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MELANIE L. BEAUSSART
SCOTT BARRY KAUFMAN
JAMES C. KAUFMAN

Creative Activity, Personality, Mental Illness, and Short-Term Mating Success

ABSTRACT

It has been argued that creativity evolved, at least in part, through sexual selection to attract mates. Recent research lends support to this view and has also demonstrated a link between certain dimensions of schizotypy, creativity, and short-term mating. The current study delves deeper into these relationships by focusing on engagement in creative activity and employing an expansive set of personality and mental health measures (Five Factor Model, schizotypy, anxiety, and depression). A general tendency to engage in everyday forms of creative activity was related to number of sexual partners within the past year in males only. Furthermore, schizotypy, anxiety, and Neuroticism were all indirectly related to short-term mating success, again for males only. The study provides additional support for predictions made by sexual selection theory that men have a higher drive for creative display, and that creativity is linked with higher short-term mating success. The study also provides support for the contention that certain forms of mental illness may still exist in the gene pool because particular personality traits associated with milder forms of mental illness (i.e., Neuroticism & schizotypy) are also associated directly with creativity and indirectly with short-term mating success.

Keywords: creativity, evolution, neuroticism, schizophrenia, mental illness, mating behavior.

Some researchers have argued that creativity such as painting, poetry, music, and even humor have evolved as a result of mate choice for cultural displays (Kaufman, Kozbelt, Bromley, & Miller, 2008; Miller, 1999, 2000a). The more outrageous and ornamental the creative display (with, therefore, lower survival value), the more it indicates that the creator has enough overall developmental stability to create such a display. Accordingly, if creativity is the product of our ancestors' efforts to advertise their fitness to multiple recipients and attract potential mates, creativity therefore would be an indicator, to a certain extent, of an individual's biological fitness (Miller, 2000b). Previous research has indeed shown that creativity is a trait that women find attractive in a mate (Haselton & Miller, 2006) and that mating motives can even enhance actual creative ability in men (Griskevicius, Cialdini, & Kenrick,

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2006). Current research has shown that for men, artistic accomplishment for visual art is related to sexual success (Clegg, Miell, & Nettle, 2011), thus providing support for the evolutionary psychology model of creativity and mating success.

The relationship between creativity and mating success may not be so linear however. There is a large body of research that is focused on creativity and mental illness. Although the nature and extent of this relationship is not fully determined, there is a general consensus that there is likely some type of link (see Silvia & Kaufman, 2010; for a recent overview). A recent study by Kyaga and his colleagues (Kyaga et al., 2011), examined the relationship between mental illness and occupation by carrying out a case-control study using the Swedish population registers. The likelihood of being in a creative occupation was compared amongst people who had been treated for a mental illness, their non-diagnosed relatives, and a control sample. Not only were those with certain forms of mental illness more likely to be in creative jobs than the control sample, but so were their first-degree relatives. This is consistent with earlier family pedigree studies of mental illness and creativity (Andreasen, 1987; Karlsson, 2001; Karsson, 1970; Post, 1994; Richards, Kinney, Lunde, Benet, & Merzel, 1988). The results of these studies have led several researchers to suggest that some features of mental illness may give adaptive advantages to the affected individuals (Brod, 1997; Jamison, 1993; Richards et al., 1988; Wilson, 1994) and their relatives (Avila, Thaker, & Adami, 2001).

The preponderance of research on mental illness and creativity has been primarily focused on mood disorders such as depression, bipolar, and anxiety (Carlsson, 2002; Carlsson, Wendt, & Risberg, 2000; Silvia & Kimbrel, 2010) and thought disorders like those in the schizophrenia spectrum (Abraham & Windmann, 2008; Batey & Furnham, 2008; Fisher et al., 2004; Karimi, Windmann, Güntürkün, & Abraham, 2007; Nettle, 2006; Rawlings & Locarnini, 2008). However, there is some contention that the relationship is a result of a confounding correlation between mental illness and certain personality factors. For example, Miller and Tal (2007) argue that the personality trait of openness to experience may predict creativity better than schizotypy traits. They found that schizotypy correlated with both creativity and openness, yet in a multiple regression model predicting creativity, the partial contribution of schizotypy was no longer statically significant. On the other hand, these constructs may have a mediating effect on one another; schizotypy increases openness, which consequentially enhances creativity. Therefore, establishing a pattern of how creativity and mental illness are related may be dependent on a complicated system that explores traits that predispose one for affective disorders. Nevertheless, the existence of this relationship creates an apparent contradiction: creativity, a behavior that increases mating success, simultaneously occurs with potentially harmful impairments that could negatively impact the person that manifests it.

The assumed relationship between creativity and mental illness suggests that creative ability may have possible advantages for the genes associated with psychopathology and thus the negative fitness effects are counterbalanced (see Keller & Miller, 2006). Hypothetically, a creative person is likely to have more sex partners (see Miller, 1999), but if a person is mentally ill they may have fewer sex partners (Avila

et al., 2001; Bassett, Bury, Hogkinson, & Honer, 1996). If mental illness enhances creativity, how does this impact the number of sexual partners a person has? Nettle and Clegg (2006) explored one facet of this argument by investigating the effects of schizotypy on creativity as a mediator of mating success. By looking at a sample representative of the general population and a targeted sample of artists and poets, Nettle and Clegg found that short-term mating was positively correlated with certain dimensions of schizotypy in the creative people. Hence, schizotypy mediated by creativity increased a person's evolutionary fitness due to the greater number of sexual partners (and therefore offspring) a person had.

Given that multiple forms of mental illness have been found to correlate with creativity, what type of relationship exists between creativity, short-term mating success, and other affective states associated with creativity such as depression and anxiety? Additionally, if some types of mental illness are only associated with creativity through their association with certain personality factors then how does personality mediate this relationship with creativity? The goal of this study is to explore various traits that have traditionally been associated with creativity, such as personality and mental illness, to assess their impact on short-term mating success.

METHODS

PARTICIPANTS/PROCEDURE

Participants were volunteers from a public California university and from the Internet. The students were recruited to take the online survey via an "experiments for extra credit" bulletin board and by e-mail. The Internet participants accessed the online questionnaire via links from various websites or portals sponsored by psychology clubs or university departments. No incentive was offered beyond possible extra credit. There were 708 participants, including 603 females and 105 males. Of the participants, 701 stated their marital status, with 515 being single, and 186 currently married or living with someone in a committed romantic relationship. The minimum age was 18 and the maximum was 59, for a mean of 24.4 years old ($SD = 7.4$).

MEASURES

Participants were given the following measures: A demographic questionnaire, the Five Factor Personality Test from the International Personality Item Pool, a modified Creative Activities and Interests Checklist, a modified Sociosexual Orientation Index, the Center for Epidemiologic Studies Short Depression Scale, the Schizotypal Personality Questionnaire, and the State and Trait Anxiety Inventory.

Demographics questionnaire

All participants completed a brief demographic questionnaire that included questions about age, gender, ethnicity, sexual preference, marital status, and whether or not they had children.

Sociosexual orientation index

The seven-item Sociosexual Orientation Index (SOI) scale (Gangestad, Simpson, Cousins, Garver-Apgar, & Christensen, 2004) was used, along with their suggested interpretive formula, to assess participants general attitude towards their own sexuality and overall willingness to engage in short-term sexual behaviors such as "one night stands." Our particular focus, however, was not a respondent's sociosexuality but rather on the respondent's sexual behavior within a 12-month period; therefore, we only used the response to the question "How many different partners have you had sex with in the past year?" to represent the participant's short-term mating success.

State and trait anxiety inventory

Anxiety was measured using the State and Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). Participants were instructed to respond to each of 20 items that best described how they felt with (1) being "I never feel that way" to (4) being "I always feel that way." All counterbalanced items were recoded to one direction, with 1 indicating the best possible evaluation and 4 indicating the worst. All answers were then summed. Higher scores are indicative of higher levels of anxiety.

International personality item pool

The International Personality Item Pool (IPIP) (Goldberg, 1999) offers a 50-item scale designed to measure the five-factor personality theory of intellect, conscientiousness, extraversion, agreeableness, and emotional stability (Goldberg, 1999; Goldberg et al., 2006). In this measure, participants rate how well each statement describes them on a Likert scale from "1" (very inaccurate) to "5" (very accurate). Sample statements include: "Am the life of the party," "Feel little concern for others," "Am always prepared," "Get stressed out easily," and "Have a rich vocabulary." These statements represent the five personality types listed above. Descriptors at the high pole of some of the factors may have some relationship to certain psychiatric disorders. For example, low scores of emotional stability (i.e., Neuroticism) tend to present itself with proneness for depression and anxiety. In fact, the trait of anxiety is almost synonymously used as Neuroticism but with an indication that this factor is aligned with introversion (Loo, 1979).

Creative activities and interests checklist

Since the purpose of this study was to explore creative behavior rather than creative ability, we administered a modified version of the Creative Activities and Interests Checklist (based on Griffin & McDermott, 1998), a 27-item checklist that assessed the respondent's behavior. A scientific subscale was added by Holt, Delanoy, and Roe (2004) based on the Creative Behavior Inventory (Hocevar, 1979).The scale was divided into four creative domains: visual arts, performing arts, literary arts, and scientific (see Appendix). We further modified this scale in an attempt to

quantify the level of the respondents' engagement in each activity by using a Likert scale, from 1 (none of the time) to 5 (most of the time) as opposed to a checklist of only "yes." In addition, the question that asks about the respondents' "busking" enthusiasm was changed to "street performing" in order to reflect American English terminology. Furthermore, since our goal was to focus on a specific time frame, we asked respondents to only report the activities that they engaged in over the past 12 months. This score was then used to create a general creative behavior score for each person by calculating the grand mean of all the creative behaviors.

Center for epidemiologic studies short depression scale

The Center for Epidemiologic Studies Short Depression Scale (CES-D 10) (Andresen, Malmgren, Carter, & Patrick, 1994) is a ten-item self-report scale designed to identify depressive symptoms. Responses are recorded using a four-point Likert scale ranging from rarely (scored 0) to most of the time (scored 3), and summed across the ten items to provide a total score. Respondents who provided data on only nine items were included in the analyses, with mean value used to replace the one missing item. CESD-10 scores greater than 10 are generally indicative that the respondent has "depressive symptoms."

Abbreviated schizotypal personality questionnaire

The abbreviated Schizotypal Personality Questionnaire (SPQ-B) (Raine & Benishay, 1995) is a self-report measure of 22 items rated on a yes–no scale that is designed to assess the presence of traits found in DSM-IV for schizotypal personality disorder. The SPQ-B consists of three factors: The cognitive–perceptual deficits factor captures constructs of ideas of reference, odd beliefs, magical thinking, unusual perceptual experiences, and paranoid ideation; the interpersonal deficits factor captures constructs of social anxiety, lack of close friends, and constricted affect; and the disorganized factor captures constructs of odd behavior and speech. These factors are roughly comparable with the three categories of schizophrenic symptoms; positive, negative, and disorganized.

RESULTS

The aim of the current study was to assess the relationship between creativity, personality, and characteristics that are commonly related to mental illness to evaluate how these impact short-term mating success. For clarity, we will break up the analysis into three main sections; findings for creativity and mating success, the relationships among creativity, the Five Factor Model of personality, and short-term mating success, and then the associations among schizotypy, depression, anxiety/Neuroticism, and short-term mating success.

CREATIVITY AND SHORT-TERM MATING SUCCESS

While marriage should pragmatically inhibit the number of sexual partners a person has, the mediation of creativity on the social convention of fidelity is unknown. An independent *t*-test showed that there was no significant difference between the

TABLE 1. Standardized Regression Coefficients (β) for Sexual Partners, Creative Activity, with Age, Income, and Marriage Status as Additional Independent Variables

	Total sample (708)	Males (105)	Females (603)
Performing arts	.10*	.28*	.04
Science	.10*	.25*	.02
Writing	.08*	.16	.06
Visual arts	.01	.04	.00
Average creative activity	.09*	.24*	.04

Note. *$p < .05$.

number of sex partners married people ($M = 1.22$, $SD = 0.81$) and non-married people ($M = 1.28$, $SD = 1.2$) had in a 12 month period, $t(518.69) = .73$, $p = .47$. Since we did not collect information on how long each participant had been married we cannot determine if overlap exists for people who were both married and single in a given span of a year. Therefore, we have included married people in our analysis and controlled for marital status in our tests of significance.

Since short-term mating may impact the reproductive fitness for males and females differently, we explored the variations between the groups for both engagement in creative behavior and engagement in sexual behavior by using independent *t*-tests with gender as the independent variable. Males ($M = 1.80$, $SD = 0.65$) were more likely to engage in creative behaviors than females ($M = 1.61$, $SD = 0.58$) in the past year, $t(706) = -3.10$, $p = .003$, and males ($M = 1.49$, $SD = 1.39$) also had more sexual encounters than females ($M = 1.22$, $SD = 1.12$) in the past year, $t(706) = 2.2$, $p = .03$. Table 1 shows the relationship between engagement in creative activity and number of sexual partners within the past year. For the total sample, controlling for age, income, and marriage, creative engagement significantly predicted number of sexual partners $R^2 = .03$, $F(4,674) = 2.65$. $p = .03$. This finding marks important gender differences, since the link between creative activity and number of sexual partners was only significant for males $R^2 = .12$, $F(4,96) = 2.50$. $p = .05$.

CREATIVITY, PERSONALITY, AND SHORT-TERM MATING SUCCESS

Table 2 shows the link between the Five Factor Model and engagement in creative behavior. For males, the lone significant correlation was a positive relationship between Neuroticism and creative activity. In contrast, Neuroticism had a negative correlation with creative behaviors for females as did Conscientiousness, whereas Extraversion and intellect were both positively related to creative behaviors. Table 3 shows the correlation between the Five Factor Model of personality and short-term mating success. The only significant correlation for men was a negative relationship between Agreeableness and mating success. For women, Extraversion was the only

TABLE 2. Correlations between the Five Factor Model and Engagement in Creative Behavior

	Total sample (708)	Males (105)	Females (603)
Extraversion	.14**	−.09	.18**
Neuroticism	−.06	.29**	−.10*
Conscientiousness	−.12**	−.14	−.09*
Agreeableness	−.03	−.04	−.01
Openness	.20**	.04	.23**

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

TABLE 3. Correlations between the Five Factor Model and Number of Sexual Partners within the Past Year

	Total sample (708)	Males (105)	Females (603)
Extraversion	.14**	.01	.17**
Neuroticism	.04	.07	.05
Conscientiousness	.00	−.05	.02
Agreeableness	−.06	−.25**	−.01
Openness	.03	.00	.03

Note. **$p < .01$.

personality dimension that directly related to mating success and increased creative behavior.

Though the direct correlation between Neuroticism and short-term mating success was not significant, we explored the possibility that Neuroticism would be indirectly related through its effect on creativity given that: (a) we found a link between creative activity and short-term mating success in men, and (b) we found a link between Neuroticism and creative activity in men. As there was such a high correlation between the personality dimension of Neuroticism and the trait of anxiety in men [r (105) = .748, p = .001], we formed a latent factor "Neuroticism" which consisted of both Neuroticism and anxiety. Figure 1 shows the path analysis that investigates the link between Neuroticism, creative activity, and short-term mating success for men, and Figure 2 shows the same link for women. For men, Neuroticism significantly predicted creative activity, and creative activity predicted short-term mating success. Though the direct link was slightly negative and not significant, the indirect relationship between Neuroticism and short-term mating success was significant ($p < .05$), through its effect on creative activity. For women, Neuroticism was not related to creative behavior, nor was it directly or indirectly related to short-term mating success.

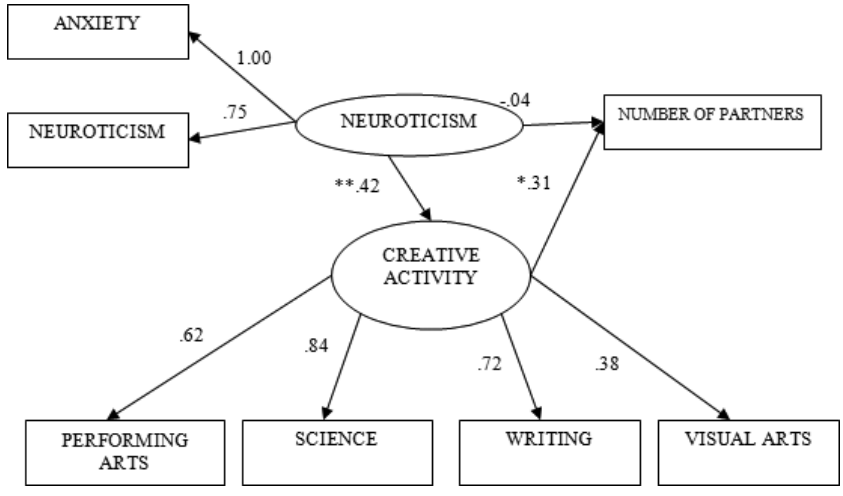

FIGURE 1. Relationship between neuroticism, creative activity, and number of sexual partners within the past year—Males

Notes. $^{**}p < .01$; $^{*}p < .05$. Model fit: $\chi^2 = .784$ ($p = .678$); RMSEA = .000; CFI = 1.

CREATIVITY, SCHIZOTYPY, DEPRESSION, AND SHORT-TERM MATING SUCCESS

Since previous research has shown that some dimensions of schizotypy increased mating success through the mediation of creativity (Nettle & Clegg, 2006) the relationship between short-term mating success and creative active was evaluated through a series of multiple regressions with the dimensions of schizotypy (cognitive/perceptual, interpersonal deficits, and disorganized) as independent variables. First, a multiple regression analysis was conducted to evaluate how well the dimensions of schizotypy predicted short-term mating success. After controlling for age, marital status, and income we found that no dimensions of schizotypy were significant predictors of short-term mating success for men or women. The overall linear combination for the dimensions of schizotypy was not significant, $R^2 = .02$, $F(3,680) = .29$, $p = .83$.

Next a series of multiple regression analysis were conducted to evaluate how well the dimensions of schizotypy predicted creative activity overall and by gender. After controlling for age, marital status, and income the overall linear combination of the schizotypy factors was significantly related to creative activity, $F(3,678) = 8.04$, $p = .001$. The sample's multiple correlation coefficient was .20 indicating that approximately 4.1% of the variance of creative activity is accounted for by the linear combination of schizotypy factors. For men, all three categories of schizotypy significantly predicted creative activity, $R^2 = .14$, $F(3,100) = 3.71$, $p = .01$. For women, though the linear combination of all three categories of schizotypy was significant [$R^2 = .03$, $F(3,574) = 4.88$, $p = .002$] only two factors—cognitive/perceptual

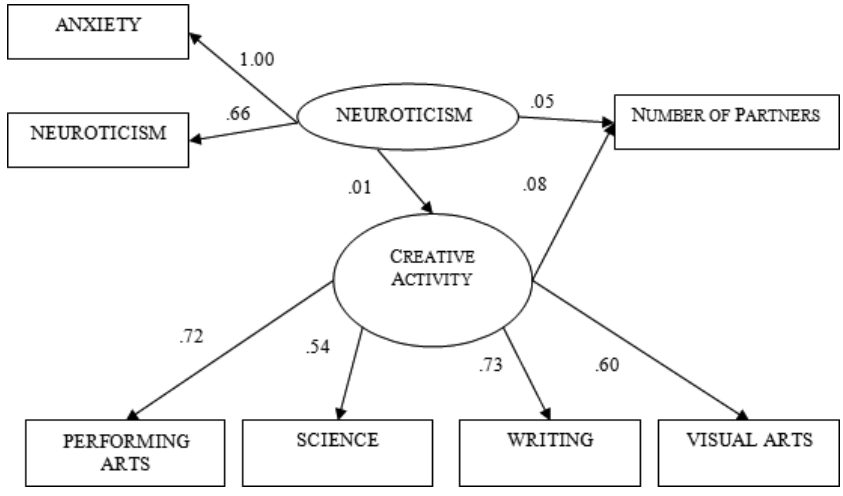

FIGURE 2. Relationship between neuroticism, creative activity, and number of sexual partners within the past year—Females

Notes. Model fit: $\chi^2 = 1.89$ ($p = .027$); RMSEA = .038; CFI = .987.

($\beta = 13$, $p = 002$) and interpersonal deficits ($\beta = 14$, $p = .001$)—were significant predictors. Table 4 shows the β coefficients for the three schizotypy scores.

Since all three dimensions of schizotypy significantly correlated with each other, we formed a latent variable of schizotypy to assess the relationship between creative activity, schizotypy (a general proneness to schizophrenia), and short-term mating success. Schizotypy significantly predicted creative activity for both men (Figure 3) and women (Figure 4), but did not directly predict short-term mating success in either sex. The significance of the indirect effect of schizotypy on short-term mating success, mediated by creative activity, was calculated using the bootstrap method recommended by Shrout and Bolger (2002) to replace the more traditional but less accurate Sobel test. For men, the direct effect of schizotypy on short-term mating success is near zero after controlling for creative activity, and the indirect effect was significant ($p < .05$). This suggests a complete mediation. For women, the indirect effect of schizotypy on short-term mating behavior was not significant. Therefore, schizotypy is linked to short-term mating success in men through its effects on creative activity. Schizotypy has no such link in women.

For the overall sample, depression correlated significantly with anxiety [r (708) = .69, $p < .001$], Neuroticism [r (708) = .54, $p < .001$] and schizotypy [r (708) = .43, $p < .001$]. Even though depression was highly related to these other factors, there was still an important source of variance that was not shared with these other factors. For men, even though depression significantly correlated with creative engagement [r (105) = .21, $p = .04$], depression was not related to short-term mating success (directly or indirectly). Therefore, the more depressed the men in our

TABLE 4. Standardized Regression Coefficients (β) for Creative Activity and Schizotypy, with Age, Income, and Marriage Status as Additional Independent Variables

	Total sample (708)	Males (105)	Females (603)
Cognitive/Perceptual	.15***	.24*	.04**
Interpersonal deficits	.18***	.27**	.02**
Disorganized	.08*	.16**	.06

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

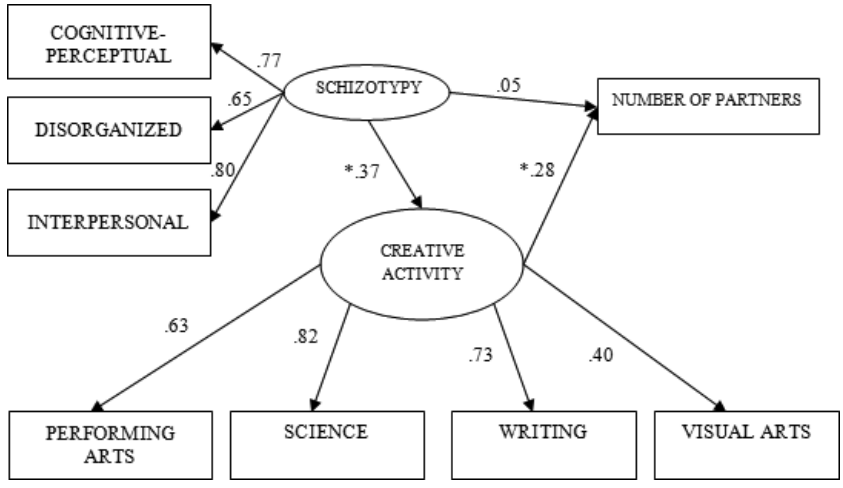

FIGURE 3. Relationship between schizotypy, creative activity, and number of sexual partners within the past year—Males

*Notes:** $p < .05$. Model fit: $\chi^2 = 1.145$ ($p = .300$); RMSEA = .037; CFI = .987.

sample, the more they engaged in creative activities. Unlike the patterns we found for anxiety, Neuroticism, and schizotypy, however, such activities did not improve their short-term mating success. This finding suggests something uniquely detrimental about depression to mating success in men. For women, depression did not correlate with creative engagement, but did directly correlate with short-term mating success [r (603) = .10, $p = .03$], suggesting that more depressed females engaged in more sexual activities (but not more creative activities).

DISCUSSION

The aim of the current study was to assess the relationship between creativity, personality, and mental illness in order to evaluate how those factors impact short-term mating. Although the common variance across the creative domains was

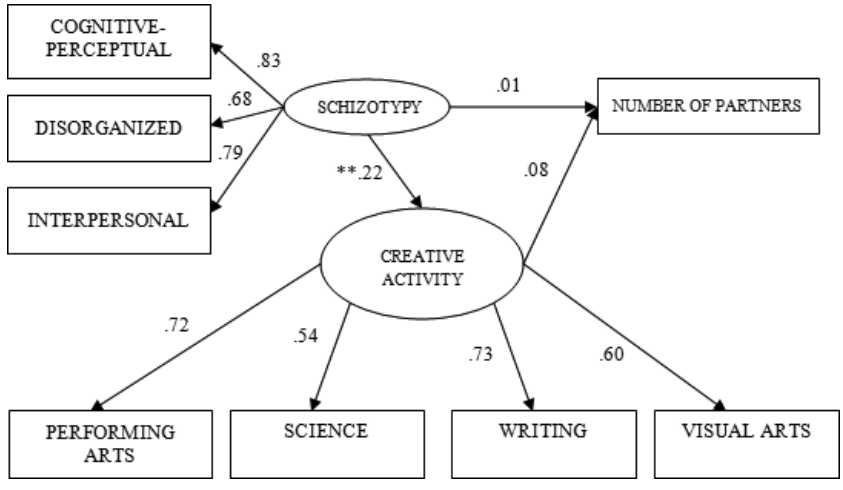

FIGURE 4. Relationship between schizotypy, creative activity, and number of sexual partners within the past year—females.

Notes. *z*$p < .01$. Model fit: $\chi^2 = 1.224$ ($p = .231$); RMSEA = .019; CFI = .996.

positively associated with the number of sexual partners within the past year, this pattern was true only for men. In addition, men engaged in a wider variety of everyday forms of creativity than women and had a higher number of sexual partners. These findings are consistent with predictions made by the evolutionary theory of sexual selection and differential parental investment (Miller, 1999; Trivers, 1972). Empirically, the finding of a link between creativity and short-term mating success is consistent with the findings of Nettle and Clegg (2006), yet generalizes beyond professional artistic creativity level given that this study examined everyday forms of creative behavior. Moreover, these gender differences are consistent with Griskevicius et al. (2006), who found that only the males in their sample increased their creative display under short-term mating goals.

Some proximate explanations exist as to why creative activity may have been related to short-term mating success in men. The first potential explanation is that males who engaged in more activities that are creative were found more attractive as mates, and therefore they received more sexual opportunities (and took advantage of those opportunities). Previous research in evolutionary psychology has indeed shown that creativity is a desirable trait for women, likely because it is a good genetic indicator rather than a sign of social status (Gangestad, 1997; Haselton & Miller, 2006). The current study lends some support to this view. The type of creativity explored was the more mundane type of creative display that did not necessarily include professional artists. Regardless of how "prestigious" the males' creative display, they still had more sexual partners. Therefore, the popularity of the creative endeavor did not have a large effect, suggesting that a desire for social status is

probably not solely driving the correlation between creative activities and short-term mating success in men.

Another factor affecting short-term mating success was a male's level of agreeableness. That is, the more agreeable the man, the fewer sexual partners he had within the past year. This may be in line with the old adage, 'nice guys finish last' (at least in terms of short-term sexual encounters) and may stem from high agreeableness being associated with increased loyalty to romantic mates (Schmitt, 2005). It may also be related to agreeableness often being negatively correlated with creativity. For example, creative scientists are less agreeable than less-creative scientists (Feist, 1998), artists are less agreeable than non-artists (Burch, Pavelis, Hemsley, & Corr, 2006), and agreeableness generally correlates negatively with creative accomplishments (King, McKee, & Broyles, 1996). Silvia, Kaufman, Reiter-Palmon, and Wigert (2011) used the six-factor personality model (HEXACO), which splits agreeableness into two factors, agreeableness and honesty-humility. They found no relationship between traditional agreeableness and creativity but did find a negative relationship between honesty-humility and creativity.

Another important determinant of short-term mating for men was "Neuroticism" (the common variance of the Five Factor dimension of Neuroticism and the trait of anxiety). Neuroticism is the factor representing emotional stability versus instability with facets that include anxiety, anger, depression, self-consciousness, immoderation, and vulnerability (Goldberg, 2001). Neuroticism is the strongest (negative) predictor of relationship quality in marriage, and a partner's Neuroticism is a strong influence on an individual's satisfaction with their relationship (Karney & Bradbury, 1997; Kelly & Conley, 1987). It appears that while this factor is possibly related to creativity (Carlsson, 2002; Carlsson et al., 2000), Neuroticism can weaken personal relationships among creative people, in this case creative men, by preventing them from maintaining long-term relationships. Such men may thus have a series of short-term sexual encounters, which appear to be short-term mating success.

In this study, we found that the common variance across the three dimensions of schizotypy (cognitive-perceptual, disorganized, and interpersonal) was related to short-term mating success. Schizotypy was indirectly related to the number of sexual partners in males within the past year through its effect on creativity. These results are similar to Nettle and Clegg (2006), but extend the findings to suggest that there might be some common core of schizotypy that is most related to both participation in creative activity and short-term mating. The finding that the interpersonal dimension of schizotypy loaded highly on to the general factor of schizotypy, and that extraversion as measured by the IPIP was not related to short-term mating success or creative activity in men, suggests that perhaps an important part of the common core in question is a form of introversion and isolation from people. This form of introversion may also be associated with a general tendency for nonconformity that leads to a high level of creative activity. Prior studies have demonstrated that extraversion is directly related to mating success (Nettle, 2005) as well as a mild link between extraversion and creativity (Martindale & Dailey 1996; King et al., 1996; Richardson, 1985; Srinivasan, 1984). However, our results suggest that introversion

may also play a role in short-term mating success, albeit in a more indirect fashion through its effects on the level of general creative activity.

In the current study, although depression was related to schizotypy, Neuroticism, and engagement in creative behaviors in males, no relationship between depression and short-term mating success was found. Importantly though, the results showed that the more depressed a woman was, the more she engaged in short-term sexual encounters (though not creative activities). If many short-term mates are not the optimal strategy for females reproductive success (Trivers, 1972), then depression may be as impairing to a female's reproductive fitness as it is to males.

Although our results are in agreement with the theory of creativity as an evolved mechanism of sexual selection to be advantageous to mating success in males (Miller, 1999, 2000b,c), our findings differ from that of Nettle and Clegg (2006), who did not find gender differences in the link between creative activity and the number of sexual partners. This discrepancy could be explained by the level of artist ability (professionals vs. non-professionals) that was used in the Nettle and Clegg study. When they did not find a sexually dimorphic difference in professional artists, they concluded that creative display may be beneficial for females in a pursuit of higher gene quality. This study, however, examined novice-level creativity which may mean that our results relate more to a general tendency or motivation to engage in creative activity versus level of actual creative achievement. The current study reinforces the theory that certain forms of mental illness may exist in the gene pool because of strong links to creativity (directly) and short-term mating success (indirectly) (Keller & Miller, 2006; Nettle & Clegg, 2006). The current study extends this body of work to demonstrate that a general tendency to engage in creative behavior and certain personality factors in addition to mental states must be accounted for when discussing the role that each plays in mating success.

It should also be noted that the data analysis revealed only weak significant positive correlations between the primary research variables. Secondly, the current sample does not include an equal number of males ($n = 104$) and females ($n = 578$). Future studies should try to replicate and extend the current findings with larger samples and a better balance between the proportion of males and females included in the study.

CONCLUSION

The benefits of creativity can be seen as a system of exchanges involving a compromise between creativity and mating success. Creativity for men, or at least the participation in everyday forms of creative activities, is linked with increased short-term mating. However, personality traits, including those that have traditionally been linked to Neuroticism and schizotypy, are also linked to the display of creativity. These trade-offs are such that dimensions of personality that make one prone to mental illness may leave one vulnerable to destructive life outcomes. The continuation of these systems, which allow traits to exist in such an intertwined manner, may yield insight into answers as to why certain personality factors show such a higher mating appeal.

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Melanie L. Beaussart, California State University

Scott Barry Kaufman, New York University

James C. Kaufman, California State University

Correspondence concerning this article should be addressed to Melanie Beaussart, Department of Psychology, CSUSB, San Bernardino, CA 92407. E-mail: mlbeaussart@gmail.com

AUTHOR NOTE

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APPENDIX

Creative Activities and Interests Checklist (adapted from Griffin & McDermott, 1998; Holt et al., 2004).

Creative Activities and Interests Checklist: Please indicate how much time you have spent doing the following activities in the last *12 months*:

1 = None of the time 3 = Some of the time 5 = Most of the time.

The painting of pictures
The drawing of pictures
The making of sculpture
The taking of artistic photographs
The making of useful or decorative objects

The renovation of old or antique objects
Participating in drama production
Performing in a play
Performing in a band
Performing in an orchestra
Performing in dance
Performing in comedy
Street Performing
Participating in video production
Recording music
Writing music
Writing poetry
Writing plays
Writing short stories
Writing magazine articles
Writing journal articles
Interior decorating
Exterior decorating
Inventing new recipes
Making clothes
Growing or gardening
The construction of scientific or technical objects
The invention of scientific or technical objects
The development of scientific experimental designs
Presenting scientific or mathematical papers
Entering projects or papers into a science contest
Applying math in an original way to solve a practical problem
Writing an original computer program