

Why We Sing the Blues: The Relation Between Self-Reflective Rumination, Mood, and Creativity

Paul Verhaeghen
Syracuse University

Jutta Joormann
Stanford University

Rodney Khan
Syracuse University

Past research has shown that creative behavior is associated with a higher risk for depression. The authors hypothesized that a 3rd underlying factor, namely, self-reflective rumination, may explain the connection. This hypothesis was examined in a sample of 99 undergraduate college students, using path analysis. The authors found that self-reported past depressive symptomatology was linked to increased self-reflective rumination. Rumination, in turn, was related to current symptomatology and to self-rated creative interests and objectively measured creative fluency, originality, and elaboration. No direct link existed between currently depressed mood and either creative interest or creative behavior. These results suggest that the association between depression and creativity is solely the result of rumination.

One of the more puzzling findings in the field of creativity research is the well-documented link between creative behavior and mood disorder. Although the nature and extent of this relationship has been debated, a wide range of studies using diverse methods clearly suggest a connection. For instance, in one of the first studies investigating creative individuals, Andreasen (1987) compared 30 creative writers and 30 matched controls, including first-degree relatives of both groups. The creative writers and their first-degree relatives showed significantly higher rates of affective disorders, both unipolar and bipolar depression. Indeed, 24 of the 30 writers were diagnosed with an affective disorder compared with only 9 of the 30 participants in the control group. In a similar study, Ludwig (1994) included 59 writers and a control group and reported that whereas 59% of the writers were depressed, only 9% of the control group fulfilled diagnostic criteria for depression. In his survey of the biographies of 1,004 eminent individuals living in the 20th century, Ludwig (1995) found a lifetime prevalence of depression of 50% for people working in the creative arts, compared with 20% of those in the field of enterprise, 24% of scientists, and 27% of important social figures. Particularly vulnerable to depression were writers of poetry (77%) and fiction (59%) and visual artists (50%). Jamison (1993) concluded from an overview of primary research literature that major depressive illness is 8–10 times as prevalent in writers and artists than in the general population; additionally, writers and artists are about 10 times more likely to commit suicide.

These findings are puzzling. Depression is a debilitating disorder, and its defining symptoms include diminished interest in all activities, loss of energy, indecisiveness, and lack of concentration—not symptoms readily associated with creative behavior. A direct link between symptomatology and creativity is unlikely. First, there is anecdotal evidence concerning creative productivity in individuals with bipolar disorder that suggests that the depressive episode decreases productivity rather than increases it. The composer Robert Schumann, for instance, wrote most of his works in a state of hypomania and remained silent during episodes of severe depression (Slater & Meyer, 1959). Furthermore, in a more recent study on creativity and bipolar diathesis, Shapiro and Weisberg (1999) found no indication that current depressive symptomatology was linked to creativity. Additionally, the finding that ingestion of mood stabilizers such as lithium actually aids productivity rather than diminishes it (see studies reviewed in Jamison, 1993, p. 245) suggests that the depressive episode itself is indeed debilitating, as expected from its defining symptoms.

The lack of a reasonable direct causal link between depressed mood and creative behavior makes it likely that a third, underlying variable is at play. In our reading of the depression literature, we were struck by the close relationship between self-reflective ruminative thinking and negative affect, most notably depression. Indeed, in their analysis of the high prevalence rates of mental disorder in female poets, Kaufman and Baer (2002) recently proposed a link between rumination, depression, and poetry writing. They argued that the introspection and rumination that characterizes depression may also be involved in writing poetry and, in addition, that rumination and introspection may in fact increase instability in poets who are already vulnerable to mental disorder.

Rumination has been defined as “a class of conscious thoughts that revolve around a common instrumental theme and that recur in the absence of immediate environmental demands requiring the thought” (Martin & Tesser, 1996, p. 7). Persistence of the thought is an additional important characteristic (Martin & Tesser, 1996).

Paul Verhaeghen and Rodney Khan, Department of Psychology and Center for Health and Behavior, Syracuse University; Jutta Joormann, Department of Psychology, Stanford University.

Correspondence concerning this article should be addressed to Paul Verhaeghen, Department of Psychology, Syracuse University, 430 Huntington Hall, Syracuse, NY 13244, or to Jutta Joormann, Department of Psychology, Jordan Hall, Stanford University, Stanford, CA 94305. E-mail: pverhaeg@psych.syr.edu or joormann@psych.stanford.edu

Self-reflective rumination (e.g., Nolen-Hoeksema, Morrow, & Fredrickson, 1993; Treynor, Gonzalez, & Nolen-Hoeksema, 2003) uses the self, that is, one's inner feelings, memories, and so forth, as the recurrent theme. According to Nolen-Hoeksema (1991), rumination is characterized by being a style of thought rather than by its negative content. This implies that rumination by itself does not necessarily promote depression, because even when healthy people show this style of thinking, they do not necessarily focus on negative affect or on negative personal attributes. However, a large body of literature suggests that a ruminative thinking style increases one's vulnerability to depression and maintains negative affect when the focus is on negative life events or when the individual experiences frequent negative mood states. In a large meta-analysis, Mor and Winquist (2002) found that the effect of rumination on negative affect is indeed quite large ($d = 1.08$ in correlational studies and 0.76 in experimental studies). Mor and Winquist argued for a reciprocal relationship between mood and rumination on the grounds of experimental evidence that shows, on the one hand, that inducing negative affect leads to increased self-reflective rumination and, on the other hand, that inducing self-reflective rumination leads to increased negative affect.

Rumination could be linked to creativity through a common underlying style of thought. In particular in writers and poets, a focus on the self and one's feelings may be an important part of creative activity. Interestingly, bipolar patients in a study by Jamison, Gerner, Hammen, and Padesky (1980) reported that their depression led to a heightened sensitivity toward their feelings, which they claimed had an impact on their creativity. Other authors have suggested that depression's facilitative role in the creative process is because of increased introspection, resulting in a heightened sensitivity to inner content (Richards, 1981). Richards further suggested that this form of introspection contributes to the content of creative work that later, during periods of improved functioning, emerges as a product of the creative process. Another possible cause for the link between rumination and creativity may lie deeper still. Recent research has suggested that the style of thinking that is evident in rumination is the consequence of an underlying deficit in executive control processes, namely, cognitive inhibition (Hertel, 1997; Joormann, 2004, in press). Deficits in the ability to screen out goal-irrelevant or previously irrelevant information may, on the one hand, lead to rumination but may, on the other hand, also contribute to original thinking. In line with this suggestion, Carson, Peterson, and Higgins (2003) recently demonstrated that eminent creative achievers were seven times more likely to have low rather than high scores on a latent-inhibition task.

The present study explored the hypothesis that depression and creative behavior may be linked through the third underlying factor of self-reflective rumination. More specifically, we hypothesize that self-reflective rumination will be correlated with both depressed symptomatology and creative behavior. One of the major challenges of research on creativity has been the measurement of this construct, which equally applies to achievement, mental process, a personality trait, or the creation of a novel product. No consensus measure has emerged. We therefore used multiple measures of creativity, including mental-process measures (viz. the dimensions of creativity: Fluency, Originality, and Elaboration), and measures of interest and seriousness about creative activities. We predict that a substantial part of the correlation

between depressed symptomatology and creative behavior will be explained by the relation of both to self-reflective rumination.

Method

Participants

Participants were 99 undergraduates from Syracuse University, who received either course credit or \$10 in cash in return for their participation. In order to maximize the variety of creative behavior in the sample, we recruited participants from the introductory class in psychology, from the Arts and Sciences Honors program, from selected classes in the Fine Arts program, and from one campus writers group.

Measures

Depression. Severity of current depressive symptoms was measured using the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a short self-report scale designed to measure depressive symptomatology in the general population. It consists of 20 items assessing depressed mood, feelings of guilt and worthlessness, helplessness and hopelessness, psychomotor retardation, concentration problems, appetite disturbance, and sleep problems. For each item, participants indicate on a 4-point scale ranging from 0 (*rarely or none of the time* [less than 1 day]) to 3 (*most or all of the time* [5–7 days]) how frequently they have experienced that symptom during the past week. Thus, scores can range from 0 to 60, with a recommended cutoff score of 16 or greater, indicating a significant level of depression. The CES-D has acceptable reliability and validity (e.g., Gotlib & Cane, 1989). In the present sample, the CES-D had a Spearman–Brown reliability coefficient of .78.

Past depressive symptoms were measured using a brief checklist of the 10 symptoms of depression, as indexed in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (American Psychiatric Association, 1994). Participants were instructed to indicate by circling *yes* or *no* next to each symptom whether they experienced this particular symptom over the past year for a period of 2 weeks or longer. In the present sample, this measure had a Spearman–Brown reliability coefficient of .78.

Creative interests. We designed a questionnaire that listed 20 artistic/creative activities (painting, drawing, computer graphics, photography, writing prose, dancing, acting, film/video, playing an instrument, etc.). For each activity, participants indicated how many hours per week they engaged in this behavior (we labeled this variable *time*). They also indicated on a 5-point scale ranging from 1 (*just fooling around*) to 5 (*potential career*) how serious they were about this activity (we labeled this *seriousness*). Participants could add activities if they wished; few did so. We calculated the average seriousness score and the total number of hours engaged in creative activities as indicators of creative interests.

Creative behavior. The Abbreviated Torrance Test for Adults (ATTA; Goff & Torrance, 2002) consists of three "activities," each taking 3 min. In the first activity, the participants imagine what would happen if "you could walk on air or fly" and what problems this may create. They list as many of these problems as they can. In the next two activities, simple abstract shapes are provided on a page, and the participants are invited to use these "to make some pictures" that are "unusual" and "interesting" and to give each picture a title. The ATTA is scored on three scales. Fluency is the number of distinct answers generated. Originality is the number of responses that do not appear on the list of common answers provided by the test manual. Elaboration is the number of details contained within the answers; the test manual provides strict scoring criteria for these.

Three items from the Purdue Creativity Test (PCT; Lawshe & Harris, 1960) were also included. Each item consists of an abstract line drawing, and the participant is invited to write down as many answers to the question "What is this?" as they can in 2 min. From these answers, a fluency score was calculated by tallying the total number of responses.

To test whether the three assumed scales (i.e., Fluency, Originality, and Elaboration) were indeed present in the data, a confirmatory factor analysis was conducted using LISREL (see Figure 1); in the model, we allowed for error covariance for measures obtained from the same item or activity. This model fit the data well, $\chi^2(38, N = 99) = 50.51$, root-mean-square error of approximation (RMSEA) = .057.

Self-reflective rumination. Participants filled out the 41-item Ruminative Responses Scale (RRS; Nolen-Hoeksema & Morrow, 1991; this scale includes the subscales Rumination, Distance, Problem Solving, and Dangerous Activities). This scale asks participants to indicate on a 4-point scale (1 = *almost never*, 2 = *sometimes*, 3 = *often*, or 4 = *almost always*) how often they “think or do” each of the items when they “feel down, sad, or depressed.” Thus, the scale measures responses to dysphoric mood that are focused on the self, on symptoms, or on possible consequences and causes of moods. In addition, behavioral responses to sad moods are assessed. Previous studies have shown good test–retest reliability (Nolen-Hoeksema, Parker, & Larson, 1994) and acceptable convergent and predictive validity (Nolen-Hoeksema & Morrow, 1991; Nolen-Hoeksema et al., 1994). Recently, Treynor et al. (2003) have argued that many of the Rumination items on the RRS are directly depression-related. They therefore advocate using only a 5-item subset of nondepression-related items from the RRS as a relatively pure and depression-free measure of rumination-as-reflection (hereafter called *Reflectiveness*). We used this scale for our analysis. Typical items are “Write down what you are thinking about and analyze it” and “Go away by yourself and think about why you feel this way.” In the present sample, the Reflectiveness scale had a Spearman–Brown reliability coefficient of .86.

Procedure

Participants were tested in small groups (the largest group included 20 individuals) in quiet rooms. Each session lasted about 40 min. Each participant received a printed booklet with all the tests and questionnaires. Because of their timed nature, the creativity tests were administered first, starting with the ATTA, then the PCT. After the creativity testing was completed, participants worked through the questionnaires at their own pace. The questionnaires were administered in the following order: creative interests questionnaire, RRS, CES-D, and past depressive symptoms. Depressive symptoms were assessed last because items dealing with dysphoria may adversely affect the participants’ mood, and we wanted to prevent contamination of the other measures by these potential mood shifts.

Data Analysis

Path analysis in LISREL was used. Because the sample is relatively small compared with the number of variables estimated if a full model were fitted (i.e., a model with a measurement portion and a path-analytic model on latent factors), we decided to conduct the path analysis on unit-weighted composites (i.e., sum scores for CES-D, for the past depression questionnaire, for the number of hours of creative activities, and for the Reflectiveness questionnaire, the average for seriousness, and unit-weighted average z scores for the three scales of creativity—Fluency, Originality, and Elaboration). Because the measurement units are arbitrary, we report the coefficients from the completely standardized solution (these can be read as analogous to beta weights in a regression analysis). Alpha level for statistical testing was set at $p = .05$.

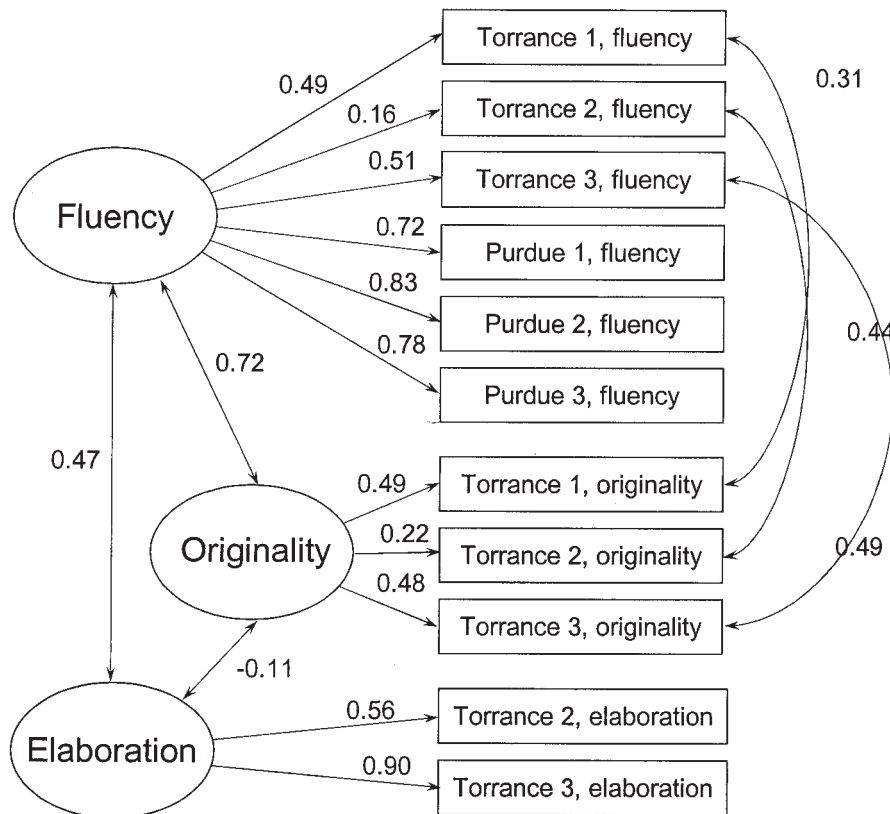


Figure 1. Results from a confirmatory factor analysis (LISREL) for the three factors of creative behavior assumed present in the Abbreviated Torrance Test for Adults and the Purdue Creativity Test. $\chi^2(38, N = 99) = 50.51$, $p = .08$, RMSEA (root-mean-square error of approximation) = .057.

Results

Table 1 contains the correlation matrix; descriptive data are provided in Table 2. The data analysis was done in two progressive steps. In the first step, we mounted a path model among the five creativity variables—seriousness of creative activities, time invested in creative activities, Fluency, Originality, and Elaboration. In the second step, we added Reflectiveness and the two depression variables to the creativity cluster. This two-step approach was taken to minimize the risks associated with data-driven model fitting on a large number of variables, notably, the risk of getting trapped in a local minimum.

The baseline creativity model assumed that creative interests (seriousness and time) would influence each of the three aspects of creative behavior independently. This starting model is in accordance with the literature that suggests that internal motivation and experience are driving forces for creative behavior (e.g., Amabile, 1996; Ericsson, Krampe, & Tesch-Römer, 1993). In this model, seriousness directly influenced time invested, which in turn directly influenced Fluency, Originality, and Elaboration, with no paths specified between the latter three variables. This model did not fit the data well, $\chi^2(6, N = 99) = 52.03$, RMSEA = .281. The modification indices provided by LISREL were used to guide further fitting efforts. The first additional path that was freed was the path between Fluency and Originality. This resulted in the nonsignificance of the path between hours and Originality. After deleting this path, model fit was, $\chi^2(6, N = 99) = 34.53$, RMSEA = .221. The next path freed was between seriousness and Fluency. After deleting the now nonsignificant path between hours and Fluency, fit statistics were, $\chi^2(6, N = 99) = 22.64$, RMSEA = .169. The next path freed was between Fluency and Elaboration, $\chi^2(5, N = 99) = 12.11$, RMSEA = .121. In the final model, the path between Elaboration and Originality was freed. This model was considered final because no further significant improvement could be made; it fit the data well, $\chi^2(4, N = 99) = 5.02$, RMSEA = .051.

In the second step, Reflectiveness and the two depression variables (past depression and current depression) were added to the model. As stated in the introduction, present research suggests that the relation between self-reflectiveness and depression is reciprocal. Therefore, we set up the model with past depression as the exogenous variable, influencing current depression and Reflectiveness, and Reflectiveness as influencing both current depression and the creativity cluster through seriousness only (seriousness was chosen because this was the exogenous variable for the creativity model). This model fit the data very well, $\chi^2(18, N =$

Table 2

Means and Standard Deviations of the Variables Included in the Path Analysis

Variable	<i>M</i>	<i>SD</i>
Current depression (CES-D)	16.07	9.23
Past depression (checklist)	4.16	2.69
Reflectiveness (from RRS)	2.43	0.75
Seriousness about creative activities	0.99	0.63
Hours/weeks spent on creative activities	33.96	37.63
Elaboration	0.02	0.87
Originality	-0.01	0.65
Fluency	-0.01	0.66

Note. $N = 99$. CES-D = Center for Epidemiological Studies Depression Scale; RRS = Ruminative Responses Scale; Elaboration, Originality, and Fluency are composite z scores.

$99) = 18.44$, RMSEA = .016. It was further improved by freeing the path between Reflectiveness and Fluency, $\chi^2(17, N = 99) = 14.61$, RMSEA = .000. This final model is depicted in Figure 2. We should point out that this model is mathematically equivalent to a model in which the path between past depression and Reflectiveness is reversed, that is, a model in which Reflectiveness is the exogenous variable, exerting a direct influence on depression and on the creativity cluster, which have no direct link between them.

Discussion

Previous research, including studies of creative individuals and historiometric analysis, has shown a link between creative behavior and depression. Our hypothesis was that a common underlying psychological characteristic, namely, a tendency for self-reflective rumination, may be the source of this correlation. Specifically, we claimed that self-reflection independently (a) increases the risk for depression and (b) spurs interest in and ability for creative behavior. Our results lend full support to this hypothesis.

Our final path model shows that the data can be accounted for without any direct link between currently depressed mood and either creative interest (as measured by an activities checklist) or creative behavior (as measured by scores on three dimensions of creativity obtained from two standard creativity tests). Rather, the correlation between depressed mood and creative behavior appears to be because of the link of both of these variables with self-reflective rumination. In our final model (see Figure 2), past depression does explain some of the variance in creative behavior, but only through its link with self-reflection. We should point out

Table 1

Correlation Matrix for the Variables Included in the Path Analysis

Variable	1	2	3	4	5	6	7	8
1. Reflectiveness	—							
2. Current depression	.36	—						
3. Past depression	.28	.50	—					
4. Fluency	.29	.18	.15	—				
5. Originality	.09	-.06	-.05	.50	—			
6. Elaboration	.22	.08	.19	.37	-.01	—		
7. Seriousness	.35	.27	.18	.33	.00	.35	—	
8. Time	.15	.17	.08	.16	-.00	.27	.48	—

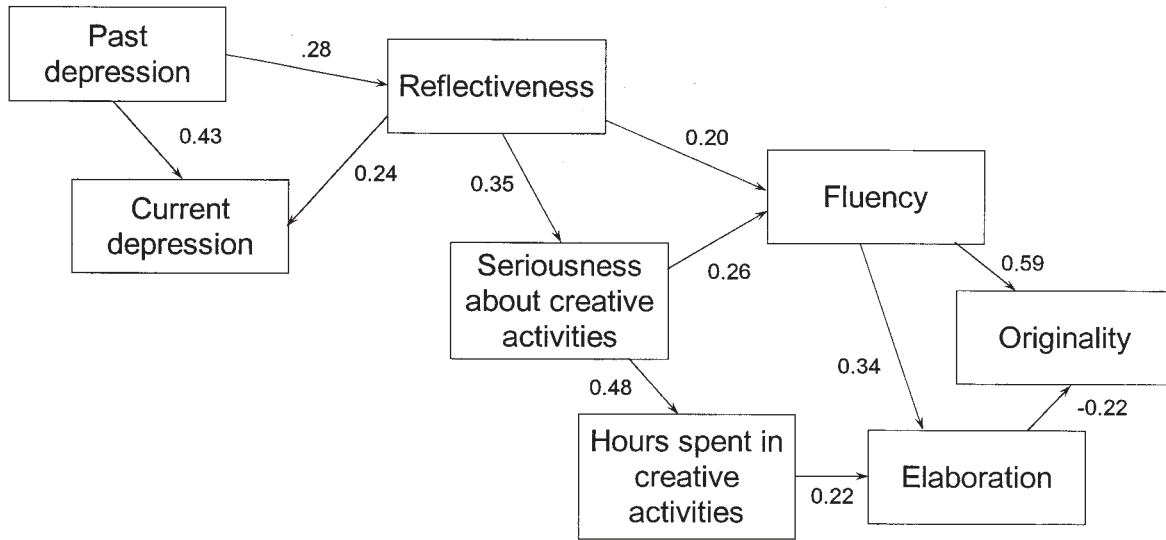


Figure 2. Final best-fitting path model (LISREL) to explain the relationships between the depression variables, self-reflective rumination, creative interests, and creative behavior. $\chi^2(17, N = 99) = 14.61, p = .62, RMSEA$ (root-mean-square error of approximation) = .000.

that this link, although significant, explains only 8% of the variance. The large majority of the variance in self-reflective ruminative behavior remains unexplained by self-reported past depression. Additionally, this link can be removed from the model at no cost to model fit by assuming that self-reflective rumination is the driving force behind both past depression and current depression. Whichever of these models one prefers, it is clear that the connection between depression and creativity appears to be spurious, and because of the reliance of both on self-reflective attention.

These results are in line with research on psychopathology and creativity that largely suggests that although depressive disorders and bipolar disorders are linked to creativity, it is not the depressive symptomatology, that is, the anhedonia and the negative mood state, that is responsible for this link (Shapiro & Weisberg, 1999). Indeed, studies that have examined the influence of mood states on creativity in normal populations find that it is positive affect that enhances creative problem solving and increases the unusualness of word associations (e.g., Isen, Daubman, & Nowicki, 1987). Rather, as has been suggested by Richards (1981), our results suggest that heightened self-reflection and rumination as major characteristics of depression may contribute to the content of creative work, which during periods of improved functioning emerges as a product of the creative process.

How exactly does self-reflective rumination influence creative behavior? Kaufman and Baer (2002) proposed that this relationship may be because of the fact that individuals who suffer from depression are more likely to ruminate and introspect and that some of these individuals may turn this rumination into poetry. Alternatively, if writers are already vulnerable to depression, then rumination and introspection may increase their instability. Our model suggests two pathways, one through motivation, the other through ability. In the motivational pathway, self-reflection promotes seriousness about creative endeavors. Seriousness, in turn, influences both the number of hours one spends on creative activities (which in turn leads to enhanced elaboration of ideas) and

creative fluency (i.e., the number of ideas generated within a certain time period). In other words, individuals who are more likely to examine their lives are also more likely to actively search for a creative outlet, maybe as a venue to express and/or share their feelings. They then spend more time in creative activities, and this serves to make them more fluent in the creative realm. In the ability pathway, self-reflectiveness has a direct influence on creative fluency. No direct link exists between self-reflectiveness and the two other creative ability variables, Originality or Elaboration, but Reflectiveness does influence both through creative fluency. The pathway between Fluency and Originality is in agreement with predictions derived from variation-selection models of creative behavior (e.g., Campbell, 1960; Simonton, 1997). Such models posit that the number of novel useful creative ideas (i.e., Originality) will be a function of the total number of ideas generated (i.e., Fluency). Simply put, if a person is able to generate a large number of ideas, then she or he will also be likely to generate a large number of original ideas. The available evidence in the field of professional creativity indeed suggests that the most productive individuals also deliver the highest number of works considered truly creative (e.g., Albert, 1975; Simonton, 1994). The link between Fluency and Elaboration can be explained through variation-selection models (e.g., Simonton, 1997), which posit that the rate at which ideas are elaborated is directly proportional to the number of ideas that have been generated. That is, individuals who are fluent in spawning new ideas will also be likely to work on those ideas.

In summary, then, we propose that self-reflective rumination prepares individuals to generate a larger number of ideas. This enhanced fluency, in turn, allows for the emergence of more creative ideas and for increased elaboration. Interestingly, researchers have recently suggested that a combination of stop rules and current mood state may explain perseveration and termination in analyzing the causes and consequences of problems (Davey, Startup, Zara, MacDonald, & Field, 2003; Startup & Davey, 2001).

Particularly, Watkins and Mason (2002) hypothesized that ruminators use a default “as many as can” stop rule and take their negative mood state as information that they are not satisfied with the number of items generated. Consequently, this mood-as-information hypothesis may provide an explanation as to why a tendency to ruminate in depressed participants results in enhanced fluency. The outlined direct connection between self-reflectiveness and Fluency and between Fluency and Originality, however, may also point to another underlying common mechanism. As described in the introduction, researchers have suggested that rumination is because of failures of cognitive inhibitory mechanisms that limit the contents of consciousness to those relevant to a current goal or to a current task performance (Hertel, 1997; Joormann, in press). Similarly, Fluency and Originality have been linked to dysfunctions in cognitive inhibition. Carson et al. (2003) recently suggested that attenuated cognitive inhibition may increase the number of available mental elements, described by Simonton (e.g., 1994, 1997) as central to creative thought. As outlined in the introduction, Carson et al. (2003) found a near-universal reduction of latent inhibition in a group of eminent creative achievers. Thus, cognitive inhibitory dysfunctions may lead to an increased access to a greater inventory of unfiltered stimuli during early processing. Depending on the thought content that preoccupies the individual at a given moment, this process may increase the odds for original recombinant ideation or increase the odds for recurrent, negative self-focused thinking. Clearly, future studies are needed to clarify possible underlying mechanisms of the self-reflection–rumination and creativity association.

One negative path between creative behaviors was found, namely, between Elaboration and Originality. This suggests that thinking original thoughts may come at the expense of pursuing those thoughts to practical fruition. Interestingly, within research on rumination and inhibition, it has been shown that reduced inhibition and increased rumination increase the number of off-goal, task-irrelevant thoughts, and hamper the problem-solving process. For instance, in a recent study, Davis and Nolen-Hoeksema (2000) showed that dysphoric ruminators cannot inhibit off-goal thoughts and fail to maintain productive lines of reasoning. Consequently, ruminators tend to become trapped in nonproductive perseveration on negative moods and events. This negative path is offset by a positive path between Fluency and Elaboration, summing up to a near-zero correlation between Originality and Elaboration.

We should point out four limitations of the present study. First, the study was not meant to explain all of the variance in creative behavior. Real-life creativity is obviously embedded in a much more complex context than the one sketched here (a context that includes variables such as personality, Feist, 1998, 1999; intelligence, Sternberg & O’Hara, 1999; sociohistorical circumstances, Simonton, 1984, 1994; deliberate practice, Ericsson et al., 1993; and social support systems, Fleming & Hollinger, 1994).

A second limitation is that the population we used was a sample of college students, albeit skewed to yield a larger number of creative individuals than we typically would expect. Obviously, the present study needs to be replicated using a sample that includes professional artists and writers. This limitation may, however, also be a strength: If these pathways exist in a sample of young individuals who are not yet professionals in their fields, then

it is likely that the model captures true psychological mechanisms rather than, for instance, the influence of selection mechanisms that certainly exist within the creative professions (e.g., one may argue that successful artists and writers are “allowed” to exhibit pathological behavior because of their relatively marginal status in society and their self-employment). It is, however, also possible that age—or, more likely, continuing experience with the creative life—moderates the relationship between self-focused attention and creativity. For instance, increasing levels of instrumental skill in one’s creative endeavors (e.g., Ericsson et al., 1993) or an age-related increase in the skill of emotion regulation (e.g., Carstensen, Fung, & Charles, 2003) may attenuate or overshadow the relationships that are strongly present in our sample. In addition, if the rumination–creativity relationship is the result of an underlying lack of inhibitory control, as proposed above, then age-related differences in executive control processes (Hasher & Zacks, 1988) may result in significant age-related changes of this association.

A third limitation is that the present sample size was too small to take different types of creativity into account. The data on depression and creativity suggest that the effects should operate mainly in writers and artists and less so in entertainers and actors.

A fourth limitation is that the present sample size did not allow for the estimation of a full LISREL model, that is, a path model including latent variables. Rather, we had to obtain confirmation of our measurement model first; for our path model, unit-weighted composites were used to estimate scores for each construct. This procedure leaves the path coefficients less free of measurement error than a full model would.

Our findings have two broad implications. The first implication is that the cliché that the artist must suffer is not true. Artists and writers often subscribe to this view (as cited in Jamison, 1993; the painter Edvard Munch felt that taking his sufferings away would “destroy [his] art,” adding, “I want to keep these sufferings,” p. 241) and may therefore underutilize therapeutic possibilities. The second implication is that self-reflectiveness could well explain other aspects of creativity, more specifically, the established link between creative behavior and asocial personality characteristics, notably, introversion (Feist, 1998) and Eysenck’s P factor (essentially nonconformist tendency; Eysenck, 1995). Both of these personality factors may enhance the self-reflective tendencies in the individual, and this may be part of the reason why they are correlated with creativity.

So why do we sing the blues? Our study suggests that we actually do not—it is simply the case that people who are more likely to have the blues are the ones who are more likely to sing (or paint or write). Both—the blues and the singing—appear to be rooted in a maybe all-too-closely examined life.

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