). To what extent, however, do self-defining life stories reflect the kinds of cognitive patterns typically found in depression research?

Bringing together approaches from cognitive theories of depression and narrative studies of personality, the current study uses the CAVE technique to assess attributions in extensive life-narrative accounts obtained from a community sample of midlife adults. Previous research employing the CAVE method has shown that stable and global attributions for negative life events, as expressed in open-ended autobiographical accounts, tend to be associated with depression, as well as with such negative outcomes as poor health, poor achievement, and decreased self-efficacy (e.g., Burns & Seligman, 1989; Kamen & Seligman, 1987; Peterson, 1991). The CAVE approach has proven to be a reasonable alternative to the ASQ, which is a self-report scale that assesses attributional style in response to *hypothetical* events. For the most part, research employing the CAVE technique, like studies employing the ASQ, has zeroed in on discrete events or episodes in a life, such as psychotherapy sessions or diary entries, rather than on the story of a life overall. By contrast, narrative studies of lives in personality psychology (and related disciplines; see Josselson & Lieblich, 1993; McAdams, Josselson, & Lieblich, 2001) have tended to examine the narrative construction of a life as a whole.

Narrative researchers in personality psychology have not typically focused on the relations between life narratives and psychopathology. Two exceptions, however, are studies reported in McAdams, Lensky, Daple, and Allen (1988) and in McAdams et al. (2001). In the first example, the researchers found that students scoring higher on the Beck Depression Inventory (BDI) tended to construct life stories that showed greater thematic variety for negative life scenes and less thematic variety for positive scenes, compared to students scoring lower in depression (McAdams et al., 1988). In the second example, McAdams et al. (2001) found that depression scores among community adults were positively associated with *contamination sequences*. In a contamination sequence, a highly positive scene or state gives way to a very negative outcome (McAdams & Bowman, 2001; McAdams, Diamond, de St. Aubin, & Mansfield, 1997). The concept recalls and expands upon Peterson's (1983) discussion of the tendency in depression to emphasize the "dark clouds" over the "silver linings" in interpreting even ostensibly positive life events. From the standpoint of life narrative theory, contamination sequences are reflections both of a life actually lived and of the cognitive interpretations of that life as selected, edited, and reconstructed (Habermas & Bluck, 2000; Hermans, 1996; McAdams, 1993, 2001; Singer & Salovey, 1993). People fashion life stories out of the raw

material of their lives. Therefore, while narrative identities are based on certain "facts" about the past, they also represent *personal myths* about the self and the world, constructed to provide some coherence and meaning to a life evolving over time (McAdams, 1993).

The current study is the first to apply concepts and methods derived from cognitive theories of depression to the analysis of full life stories constructed by adults. According to the hopelessness theory of depression (e.g., Abramson, Metalsky, & Alloy, 1989), an attributional style (sometimes called "explanatory style") wherein negative life events are seen as having been caused by stable and global factors represents a cognitive predisposition for hopelessness, which, when combined with various sorts of environmental stressors, may result in depressive symptomatology. The CAVE technique has proven to be a useful method for assessing individual differences in attributional style as expressed in open-ended accounts of personal experiences and other forms of personal discourse (i.e., Peterson, 1991; Schulman, Castellon, & Seligman, 1989; Zullow, Oettingen, Peterson, & Seligman, 1988). In the current study, then, extensive life-story accounts told by adults from the community in McAdams et al. (2001) are coded for stable and global attributions made in response to negative scenes and these scores, along with measures of personality traits, are related to self-report indices of depression and related outcomes (self-esteem, life satisfaction, and ratings of physical health). The CAVE results are also compared to those previously obtained for the thematic index of contamination sequences with respect to their relative efficacy in predicting depression and related variables. Finally, attributional style and contamination sequences are each pitted against trait neuroticism in predicting these poor outcomes.

METHOD

Participants

Participants were 70 adults from the community (age 35–64, $M = 49.78$, $SD = 8.71$) who were interviewed for McAdams et al. (2001). The 70 participants who were interviewed were originally drawn from a larger pool of 269 participants in a survey study examining psychosocial adaptation and generativity among midlife African-American and Caucasian adults in the community (Hart, McAdams, Hirsch, & Bauer, 2001). In that study, generativity was assessed using the Loyola Generativity Scale (LGS; McAdams & de St. Aubin, 1992), a 20-item reliable and valid self-report measure; the Generative Behavior Checklist (GBC; McAdams & de St. Aubin, 1992), a checklist of generative acts; and a measure of generative strivings (McAdams, de St. Aubin, & Logan, 1993). Participants from Hart et al. (1993) study were selected for interviewing in McAdams et al. (2001) study based on their scores on the three measures of generativity. Participants scoring at least 1 *SD* above or 1 *SD* below the mean on at least two of the three measures were included. The high and low generativity groups did not significantly differ on any demographic characteristics. Demographic data for the complete sample from the McAdams et al. (2001) study, which was also used in the present study, are

Table I. Demographic Characteristics

Demographic characteristic	Number (%)	*M* (*SD*)
Sex		
Male	33 (47.1)	
Female	37 (52.9)	
Race		
African-American	32 (45.7)	
Caucasian	38 (54.3)	
Age (years)		49.78 (8.71)
Education level[a]		3.90 (1.11)
Family income[b]		6.59 (11.64)

[a]Education level was coded on a 5-point scale where 1: *below high school*, 2: *high school graduate*, 3: *some college*, 4: *college degree* (*bachelor's*), and 5: *master's degree or higher graduate degree*.

[b]Income was coded on a 9-point scale where 0 ≤ $10,000, 1 = $10,000 – $20,000, 2 = $20,000 – $30,000, 3 = $30,000–$40,000, 4 = $40,000 – $50,000, 5 = $50,000 – $60,000, 6 = $60,000 – $70,000, 7 = $70,000 –$80,000, 8 = $80,000–$90,000, 9 ≥ $90,000.

summarized in Table I. The sample was comprised of roughly equal numbers of males and females, as well as African-Americans and Caucasians.

Measures

Several self-report measures were employed to assess mental and physical health outcomes.

Depression

Depression was assessed with the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a 20-item questionnaire on which participants are asked to rate (on a 4-point scale) the extent to which they have experienced the particular symptom described (e.g., "I had crying spells," "I felt that everything I did was an effort") during the past week. The CES-D is a widely used instrument in studies assessing psychological well-being among adults in both the general population and in clinical samples.

Self-Esteem

Self-esteem was assessed through six items drawn from the Rosenberg (1965) Self-Esteem Questionnaire, the most widely used one-dimensional measure of global self-regard. Participants respond to statements such as "I feel that I am a person of worth" along 7-point scales ranging from "*strongly disagree* (1)" to "*strongly agree* (7)."

Life Satisfaction

Overall satisfaction with life was assessed with the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larson, & Griffin, 1985). This is a 5-item scale, which asks participants to endorse a series of statements such as "If I could live my life

over, I would change almost nothing" along 7-point rating scales, which range from "*strongly disagree* (1)" to "*strongly agree* (7)."

Personality Traits: Neuroticism

Personality traits were assessed with the Big Five Inventory (BFI; John & Srivastava, 1999), a reliable and valid 44-item self-report rating scale designed to measure each of the five traits commonly subsumed under the Big Five framework: Neuroticism (N), Extraversion/Introversion (E), Openness to experience (O), Conscientiousness (C), and Agreeableness (A). Each item is answered on a 5-point rating scale. The focus in this study is on the trait of neuroticism, conceived of as a predisposition to experience negative affect. An index of personality traits was included to allow for the assessment of lower-level personality variables in addition to the narrative coding.

Physical Health

Physical health was evaluated with a measure designed to obtain assessment of a wide range of physical ailments (McAdams et al., 2001). Participants report whether or not they have suffered physical complaints in the following domains: arthritis, ulcers, cancers, hypertension, diabetes, liver problems, kidney problems, stroke, neurological problems, heart disease, sickle cell anemia, respiratory problems, orthopedic problems, endocrine problems, immune deficiency, and other health problems. In addition to designating the presence or absence of these physical ailments and their impact on functioning, participants are also asked to assign a single rating of their overall physical health along a 5-point continuum. In the present study, this subjective global rating was used in all analyses (referred to as "HeathRate"). Subjective health measured in this way has been shown to highly correlate with physician ratings of health (Ferraro & Farmer, 1999) and to be a better predictor of subsequent mortality than objective health ratings (Kaplan & Comacho, 1983).

Procedure

Data Collection

Participants completed a demographic questionnaire as well as the self-report measures described above. The participants were then each interviewed according to McAdams' (1985) life-story technique. Participants first divide their life into a series of meaningful chapters. They then recount a series of eight significant scenes. Finally, participants are asked to reflect on important influences on their lives, as well as provide thematic interpretations of their story and speculate about their future. The interviews generally require approximately two hours to complete. The interviews were audio recorded and transcribed, verbatim.

Interview Coding I: CAVE

A total of 70 out of the 74 interviews that were conducted were coded in their entirety according to the CAVE technique guidelines (Peterson et al., 1992). (Four

interviews were deemed to be not coherent enough to be coded for CAVE categories.) In the CAVE technique, causal events are identified from the stated perspective of the subject if they satisfy all of three criteria: (1) a specific event, happening, or experience with a discernible beginning and ending is described; (2) the event involves the self, and was experienced in some undesirable way; (3) a causal statement about the event is made, identifiable by the use of one or more phrases such as "because," "since," "as a result of," "this led to," "due to," etc.

Because of these stringent criteria, independent judges agree more than 90% of the time that a particular causal attribution is present (Zullow et al., 1988). They can then be coded by independent judges with 7-point scales, along the three dimensions: Internal–External, Global–Specific, Stable–Unstable.

Two blind and independent coders first read through each interview and extracted negative events. Once identified, the event and causal attribution were copied, verbatim. Departing slightly from previous studies, which used a 7-point scale, the current study modified the CAVE by instead employing a 5-point scale. This modification was intended to make discrimination between levels more concise, thereby simplifying and expediting the coding process. Thus, each coder rated each attribution on a 1–5 scale along the Internal–External (5: *Internal*), Global–Specific (5: *Global*), and Stable–Unstable (5: *Stable*) dimensions. A mean of 57.76 negative events per participant ($SD = 29.93$) were identified (rated on a sentence-by-sentence basis, throughout the entire interview), of which a mean of 11.01 causal attributions per participant ($SD = 7.96$) were extracted and coded.

Next, ratings were averaged across events for each participant to yield a distinct score for each dimension. Distributions of scores along the three dimensions of attributional style were nearly normal: Internal–External ($M = 2.81$, $SD = 0.78$), Global–Specific ($M = 2.73$, $SD = 0.72$), Stable–Unstable ($M = 2.94$, $SD = 0.69$). These average scores were then summed across dimensions to create a composite score representing the depressogenic attributional style composite (stable + global). These scores can range from 2 (*unstable*, *specific*) to 10 (*stable*, *global*) ($M = 6.32$, $SD = 1.32$). Following previous research (e.g., Abramson et al., 1989), the Internal dimension was not used in forming the depressogenic attributional style composite.

To establish inter-rater reliability, two raters independently coded 12 interviews, which produced 50 identical extractions. Inter-rater agreement was good, with intra-class correlations (Shrout & Fleiss, 1979) as follows: 0.89 (*internal*), 0.78 (*stable*), 0.78 (*global*), 0.80 (*depressogenic attributional style composite*).

Interview Coding II: Contamination Sequences

As reported in McAdams et al. (2001), each interview was first coded for the presence of contamination sequences in the eight key life-story scenes. Two independent coders, different from the coders used in the present study for the CAVE coding, but who were also unaware of any identifying participant information, performed the coding. Coders read the description of each scene and awarded 1 point for the presence of a contamination sequence, and zero points for the absence of

Table II. Intercorrelations between Variables

	1	2	3	4	5	6	7
1. *AS*							
2. CS	.13						
3. CES-D	.32**	.49**					
4. SWLS	−.34**	−.37**	−.72**				
5. SE	−.23	−.55**	−.57**	.54**			
6. N	.34**	.34**	.65**	−.60**	−.54**		
7. HealthRate	−.32**	−.10	−.31**	.43**	.27*	−.23	
Mean (*SD*)	5.67 (1.33)	1.05 (1.03)	30.34 (10.35)	22.71 (7.66)	37.96 (5.03)	2.64 (0.90)	4.13 (0.87)

Note. AS: Depressogenic Attributional Style, CS: Contamination Sequences, CES-D: Center for Epidemiologic Studies Depression Scale, SWLS: Satisfaction With Life Scale, SE: Self-Esteem, N: Neuroticism, HealthRate: Subjective ratings of overall physical health.
*$p < .05$. **$p < .01$.

a contamination sequence. According to the guidelines, the account must "explicitly state that the beginning of the episode in question was affectively positive and that this positive state was followed by a clearly negative outcome" in order to be scored as a contamination sequence (McAdams et al., 2001, p. 479). For example, a participant described a beautifully romantic evening with a high-school sweetheart that was suddenly ruined when his father broke in on the couple in a violent rage. In another example, a participant described how the happiness she experienced after completing her dissertation faded quickly away when she learned that her Ph.D. advisor was stricken with cancer. Contamination sequence scores were summed to yield a composite score, ranging from 0 (indicating the absence of contamination sequences in all eight scenes) to 8 (indicating the presence of contamination sequences in all eight scenes) ($M = 1.50$, $SD = 1.03$). Reliability for the two independent judges was 0.79. Discrepancies between coders were resolved by a third trained coder who was also unaware of any identifying participant information (McAdams et al., 2001).

RESULTS

Simple correlations between depressogenic attributional style and other variables are reported in Table II.[5] As hypothesized, depressogenic attributional style was significantly positively correlated with depression and significantly negatively correlated with life satisfaction and ratings of physical health. These results underscore previous findings with respect to depressogenic attributional style and its correlates. In addition, depressogenic attributional style was positively associated with the trait of neuroticism. Contamination sequences were also strongly positively associated with depression and neuroticism, and negatively associated with life

[5]While the sample was comprised of adults high and low in generativity, in the current study no significant differences were observed on any of the dependant variables in relation to level of generativity. As a result, all analyses were conducted on the sample as a whole.

Table III. Results of Simultaneous Regression Analyses Predicting Depression, Life Satisfaction, and Physical Health Ratings from Depressogenic Attributional Style and Contamination Sequences

Dependant	Predictors	Beta	*SE*	Partial *r*	*t*	*p*
Depression (CES-D) [$R^2 = .29$, $F(2, 70) = 11.21, p < .01$]	AS	.25	.91	.26	1.96	$= .055$
	CS	.46	1.22	.48	4.02	$< .01$
Life Satisfaction (SWLS) [$R^2 = .23$, $F(2, 70) = 8.25, p < .01$]	AS	$-.30$	.69	$-.33$	-2.56	$< .05$
	CS	$-.33$	.92	$-.35$	-2.81	$< .05$
HealthRate [$R^2 = .12$, $F(2, 70) = 3.66, p < .05$]	AS	$-.33$	.09	$-.33$	-2.59	$< .05$
	CS	$-.05$	.11	$-.06$	$-.43$	*ns*

Note. AS: Depressogenic Attributional Style; CS: Contamination Sequences; CES-D: Center for Epidemiologic Studies Depression Scale; SWLS: Satisfaction With Life Scale; HealthRate: Subjective ratings of overall physical health.

satisfaction and self-esteem. Contamination sequences and depressogenic attributional style however, were *not* significantly associated with each other.

In order to further investigate these constructs, three simultaneous multiple regressions were run, with depressogenic attributional style and contamination sequences as the predictor variables and depression, life satisfaction, and subjective ratings of overall physical health as the respective dependant variables (see Table III).

When predicting depression symptoms, both depressogenic attributional style and contamination sequences accounted for a significant proportion of the variance. This finding indicates that depressogenic attributional style and contamination sequences explain unique variance in adults' depression symptoms. While this effect was only marginally significant for depressogenic attributional and more robust for contamination sequences, the difference in these effect sizes was marginally statistically significant ($z = 1.13, p = .08$).

Similarly for life satisfaction, results showed that both depressogenic attributional style and contamination sequences were independently and significantly negatively related to life satisfaction. Effect sizes were not significantly different for these two constructs.

For subjective ratings of overall physical health, regression results did not add additional information to the zero-order correlations. Depressogenic attributional style was shown to be significantly negatively related to ratings of physical health, even accounting for the variance accorded to contamination sequences, while contamination sequences showed no significant relation to ratings of physical health.

An interesting pattern of results was observed when each of these two narrative variables was pitted against trait neuroticism in a series of three simultaneous multiple regression analyses predicting depression, life satisfaction, and subjective ratings of physical health, respectively (see Table IV). Indeed, when neuroticism's role in accounting for variance in depression was considered, depressogenic attributional style became a non-significant predictor. This finding is perhaps not surprising in that self-report measures of neuroticism and depression share similar items and cover similar conceptual ground. However, including neuroticism in the regression equation did not affect the significance of the relation between contamination sequences and depression (see Table IV).

Table IV. Results of Simultaneous Regression Analyses Predicting Depression, Life Satisfaction, and Physical Health Ratings from Depressogenic Attributional Style, Contamination Sequences, and Neuroticism

Dependant	Predictors	Beta	*SE*	Partial *r*	*t*	*p*
Depression (CES-D) [$R^2 = .43$, $F(2, 70) = 25.60, p < .001$]	AS	.11	.76	.13	1.11	*ns*
	N	.61	1.12	.61	6.28	<.001
Depression (CES-D) [$R^2 = .57$, $F(2, 70) = 36.38, p < .001$]	CS	.28	1.00	.38	3.01	<.01
	N	.61	1.12	.66	6.49	<.001
Life Satisfaction (SWLS) [$R^2 = .38$, $F(2, 70) = 20.66, p < .001$]	AS	−.16	.59	−.19	−1.56	*ns*
	N	−.55	.87	−.55	−5.34	<.001
Life Satisfaction (SWLS) [$R^2 = .41$, $F(2, 70) = 19.24, p < .001$]	CS	−.19	.85	−.22	−1.69	<.05
	N	−.55	.95	−.56	−5.04	<.001
HealthRate [$R^2 = .12$, $F(2, 70) = 4.55, p < .05$]	AS	−.28	.08	−.27	−2.24	<.05
	N	−.14	.12	−.14	−1.14	*ns*
HealthRate [$R^2 = .07$, $F(2, 70) = 2.08$, *ns*]	CS	−.01	.12	−.01	−.06	*ns*
	N	−.26	.14	−.25	−1.90	*ns*

Note. AS: Depressogenic Attributional Style; CS: Contamination Sequences; N: Neuroticism; CES-D: Center for Epidemiologic Studies Depression Scale; SWLS: Satisfaction With Life Scale; HealthRate: Subjective ratings of overall physical health.

A similar pattern of results emerged with respect to life satisfaction. When attributional style and neuroticism were entered into a simultaneous multiple regression predicting life satisfaction, the relationship between attributional style and life satisfaction was rendered no longer significant (see Table IV). In contrast, in a simultaneous multiple regression using contamination sequences and neuroticism as predictors, the relationship between contamination sequences and life satisfaction remained significant (see Table IV).

In predicting subjective ratings of physical health with a simultaneous multiple regression analysis, depressogenic attributional style remained a significant predictor, while neuroticism did not (see Table IV). In contrast, neither contamination sequences nor neuroticism significantly predicted subjective ratings of physical health (see Table IV).

To sum up then, self-reported neuroticism's strong association with self-report depression rendered non-significant the effect of attributional style on depression, but did not undermine the effect of contamination sequences. Contamination sequences scores remained significant predictors of self-report depression even after controlling for the effect of neuroticism. This same pattern of results was observed with respect to life satisfaction. In contrast, in two simultaneous multiple regressions predicting subjective ratings of physical health, depressogenic attributional style accounted for a significant proportion of the variance, while neuroticism and contamination sequences did not.

DISCUSSION

This study is the first to apply the CAVE technique for coding depressogenic attributions to full life-narrative interviews provided by community adults. In keeping

with past research using the CAVE method (e.g., Peterson, 1991), stable and global attributions for negative autobiographical events were predictive of self-report depression. Depressogenic attributional style was also associated with low life satisfaction, poor ratings of physical health, and neuroticism. In multiple regression analyses, however, the trait of neuroticism proved to be a stronger predictor of both depression and life satisfaction than depressogenic attributional style, rendering non-significant the effect of attributional style on these two important outcome variables. This pattern of results underscores previous findings with respect to the predictive power of depressogenic attributional style for depression and other related outcomes, and suggests that contamination sequences may be another viable construct worthy of future attention in this area. It nonetheless should not be surprising that a self-report scale of neuroticism should prove to be an especially strong predictor of self-report depression and life satisfaction, given item and conceptual overlap among these self-report scales. The fact that CAVE-identified attributions appearing spontaneously in life stories should significantly predict depression, therefore, remains a noteworthy finding. In addition, neuroticism did not significantly affect the well-documented ability of depressogenic attributional style to predict subjective ratings of poor physical health (e.g., Kamen & Seligman, 1987).

The study is also the first to compare CAVE-identified attributions to the thematic measure of a new concept in narrative psychology—contamination sequences (McAdams et al., 2001). A contamination sequence is scored when a life-story scene begins in an emotionally positive manner but ends with strong negative emotion. The positive opening of the scene is subsequently ruined, spoiled, or overshadowed by a negative turn of events. Contamination sequences were positively associated with depression and negatively related to life satisfaction and to self-esteem. Unlike with attributional style, this effect was not mitigated by the inclusion of neuroticism as a predictor of depression (and life satisfaction) in multiple regression procedures. Thus, while the present findings with respect to the role of attributional style in depression seem tempered by the predictive power of neuroticism, the findings with respect to contamination sequences remain robust. Unlike attributional style however, contamination sequences are not a strong predictor of subjective ratings of physical health.

CAVE-identified attributions were not significantly related to contamination sequences, even though both thematic measures tended to predict similar self-report outcomes (depression and life satisfaction). When pitted against each other in multiple regressions, furthermore, contamination sequences appeared to be a slightly stronger predictor of depression, compared to depressogenic attributional style. It is important to note that contamination sequences represent a rather different cognitive category in autobiographical narration, compared to attributional style. Rather than focusing on the causal explanation for an event, contamination sequences are concerned with the reconstructed life event itself, how it is remembered and described in terms of a sequence of affective experiences.

While these results suggest that the concept of contamination sequences may prove promising in future research on depression and psychopathology more generally, the present study is limited in certain respects. Most notably, the relatively small sample size tempers the statistical power of its conclusions, particularly with

regards to its negative findings. In addition, while the sample was racially diverse, it did include participants with a somewhat high educational level and income, suggesting a relatively high functioning sample, and thus potentially limiting the generalizability of these findings to more severely impaired groups.

Despite these limitations, the findings from this study do not undermine the value of the CAVE method and attributional style in depression research. After all, a considerable body of research already supports the idea that attributional style is implicated in depression. With respect to that literature, the current study adds a new element in showing that spontaneously-generated depressogenic attributions in full life-story interviews predict depression, life satisfaction, and ratings of physical health. Indeed, in re-analyzing this unique data set initially investigated by McAdams et al. (2001) with the introduction of the CAVE-coded attributional style variable, the present study aims to forge an initial dialogue between cognitively-oriented research in depression on the one hand and the narrative study of human lives (e.g., Josselson & Lieblich, 1993; McAdams, 1993) on the other. Certainly, the empirical findings with respect to the narrative theme of contamination sequences in the present study recommend them as a potentially useful construct for clinical application. Previous research has shown that psychotherapy that is distinctly targeted at changing depressogenic attributional style is successful in mitigating the symptoms of depression (e.g., Haaga et al., 1995; Peterson, Luborsky, & Seligman, 1983). The present study found that the use of contamination sequences in recounting life events is uniquely related to depression, and more strongly so than depressogenic attributional style. This suggests that contamination sequences could provide an additional focus for psychotherapies aimed at modifying maladaptive cognitive patterns in depressed patients. Because the construct of contamination is one-dimensional (good events turn bad), contamination may represent an easily identifiable phenomenon in such therapies, especially when direct assessment tools are not employed. Future research should therefore focus broadly on the applicability of contamination to clinical samples and more specifically to cognitively-focused psychotherapies.

Narrative psychologists argue that adults provide their lives with meaning and purpose through the construction of self-defining life stories (e.g., McAdams, 2001). The stories are imaginative reconstructions of the past and anticipations of the future; they are internalized and evolving personal myths that define who a person is, was, and may become. Within the confines of a life story we find causal explanations for events (as noted in the use of the CAVE technique) as well as reconstructions of important life scenes expressing particular sequences of affect (as expressed in contamination sequences, for example). From the standpoint of narrative theories in psychology, both the description of past events and the attributions ascribed to them are part of the reconstructed narrative—selected, edited, and subjectively construed to express personal meanings in life. Of course, life stories are based in part on what has really happened in a person's life. But the emphasis in the narrative study of lives is on reconstructed subjective meanings rather than veridical reports of an objective past (Josselson & Lieblich, 1993). Given a set of occurrences, there are myriad ways of recounting them that do not stray from the truth of their happening. But they acquire additional meaning, which may be objectively studied, when the events are

constructed within a narrative. With respect to the current study, then, we have not assessed what really happened in the participants' pasts. But their current reconstructions of the past suggest that certain kinds of meanings embedded in the life narrative are associated with important psychological phenomena: depression, low life satisfaction, and ratings of poor overall physical health. Further research may show that depression and other psychopathological conditions may be associated with particular kinds of life stories and particular forms of life-storytelling, and that certain types of psychotherapeutic interventions may capitalize on this unique type of information.

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