Decreased Latent Inhibition Is Associated With Increased Creative Achievement in High-Functioning Individuals

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Reductions in latent inhibition (LI), the capacity to screen from conscious awareness stimuli previously experienced as irrelevant, have been generally associated with the tendency towards psychosis. However, “failure” to screen out previously irrelevant stimuli might also hypothetically contribute to original thinking, particularly in combination with high IQ. Meta-analysis of two studies, conducted on youthful high-IQ samples, demonstrated that high lifetime creative achievers had significantly lower LI scores than low creative achievers (r effect size = .31, p = .0003, one-tailed). Eminent creative achievers (participants under 21 years who reported unusually high scores in a single domain of creative achievement) were 7 times more likely to have low rather than high LI scores, χ²(1, N = 25) = 10.69, f = .47, p = .003.

How do you know but ev’ry Bird that cuts the airy way,
Is an immense world of delight, clos’d by your senses five?
—William Blake, “A Memorable Fancy,” The Prophetic Books

Creative individuals appear characterized in part by the ability to perceive and describe what remains hidden from the view of others. Individual variation in latent inhibition (LI), a cognitive inhibitory mechanism discovered by animal experimentalists in the late 1950s, may account for the apparent revelation to the creative mind of what appears “clos’d by the senses five” to others. LI refers to the varying capacity of the brain to screen from current attentional focus stimuli previously experienced as irrelevant (Lubow, 1989). The LI phenomenon appears robust across a variety of mammalian species, and its biological underpinnings have been extensively studied (Lubow & Gewirtz, 1995). In humans, reduced LI has generally been associated with susceptibility to or actual acute-phase schizophrenia (Baruch, Hemsley, & Gray, 1988a, 1988b; Lubow, Ingberg-Sachs, Zalstein-Orda, & Gewirtz, 1992). Recent evidence has suggested, however, that reductions in LI are also associated with the personality trait Openness to Experience (Peterson & Carson, 2000; Peterson, Smith, & Carson, 2002). Openness, in turn, has been consistently associated with divergent thinking and trait creativity (McCrae, 1987) and with creative achievement (King, Walker, & Broyles, 1996). It therefore appears possible that reductions in LI may be associated with increases in human creativity, as suggested by Eysenck (1995).

Many researchers (e.g., Simonton, 1988, 1999) have proposed that the cognitive processes of individuals capable of creating the highest achievements in their fields are both qualitatively and quantitatively different from those of normal thinkers (although some, like Weisberg, 1993, dispute the “qualitative” distinction). If qualitative differences do exist, however, one potential source of difference in the cognitive processes between eminent creative achievers and other intelligent thinkers may be in the relative attenuation of LI. Such attenuation could well increase the number of available mental elements, described by Simonton (1988) as key, in part, to the process of creative discovery.

Other avenues of research have buttressed this hypothesis. Dykes and McGhie (1976) demonstrated, for example, that creative subjects and schizophrenic subjects were better than controls at identifying items presented on the irrelevant channel of a dichotic shadowing task. This finding appears to support Dallas and Gaier’s (1970) observation that creative individuals tend not to screen out so-called “irrelevant details.” Furthermore, in a study conducted by Martindale, Anderson, Moore, and West (1996), a
small group of high-creative subjects showed reduced galvanic skin response habituation rates to auditory stimuli compared with low-creative subjects. This finding, which has been replicated in psychosis-prone populations (Raine, Benishay, Lencz, & Scarpa, 1997), may indicate that highly creative people do not precategorize stimuli as irrelevant in the same manner as less creative individuals. Finally, Eysenck (1995) has noted that originality (the ability to produce statistically unusual ideas) is conceptually similar to the looseness of associations symptomatic of psychosis. Such looseness is presumably a byproduct of the failure of an inhibitory filtering mechanism, functioning to limit associations to those relevant to current task performance. Reduced LI scores are theoretically associated with relaxation of this inhibitory mechanism (Gray, Feldon, Rawlins, Hemsley, & Smith, 1991).

If reduced LI represents a predisposing factor common to psychosis and to creativity, what then distinguishes the psychotic from the poet? Studies that have associated decreased LI with schizophrenia or schizotypy have typically failed to report subject IQ. However, among individuals with a predisposition to psychosis, low IQ generally functions as an unfavorable moderating variable (David, Malmberg, Brandt, Allebeck, & Lewis, 1997; Jones & Offord, 1975). Furthermore, several investigators (e.g., Claridge, 1997; Eysenck, 1995; Berenbaum & Fujita, 1994) have suggested that superior intellectual qualities, such as high IQ, may moderate the expression of a predisposition to psychosis in the highly creative individual. It seems reasonable to propose that some psychological phenomena might be pathogenic in the presence of decreased intelligence, psychometrically defined, but normative or even abnormally useful in the presence of increased intelligence.

The purpose of the present studies was therefore to (a) determine if a variety of indicators of individual creativity, particularly creative achievement, would be associated with reduced LI; (b) determine if reduced LI in tandem with high IQ would predict higher general creative achievement scores than either factor in isolation; and (c) determine if a combination of high IQ and reduced LI would identify those participants who have made especially noteworthy contributions to their respective creative fields.

We limited our two participant samples to a creatively diverse but high-IQ population to substantively increase the probability of assessing individuals who were genuinely highly creative, because a wide body of research (summarized in Eysenck, 1995) has already identified IQ as a critically important factor in creative achievement. This body of research has suggested that there may be an IQ threshold (usually described as an IQ of approximately 120 points) associated with true creative ability (for a review, see Sternberg & O’Hara, 1999).

We also present a meta-analysis of the combined results of both of our studies to provide a more accurate estimate of effect size for LI and, as well, we describe the methods and results of an additional analysis of eminent creative achievers versus highly intelligent noncreative individuals from the pooled sample.

STUDY 1: LI, CREATIVE ACHIEVEMENT, AND OTHER MEASURES OF CREATIVITY

One of the major obstacles to creativity research has been the variety of diverse concepts and definitions associated with the term creative (Brown, 1989), a descriptor that applies with equal facility to achievement, mental processes (Torrance, 1968), a personality trait or combination of traits (Gough, 1979; McCrae, 1987), and consensually approved novel products (Amabile, 1996). We are particularly interested in lifetime creative achievement, per se, because such achievement is beneficial not only to the individual but to society as well. Furthermore, other measures of creativity, including creative personality traits and creative mental process measures (divergent thinking), have been found to be elevated in certain nonproductive disordered populations as well (e.g., Cramond, 1994; Keefe & Magaro, 1980) and thus may not be unique to highly creative individuals.

However, our initial examination of the LI–creativity association used multiple measures of creativity designed to cover a wide range of concepts, including a lifetime creative achievement measure (the Creative Achievement Questionnaire [CAQ]; Carson, Peterson & Higgins, 2003), a mental process measure (divergent thinking tasks; Torrance, 1968), and a personality measure (the Creative Personality Scale [CPS]; Gough, 1979).

For Study 1, we hypothesized that (a) high scorers relative to low scorers on the CAQ would be characterized by attenuated LI. We also hypothesized that (b) high scorers on the CPS and the divergent thinking tasks would demonstrate attenuated LI relative to low scorers. Finally, we hypothesized that (c) low LI scores combined with high IQ scores would predict high CAQ scores.

Method

Participants

Eighty-six Harvard undergraduates (33 men, 53 women), with a mean age of 20.7 years (SD = 3.3) participated in the study. All were recruited from sign-up sheets posted on campus. Participants were paid an hourly rate.

Procedure

Participants were assigned randomly to either the preexposed (n = 57) or the nonpreexposed (n = 29: a ratio of approximately 2:1) LI condition. During a pretest interview in which demographic information was collected, participants were assessed for outward signs of depression, anxiety, or boredom. They were also questioned about alcohol and/or caffeine intake prior to the lab testing. Two participants were rescheduled because of recent caffeine intake. All participants then completed creativity measures, IQ tests, personality tests, and the LI task.

Creativity Testing

Creativity testing consisted of three phases: the CAQ, the divergent thinking tasks, and the CPS.

CAQ. The CAQ is an empirically sound measure of lifetime creative accomplishment in the fields of art and science. The instrument has demonstrated test–retest reliability in the range of r = .85 as well as good convergent, discriminant, and predictive validity. Participants check off actual achievements in 10 separate domains of creative accomplishment (e.g., “My work has won a prize or prizes at a juried art show”). Scores for individual accomplishments within a domain are weighted according to the.

1 An additional measure related to creativity, the personality variable Openness to Experience, was also assessed for its relationship to LI in this sample. However, analysis of this relationship has been reported elsewhere (Peterson & Carson, 2000).
level of achievement attained, as ranked by experts within that domain. Weighted scores for each domain are summed to provide a total creative achievement score (Carson et al., 2003).

Divergent thinking tasks. Four validated divergent thinking tasks were adapted from Torrance (1968). Participants were given 3 min to write down their responses to each task, such as naming alternate uses for a common object. Three aspects of divergent thinking were assessed: fluency (number of responses generated), originality (unusualness of responses, based on the statistical infrequency of each individual response within the current sample), and flexibility (number of different categories of response and the number of category changes). Fluency, originality, and flexibility scores were z scored and summed to produce a divergent thinking score for each subject.

CPS. The CPS (Gough, 1979) consists of a set of 30 items from the Adjective Check List (Gough & Heilbrun, 1965), which has predicted high levels of creativity across multiple studies and diverse samples. Participants describe themselves by checking off 18 positively and 12 negatively scored adjectives.

IQ Testing

Participants completed the Vocabulary and Block Design subtests of the Wechsler Adult Intelligence Scale—Revised (WAIS-R; Wechsler, 1981). Raw scores were age scaled, combined to form a composite, and converted to a full-scale equivalent, using standard guidelines (Brooker & Cyr, 1986). IQ estimates compiled from this “short form” correlate at \( r = .91 \) with full-scale WAIS-R IQ scores (Brooker & Cyr, 1986). Because IQ scores using the short form typically overestimate IQ by 3 points (Brooker & Cyr, 1986), IQ scores were adjusted by subtracting 3 points from the total for each participant.

LI Task

Participants were seated in a quiet, semidarkened room and told that they were to participate in two auditory discrimination tasks. They then donned stereo earphones and adjusted the volume to ensure clarity and comprehensibility. Participants in the preexposed condition were then shown a two-part video version of a well-validated and commonly used auditory LI task, after Lubow et al. (1992).

In Part 1, the preexposure phase, a list of 30 nonsense syllables (the masking material) was presented 5 times at a normal rate of speech with no indication of the termination and start of each repetition. White noise bursts (the target stimuli) from 3 to 6 s in duration were superimposed randomly 31 times over the course of the recording, at approximately two-thirds the volume of the nonsense syllables. Participants listened to the recording through earphones and were asked to determine how many times they heard a selected nonsense syllable.

In Part 2 (the test phase), the recording of the nonsense syllables and the white noise bursts was replayed in identical form while yellow disks arranged in rows on a black scoreboard were revealed individually on the video screen. Each yellow disk appeared prior to the offset of the target stimulus. Participants were asked to determine what auditory stimulus signaled the appearance of the yellow disks. The individual’s score for the task (trials to rule identification) was determined by the number of yellow disks visible on the screen (maximum 31) when the correct answer was given.

Participants in the nonpreexposed condition were shown an identical videotape, except that the target stimulus was absent from the preexposure phase of the task.

Traditionally, LI is demonstrated (and the LI test validated) within a population when participants of that population tested in the preexposed condition took more trials to learn the association of the target stimulus with the yellow disks than similar participants tested in the nonpreexposed condition (Lubow et al., 1992). Thus, lower LI scores in the preexposed condition suggest attenuated LI, whereas higher scores suggest intact or “normal” LI.

Results

Table 1 lists the zero-order correlations of all creativity measures with each other as well as with IQ.

Creative Achievement and LI

Participants were divided into low- (\( n = 45, M = 6.7, SD = 3.9 \)) and high- (\( n = 41, M = 27.0, SD = 11.3 \)) creative achievement groups by CAQ score median split. Members of the low-creative achievement group in the preexposed condition (\( n = 28 \)) scored significantly higher on the LI task than the low-creative achievers in the nonpreexposed condition (\( n = 17 \)), indicating a significant LI effect, \( t(43) = -2.03, p = .04, d = .62 \) (see Figure 1). Members of the high-creative achievement group in the preexposed condition (\( n = 29 \)), by contrast, did not score significantly higher on the LI task than their counterparts in the nonpreexposed condition (\( n = 12 \)), indicating an attenuation of LI in the high-creative achievement group, \( t(39) = -.202, p = .96, d = .01 \). An analysis of variance (ANOVA) indicated significant differences in LI scores due to the effects of high- and low-creative achievement, \( F(1, 82) = 4.09, p = .05, \eta^2 = .05 \). The main effect for condition, \( F(1, 82) = 2.12, p = .15, \eta^2 = .03 \), and the interaction effect between CAQ and condition, \( F(1, 82) = 2.04, p = .16, \eta^2 = .02 \), were not significant.

Because LI scores were clearly bimodal rather than normally distributed (see Figure 2), nonparametric analyses (Mann–Whitney \( U \)) were also conducted and yielded similar results: Low-creative achievement participants demonstrated intact LI (\( Z = -1.86, p = .06 \)), whereas high-creative achievement participants demonstrated reduced LI (\( Z = -0.043, p = .96 \)).

As hypothesized, the mean LI score of the low-creative achievement group (\( n = 28, M = 21.8, SD = 10.4 \)) was significantly higher than that of the high-creative achievement group (\( n = 29, M = 14.3, SD = 8.8 \)) in the preexposed condition, \( t(55) = 2.93, p = .006, d = .79 \) (nonparametric Mann–Whitney \( U; Z = -2.54, p = .01 \) (see Figure 3).

LI and Measures of Divergent Thinking and Creative Personality

A comparison of means indicated that LI scores in the preexposed condition were significantly reduced in the high-scoring groups (determined by median split) of the CPS and the originality dimension of the divergent thinking tasks as well as in overall divergent thinking (see Table 2). Nonparametric Mann–Whitney \( U \) tests revealed similar results.

LI and IQ as Factors of Creative Achievement

The mean IQ of the sample was 128.1 points (\( SD = 10.3 \)), with a range of 97 to 148 points. To determine whether LI and IQ would

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2 “Median split” is traditionally used in LI research (e.g. Baruch et al., 1988a, 1988b; Lubow et al., 1992) and thus is included here. However, median splits arguably lack theoretical meaning. A theoretically driven division of high- and low-creative achievers is presented in the ANALYSIS OF EMINENT CREATIVE ACHIEVERS section.
jointly predict creative achievement scores, we regressed LI scores (preexposed condition) and IQ scores on the creative achievement scores of the highest and lowest quartiles of CAQ scorers \((n = 30)\). Negative LI scores and positive IQ scores jointly predicted 26% of the variance in creative achievement scores, \(F(2, 27) = 4.89, p = .006, R^2 = .26\), with LI scores alone accounting for 18% of the total CAQ variance, \(F(1, 28) = 6.09, p = .02, R^2 = .18\)\(^3\). An additional analysis of the CAQ, IQ, and LI relationship is offered below in Study 2 and, cumulatively, in the section ANALYSIS OF EMINENT CREATIVE ACHIEVERS.

**STUDY 2: LI AND CREATIVE ACHIEVEMENT**

In Study 2, we attempted to replicate our findings within the Harvard population, concentrating primarily on the relationship of LI to lifetime creative achievement. Because we had already established the existence of an LI effect for this population using a nonpreexposed control group (and because the LI scores of high creative achievers did not differ significantly from low achievers in the control group), we decided to concentrate on individual difference scores within the preexposed condition.

We also wished to control for the chance that participants would respond to the self-report measure of creative achievement, the CAQ, in a self-enhancing manner. We therefore administered the Marlowe–Crowne Social Desirability Scale (MCSD; Crowne & Marlowe, 1960), a measure of the tendency of responders to tailor their responses to appear socially acceptable.

**Method**

**Participants**

Ninety-six Harvard undergraduates (53 men, 43 women), with a mean age of 20.1 years \((SD = 1.6)\) participated in the study. All were registered in a psychology course and received course credit for participation.

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\(^3\) The regression of IQ and LI (preexposed) on the entire sample was as follows: \(F(2, 58) = 2.84, p = .07, R^2 = .10\), with LI (preexposed) accounting for 9% of the variance.
LI and IQ as Factors of Creative Achievement

Eighty-two of the 96 participants completed the IQ tasks. The mean IQ of the sample was 124.6 points ($SD = 11.4$), ranging from 100 to 148 points. As in Study 1, we regressed LI scores (preexposed condition) and IQ scores on the upper and lower quartiles of CAQ scores ($n = 46$). Negative LI scores and positive IQ scores jointly predicted 20% of the variance in CAQ scores, $F(2, 43) = 5.33$, $p = .006$, $R^2 = .20$, with LI scores alone accounting for 13% of the total CAQ variance, $F(1, 43) = 6.54$, $p = .01$, $R^2 = .13$.4

META-ANALYSIS: LI AND CREATIVE ACHIEVEMENT

The results of analyses of the relationship between creative achievement scores and LI scores from Studies 1 and 2 were combined using meta-analytic techniques (Rosenthal & Rosnow, 1991). Because both studies used samples of similar IQ and creative achievement, Studies 1 and 2 were weighted equally in the meta-analysis. When LI scores were compared between high-CAQ and low-CAQ groups (median split), the combined results of the two studies yielded highly significant differences with an effect size of $r = .31$ ($p = .0003$, one-tailed; see Table 3).

ANALYSIS OF EMINENT CREATIVE ACHIEVERS

The results of Studies 1 and 2 indicate that participants who scored higher in overall creative achievement exhibited significantly lower LI scores than participants who did not score high in creative achievement. However, a high score in combined areas of creative achievement may not necessarily be indicative of the likelihood of truly eminent achievement in a specified field. One of the defining characteristics of the truly eminent creative achiever, however, is the production of a significant accomplishment in his or her respective field at a young age (Ludwig, 1995). By pooling the participants from both studies, we hoped to identify enough eminent creative achievers (those who made a truly substantive contribution to a single domain of creative endeavor before the age of 21) to allow for analysis of LI and IQ.

We defined a score of at least 12 points on the CAQ in any one of the 10 individual domains of measured creative achievement as constituting a clearly significant contribution to a creative field. The minimum levels of achievement that qualified as a significant accomplishment according to this criterion included having a novel or book of poetry published and sold, having a musical composition recorded and sold, having a prototype invention patented and built, having a private showing of original artwork at a recognized gallery, or winning a scholarship or national prize for a scientific discovery. We then compared the LI scores of the identified group of eminent creative achievers with the scores of the group of individuals who demonstrated minimal creative achievement.

**Method**

Participants included pooled subjects from Studies 1 and 2 who met the following criteria: (a) They were members of the preexposed condition of the LI task, and (b) they had scored either 12 or more points on any single domain of the CAQ (eminent creative achievers; $n = 25$), or had a total CAQ score of 3 or below (controls; $n = 23$). Eminent creative achievers included 4 artists, 5 composers, 2 writers, 2 inventors, 3 dramatists, 7 scientists, and 2 choreographers. Mean LI scores of eminent achievers were then compared with the LI scores of the control subjects.

4 The regression of IQ and LI (preexposed) on the entire sample was as follows: $F(2, 79) = 2.70$, $p = .07$, $R^2 = .07$, with LI (preexposed) accounting for 5% of the variance.
Results

LI and Eminent Creative Achievers

The LI scores of the eminent creative achievers (M = 11.1, SD = 7.6) were significantly lower than the LI scores of the control group (M = 19.4, SD = 10.1), t(46) = 3.17, p = .004, d = .93 (Mann–Whitney U: Z = 2.65, p = .008). Whereas control subjects were equally likely to display either high or low LI scores (on the basis of the manifest division in the LI distribution), eminent creative achievers were seven times more likely to have low rather than high LI scores, χ²(1, N = 25) = 10.79, φ = .47, p = .001 (see Figure 4).

LI and IQ as Factors of Eminent Creative Achievement

As mentioned above, a number of researchers have noted a correlation between creative ability and IQ levels below 120, whereas correlations between creativity and IQs above 120 are generally less significant. This threshold theory suggests that an IQ of 120 may be necessary but not sufficient for creative achievement (for a review, see Sternberg & O’Hara, 1999; for an alternative view, see Lubinski, Webb, Morlock, & Benbow, 2001). In our sample, the mean IQ for the eminent creative achiever group was above the 120 threshold (M = 128.6, SD = 8.3), whereas the mean IQ for the control group was just below the 120 threshold (M = 118.3, SD = 11.9). Twenty-one of the 25 eminent achievers had IQs above the 120 threshold, whereas 11 of the 23 controls had IQs above the threshold.

The combined sample of eminent creative achievers and controls was divided into high-IQ (M = 130.0, SD = 6.6, n = 32) and moderate-IQ (M = 111.1, SD = 7.6, n = 16) groups on the basis of the proposed threshold score of IQ 120. The combined sample was also divided into high-LI (M = 27.6, SD = 3.8, n = 16) and low-LI (M = 6.6, SD = 4.7, n = 32) groups on the basis of the naturally occurring split in bimodal LI scores in the preexposed condition. A 2 × 2 factorial ANOVA examined the CAQ scores using high LI/low LI and high IQ/moderate IQ as factors. The results indicated a significant difference among the creative achievement scores of the groups, F(3, 44) = 8.58, p < .001, η² = .37, with the low-LI/high-IQ group demonstrating substantially higher CAQ scores than all other groups, as predicted (see Figure 4).

Table 2
Latent Inhibition (LI) Scores of the High Versus Low Groups of Individual Measures of Creativity (Based on Median Split)

<table>
<thead>
<tr>
<th>Measure</th>
<th>LI score of high group</th>
<th>LI score of low group</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>d</th>
<th>Z</th>
<th>p</th>
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</thead>
<tbody>
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<td></td>
<td></td>
<td>3.63</td>
<td>47</td>
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<td>1.06</td>
<td>-3.48</td>
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<tr>
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<td>10.1</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Diverg</td>
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<td></td>
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</table>

Note. Z = Mann–Whitney U test; CPS = Creative Personality Scale; Diverg = divergent thinking; Orig = originality; Flex = flexibility.

Table 3
Difference in Mean Latent Inhibition Scores of High Versus Low Creative Achievers: A Meta-Analysis

<table>
<thead>
<tr>
<th>Study</th>
<th>t</th>
<th>Effect size</th>
<th>p</th>
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<td>.0025</td>
</tr>
<tr>
<td>2</td>
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</tr>
<tr>
<td>Total</td>
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<td>.314</td>
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</table>

Note. All p values are one-tailed.
* df = 55.  † df = 90.

Figure 4. Contingency table of high and low latent inhibition (LI) scores (preexposed) for eminent creative achievers versus controls.
LATENT INHIBITION AND CREATIVE ACHIEVEMENT

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The main effects for both LI, F(1, 44) = 7.30, p = .01, η² = .14, and IQ, F(1, 44) = 5.44, p = .02, η² = .11, were significant, and the interaction between the two factors approached significance, F(1, 44) = 3.47, p = .07, η² = .07.

When we regressed LI (preexposed condition) and IQ scores on the CAQ scores, negative LI scores and positive IQ scores jointly predicted almost one third of the variance in creative achievement scores, F(2, 45) = 9.55, p = .0003, R² = .30, with LI scores alone accounting for 19% of the total CAQ variance, F(1, 46) = 10.53, p = .002, R² = .19. The LI × IQ interaction was highly significant, F(1, 46) = 15.81, p = .008, η² = .30, with LI scores alone predicted almost one third of the variance in creative achievement, p = .02, η² = .11, were significant, and the interaction between the two factors approached significance, F(1, 44) = 3.47, p = .07, η² = .07.

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GENERAL DISCUSSION

The results of these studies and analyses indicate a substantial and significant relationship between a variety of indicators of creativity and reduced LI. In Study 1, significant differences in LI scores emerged between high- and low-creative participants on measures of creative achievement, creative personality, and the originality facet of divergent thinking. The results of Study 2 replicated the relationship between creative achievement and reduced LI. A meta-analysis of the two studies indicated a nontrivial and significant relationship between creative achievement and reduced LI, and an analysis of eminent creative achievers (relative to noncreative control subjects) suggested a near-universal reduction in LI in this group.

How do we reconcile the fact that reduced LI scores in humans, which have previously been associated with psychotic states or with psychotic proneness, are associated with high levels of creativity in these studies? The results provide substantial although circumstantial evidence that high IQ might serve as a beneficial moderating factor in the expression of LI as either a deficit in selective attention or a facilitator of creativity. In all of our studies and analyses, high IQ, when combined with low LI, was associated with increased creative achievement. These results are particularly stunning in the analysis of eminent achievers and high-functioning controls. High IQ clearly appeared to augment the tendency toward high creative achievement characteristic of low-LI individuals.

These results lend support to the theory that there may be qualitative (e.g., failure to filter out irrelevant stimuli) as well as quantitative (e.g., high IQ) differences in the processes underlying creative versus normal cognition. These results also support the theory that highly creative individuals and psychotic-prone individuals may possess neurobiological similarities, perhaps genetically determined, that present either as psychotic predisposition on the one hand or as unusual creative potential on the other on the basis of the presence of moderating cognitive factors such as high IQ (e.g., Berenbaum & Fujita, 1994; Dykes & McGhie, 1976; Eysenck, 1995). These moderating factors may allow an individual to override a “deficit” in early selective attentional processing with a high-functioning mechanism at a later, more controlled level of selective processing. The highly creative individual may be privileged to access a greater inventory of unfiltered stimuli during early processing, thereby increasing the odds of original recombinant ideation. Thus, a deficit that is generally associated with pathology may well impart a creative advantage in the presence of other cognitive strengths such as high IQ.

One of the limitations of the present research was the use of a single measure of LI. We are currently developing a multimethod procedure for assessing LI that will hopefully further clarify the relationship between reduced LI and creativity in future research. We are also investigating other possible moderating factors (including working memory capacity and personality dimensions) that may have an impact on the creativity–LI relationship.

References

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