

Affect, Psychological Well-Being and Creativity: Results of a Field Study

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This research provides an initial opportunity to simultaneously examine the relative contributions of psychological well-being, affective disposition, and affective mood as correlates of creativity. Bivariate correlational analysis demonstrated that psychological well-being and positive mood state, but not positive affective disposition, were related to creativity. Using multiple regression analysis, it was found that psychological well-being was positively related to creativity, even when controlling for positive mood state and positive affective disposition. Implications and limitations of these findings are discussed.

“I created you while I was happy, [not] while I was sad, with so many incidents, so many details. And, for me, the whole of you has been transformed into feeling.”

~ Constantine Peter Cavafy [*In the Same Space*, 1929]

INTRODUCTION

It is widely acknowledged that enhancing the creative capabilities of employees is a necessary step if organizations are to achieve success and competitive advantage (Burnside, 1990; Shalley, 1995). Similarly, at the individual level, creative employees are typically assumed to be more productive (Amabile, 1983). Thus, employee creativity is generally accepted to have benefits for both the individual and organization (Amabile, 1983; Ford, 1996; Oldham & Cummings, 1996). Although, ultimately, assessments of creativity are subjective (Amabile, 1983), Oldham and Cummings (1996, p. 608) suggest that creative ideas, products and procedures must satisfy two conditions. First, they must be original and novel. Second, they must be seen as being relevant and useful. Thus, creative employees are those who suggest novel and useful products, ideas, or procedures that provide their firm with important raw material for subsequent development and possible implementation (Amabile, 1987; Oldham & Cummings, 1996; Staw, 1990; Woodman, Sawyer, & Griffin, 1993).

While prior research has recognized the theoretical overall importance of affect as a possible determinant of creative accomplishment (Amabile, 1988; Forgas, 1991; Isen, Daubman, & Nowicki, 1987), the field has been less successful in actually distinguishing among various dispositional and situational influences of affect on creativity (Clark & Isen, 1982; Isen et al., 1987; Oldham & Cummings, 1996). As a result, research has primarily concentrated on the diffusion and adoption phases of the creative process, to the relative neglect of influences such as affect and well-being (Damanpour, 1991). To help address this research limitation, the present study affords an initial opportunity to simultaneously examine the relative

contribution of psychological well-being, affective disposition, and affective mood as correlates of creativity. We now provide the basis for *why* relations may exist among positive affective disposition, psychological well-being, positive affective mood, and creativity.

Affect and Creativity

George (1996, p. 145) defined affect as “a broad, generic term that covers both the intense feelings and reactions people have, which are commonly referred to as emotions, and the less intense, but no less important feelings often called moods.” Affect is typically divided into positive (PA) and negative (NA) factors, with separate hypotheses for each of the dimensions (Burke, Brief, & George, 1993; George, 1989; Watson & Tellegen, 1985). As typically measured, affect is often seen as measuring activation or arousal (Watson & Tellegen, 1985; Wright & Staw, 1999). More specifically, PA scales measure the extent to which an individual experiences positive feelings. High PAs experience a good deal of positive feelings, such as, “active,” “enthusiastic,” and “interested.” In addition, high PAs tend to be positively engaged in, and feel good about, activities in which they are involved (George, 1996). Alternatively, low PAs are best characterized by the absence of positive emotions, such as “bored,” and “droopy.” As a result, low PAs tend to become somewhat disengaged from the world around them.

As evidenced by George’s definition, affect can be distinguished not only between positive and negative dimensions, but also based upon its temporal nature. For example, to argue that an “exhilarated” or “enthusiastic” individual is also a creative one says little about whether exhilaration or enthusiasm are state or trait variables (George, 1991). To date, most of the psychological literature demonstrating that affect can influence creativity has relied on the manipulation of short-term affective states or moods, invariably within laboratory settings (George, 1992; Isen & Baron, 1991; Sedikides, 1995). For example, Isen and her colleagues provide support for positive state affect as predictive of creativity in a series of well-constructed laboratory experiments (Isen, 1985; Isen & Daubman, 1984; Isen & Gorgoglione, 1987; Isen et al., 1987). Typical of this line of research is Isen et al.’s (1987) study which demonstrated that positive state affect, induced either through the brief viewing of a five minute comedy clip or the receipt of a small bag of candy, improved the creative achievement of multiple groupings of undergraduate psychology students. Similarly, there are also several studies that suggest that positive mood leads to greater creativity as a function of a less systematic attention to stimulus information and a less stimulus-oriented processing style (Bodenhausen, 1993; Fiedler, 1988; Hertel & Fiedler, 1994; Isen, 1987; Mackie & Worth, 1991; Sinclair & Mark, 1992).

A closer look at the literature reveals that the basis exists for a relation between not only positive state affect, but also positive affective disposition and psychological well-being as potential correlates of creativity (Amabile, 1983; Isen & Gorgoglione, 1983; Isen, 1985). More specifically, long-established models of motivation can be used to establish relations among state and trait measures of PA with creativity (Amabile, 1983; Isen et al., 1987). From the perspective of expectancy theory (Vroom, 1964), PA can facilitate not only the expectancy that one’s effort leads to creative achievement, but also the belief that additional expenditure of effort in creative achievement leads to other positive outcomes. According to Wright and Staw (1999), the basis for these predictions comes from research showing that PA can lead to

greater self-efficacy (Forgas, Bower, & Moylan, 1990) and optimistic biases in the estimation of future events (Seligman, 1991).

Further support for a relation between positive affect and creativity is found in goal-setting models of motivation (George & Brief, 1996; Locke & Latham, 1990). For instance, one could posit that optimistic tendencies will lead individuals to set more difficult goals for themselves and/or accept more challenging goals provided by others (Wright & Staw, 1999). One possible consequence of more difficult and challenging goals is increased willingness to expend the extra effort on creative achievement rather than more habitual actions. In addition, adopting the evolutionary metaphor of creativity employed by several researchers, notably Campbell (1960), it is clear that high PA, and especially self-efficacy and optimism, may play a vital role in the creative process. According to Amabile (1983), one way that a 'behavior episode', in this case a creative event, can end is when the goal is believed to be unattainable (see also Ford, 1996). In particular, self-efficacy and optimism are important parameters in determining when this decision is reached. In sum, while prior work has primarily focused on positive affective state or mood as predictive of creativity (Isen, 1985; Isen et al., 1987), the role of dispositional or trait measures of PA as correlates of creativity remains empirically unresolved. We next examine the basis for the proposed relation between psychological well-being and creativity.

Psychological Well-Being and Creativity

Like PA, the importance of employee well-being as a possible correlate of creative achievement has long been recognized (Amabile, 1983). Psychological well-being is widely conceptualized in terms of the overall effectiveness of an individual's well-being and functioning (Gechman & Weiner, 1975; Jamal & Mitchell, 1980; Kornhauser, 1965). However, unlike state and trait PA, which focus on the measurement of the arousal or activation-based dimension of individual feelings (Watson & Tellegen, 1985; Wright & Staw, 1999), psychological well-being measures the hedonic or pleasantness (i.e., happiness-sadness) dimension. Psychological well-being is widely conceptualized in terms of the overall effectiveness of an individual's psychological and social functioning (Cropanzano & Wright, 2001) and is typically considered an affect-based "context-free" or global construct, one which is not tied to any particular situation (Warr, 1987). While psychological well-being has been considered as either a state or mood (Diener, 1984), most typically it is viewed as a consistent and stable trait (Wright & Bonett, 1997).

Evidence that psychological well-being is a correlate of creativity can be found from attributional models of motivation (Forgas, 1999; Weiner, 1985). Based on the attributional model, individuals who are high in psychological well-being or happiness would tend to interpret failure more as a temporary setback caused by situational, as opposed to individual-based, circumstances (Forgas, 1992). For instance, research by Seidlitz and Diener (1993) and Seidlitz, Wyer, and Diener (1997) found that, when compared with their happier counterparts, those who were low on well-being were more likely to encode an ambiguous event as threatening. Similarly, Larsen and Ketelaar (1989) found that unfavorable feedback was more hurtful to those who were prone to negative feelings and less hurtful to those who were prone to positive feelings. On the other hand, favorable feedback yielded larger benefits to those who were predisposed to feelings of well-being or happiness, while yielding smaller

benefits to those not so predisposed (for a further discussion, see Cropanzano & Wright, 2001; Derryberry & Read, 1994; Larsen & Ketelaar, 1991; Rusting & Larsen, 1997).

Happy people also tend to be more outgoing and extroverted (Diener, Sandvik, Pavot, & Fujita, 1992; Headey & Wearing, 1988; Myers & Diener, 1995). Alternatively, unhappy people are inclined to be shy and introverted (Argyle, 1987). At times, unhappy people can even become acrimonious (Cropanzano & Wright, 2001). For instance, Bolger and Schilling (1991) found that unhappy people were apt to use contentious interpersonal tactics, resulting in the potential antipathy of their coworkers. Thus, it should come as no surprise that unhappy people report feeling less coworker and supervisory support than do their more happy counterparts (Staw, Sutton, & Pelled, 1994). In addition, relative to their happier coworkers, unhappy people see themselves as having less control over events in their lives and are less optimistic about the future (Dembers & Brooks, 1989; Seligman, 1991). In turn, this sense of demoralization may make unhappy people less proactive (Argyle, 1987) and more prone to stress symptoms (Myers & Diener, 1995). As a result, psychological well-being can have a facilitative influence on task persistence, with individuals high in psychological well-being being more likely to persevere following adverse feedback than those low in well-being (Brief, 1998). These effects have also been shown to persist over time (Cropanzano & Wright, 2001). Considered together, on the basis of their task persistence, proactive nature and ability to persevere under stress, psychologically well individuals are proposed to demonstrate heightened levels of inventiveness and the tendency to be more creative.

Summary

The present study further extends prior research on workplace creativity in three primary ways. First, it provides a theoretical basis for why PA, considered as both a state and trait, is related to creativity. Second, it provides a theoretical basis for a psychological well-being to creativity relation. Third, it provides an initial opportunity to simultaneously examine the relative contributions among state and trait PA, psychological well-being, and creativity. More specifically, the present study proposed the following three hypotheses:

Hypothesis 1: *Employee psychological well-being (in general) will be positively related to employee creativity.*

Hypothesis 2: *PA affective disposition (in general) will be positively associated with creativity.*

Hypothesis 3: *PA mood state at a particular point in time (today) will be positively associated with creativity measured at the same point in time.*

Prior research has established significant bivariate relations among positive affective mood, positive affective disposition, and psychological well-being (Wright & Staw, 1999). In addition, relations among these variables and creativity have been investigated (Amabile, 1983; Isen & Gorgolione, 1983; Isen, 1985). However, to date, no research has simultaneously examined the relative contribution of positive mood, positive affective disposition and psychological well-being as correlates of creativity. Given the importance of establishing the potential role of various affect-based correlates of creativity, we pose the following exploratory research

question: What are the relative contributions of positive mood, positive affective disposition, and psychological well-being as correlates of creativity.

METHOD

Research Participants

The first author asked probation officers employed by a large western city (N=48) to participate in the present study by means of a direct contact procedure. The actual sample included 41 employees, representing a response rate of 85%. All subjects were college educated, employed within the same department and performed the same job duties. The mean age was 36.2 years (SD = 7.5). Psychological well-being, PA affective disposition, PA affective mood state, and creativity were obtained. Confidentiality as to the exact nature of these participants' employment situation was guaranteed as a condition of receipt of the data.

Measures

Creativity. In this research, creative contribution reflects "the degree to which an employee demonstrates new ideas or applications for activities and solutions at work" (Edwards, 1990, p. 26). Specifically, upon request, each employee provided written suggestions pertaining to job, organizational and occupational improvement. Examples of job improvement suggestions included: implementation of vertical case management and time management programs; organizational improvement suggestions included: geographical specialization for services and various issues involving program development; occupational improvement suggestions included: measures to empower employees and suggestions to increase accountability. The departmental chief administrative officer then rated the creative contribution of each employee suggestion on a 10-point scale ranging from (1) "poor" to (10) "excellent." To reduce the possibility of bias, the rating procedure was designed to guarantee that the chief administrative officer was unaware of the authorship of the suggestions. In a follow-up interview, the chief administrative officer confirmed that this was, in fact, the case.

The validity of the executive officer's creativity ratings was further confirmed through a group decision procedure (Thornton & Byham, 1982). Specifically, a sample of eight employees was asked to identify the three most creative departmental employees. From this sample, two employees were listed by at least 50% of those sampled. Following the assessment process described by Thornton and Byham (1982), these two "most creative" employees individually rated the suggestions for creativity and then discussed the ratings until there was agreement in a consensus rating. A significant correlation between this consensus rating and the chief executive's rating ($r = .59$; $p = .0001$) provided further empirical justification for the use of the executive's rating scores as the measure of creativity.

Based on the thirty-nine subjects for whom complete data on creativity were available, no relations were found between occupational and job ($r = .02$; n.s.) and between occupational and organizational ($r = .18$; n.s.) creativity. A significant correlation between job and organizational improvement ($r = .40$; $p = .01$), provided empirical justification for the creation of the two-item creativity scale used in the analyses.

Psychological Well-being. As a measure of psychological well-being, this study utilized the eight-item Index of Psychological Well-being developed by Berkman (1971). Like many other well-being measures (Diener, 1984), this scale was designed to assess people's mental health on a single affective index. The Berkman scale uses many of the same items as Bradburn and Caplovitz' (1965) earlier measure of well-being, but with a more *general* or open-ended time horizon. Subjects were asked how often they felt: "very lonely or remote from other people", "depressed or very unhappy", "bored", "so restless you couldn't sit long in a chair", "vaguely uneasy about something without knowing why", "particularly excited or interested in something", "pleased about having accomplished something" and "on top of the world." The reader is referred to Berkman (1971) and Wright and Staw (1999) for a more complete description of the scoring and prior validation of the Index.

Affective Disposition. This study used the PANAS scale developed by Watson, Clark and Tellegen (1988) as the measure of PA affective disposition. The PANAS scale is designed to measure both state and trait affect. PA is measured by descriptors such as "active, alert, enthusiastic, inspired, and interested." Participants indicated the extent to which they experienced each descriptor of affect *in general* on a 5-point scale ranging from 1 (very slightly or not at all) to 5 (extremely).

Affective State. The PANAS scale was also used to measure the affective state or mood of the individual. Using the same descriptors, subjects indicated the extent to which they experienced each mood state that day (e.g., *today*) on a 5-point scale ranging from "very slightly or not at all" to "extremely."

RESULTS

Correlational Analyses: Hypotheses 1-3

Table 1 contains means, standard deviations, and the intercorrelations for the study variables. Hypothesis 1 predicted a positive relation between employee psychological well-being and creativity. This prediction was supported. A significant positive relation was established between psychological well-being and creativity ($r = .48, p < .01$). Hypothesis 2 predicted a positive relation between PA affective disposition and creativity. This prediction was not supported ($r = .29, ns$). Hypothesis 3 predicted a positive relation between PA mood state (*today*) and creativity. In support of Hypothesis 3, PA mood state (*today*) was positively associated with creativity ($r = .53, p < .01$).

Regression Analyses

Our exploratory research question proposed an examination of the relative contribution of psychological well-being, PA affective disposition, and PA mood state as predictors of creativity. To address these issues, multiple regression analysis was performed (Cohen & Cohen, 1983). In this analysis, creativity was regressed on positive affective mood, positive affective disposition and psychological well-being. Considered together, the independent variables were found to predict creativity ($F = 6.88; df = 3, 25; p < .01; R^2 = .45; \text{adjusted } R^2 = .39$). While the t-statistics for positive affective mood ($t(25) = 1.58, ns$) and positive affective disposition ($t(25) = 0.01, ns$) did not reach significance, a test for psychological well-being ($t(25) = 3.04, p < .01; R^2 = .20; \text{adjusted } R^2 = .19$) revealed a significant contribution to the

prediction of creativity. Considered together, these results demonstrate that psychological well-being predicts creativity, even when controlling for positive affective mood and positive affective disposition (see Table 2).

TABLE 1
Means, Standard Deviations, and Intercorrelations for Study Variables

Variables	M	SD	1	2	3	4	5	6
1. Age	36.2	7.5	—	.16	.18	.20	.16	.22
2. Gender ¹	0.75	0.4		—	.17	-.22	-.10	-.30
3. Well-Being	3.6	1.3			(.70)	.48**	.46**	.33
4. Creativity	7.3	2.3				—	.53**	.29
5. PA Mood	3.0	0.7					(.86)	.61**
6. PA Disposition	3.0	0.7						(.92)

Note. All tests are two-tailed, * $p < .05$. ** $p < .01$.

¹ Gender was dummy coded "0" for female and "1" for male.

TABLE 2
Regression Analysis Predicting Creativity from PA Mood, PA Disposition, and Well-Being

Independent Variable	<u>b</u>	<u>se b</u>	<u>B</u>	<u>t</u>
PA Mood	.11	.07	.30	1.58
PA Disposition	.00	.06	.01	0.01
Well-Being	.97	.32	.50**	3.04

Note. ** $p < .01$; $R^2 = .45$; adjusted $R^2 = .39$; all tests are two-tailed.

DISCUSSION

Generally speaking, our bivariate findings provide support to the basic proposition that creativity might have both trait and state correlates. More specifically, psychological well-being and PA mood state were predictive of creativity. In addition, regression analysis demonstrated the unique contribution of psychological well-being, above and beyond the contributions of positive affective mood and positive affective disposition in the prediction of creativity. However, further discussion is warranted, given that trait PA was not related to creativity.

While previous research has often failed to adequately distinguish among psychological well-being and positive affective disposition, the current findings add further evidence to the belief that these may be different constructs (Cropanzano & Wright, 2001). For instance, the psychological well-being scale used in the present research is primarily composed of items denoting the hedonic or pleasantness dimension of affect (e.g., "pleased about having accomplished something", and "on top of the world"). In contrast, the PANAS scale contains a large number of items denoting activation or stress rather than happiness or pleasantness (Larsen & Diener, 1992; Wright & Staw, 1999). More specifically, the positive affect dimension of the PANAS scale is composed of such scale items as "excited", "determined", "alert", and "attentive." Conspicuously absent from the PANAS scales are items denoting happiness. Thus, it is possible that psychological well-being was a stronger predictor of creativity than the state and trait measures of PANAS simply because psychological well-being more closely taps the hedonic or happiness dimension widely proposed to be predictive of creativity (Isen et al., 1987).

Given our modest sample size, it would not be wise to accept the nonsignificant relation between positive affective disposition and creativity without considerably more research, however. Certainly, with greater statistical power, the obtained relation between trait PA and creativity ($r = .29$) would have achieved significance. Given that previous research has found trait PA to be related to a number of work-related outcomes (Brief, Burke, George, Robinson, & Webster, 1988; Cropanzano, James, & Konovsky, 1993; Czajka, 1990; Wright & Cropanzano, 1998), it might well be that trait PA does play a significant role on individual creativity. Before one can make any definitive conclusions, further research with larger samples is recommended to examine this possibility.

Unlike the PA trait measure, a significant bivariate relation was established between PA mood state and creativity. This bivariate finding that a time-specific, activation-based measure of PA mood state, but not the trait measure of PA, was related to creativity bears further discussion. Congruent with classical work on activation/arousal (Yerkes & Dodson, 1908), it would appear that one can benefit from being highly 'enthused' or 'alert' for only so long. In fact, individuals who are extremely activated or aroused on a constant basis, probably suffer maladaptive consequences from the increased stress (Quick, Quick, Nelson, & Hurrell, 1997). For example, in the present case, unlike those individuals who are psychologically well or happy, individuals who report being dispositionally active or aroused may not be especially creative. Alternatively, it is possible that those individuals who are *both* psychologically well and situationally active or aroused, may well be more creative. Additional research is now needed to investigate these potentially interesting possibilities.

The bivariate finding of a positive mood/creativity relation is consistent with previous work proposing an important role of mood on organizational behaviors. More specifically, George (1989, 1991) has demonstrated that situationally determined PA mood states are predictive of absence and prosocial behavior. Likewise, Quick et al. (1997) concluded that various organizational (i.e., physical, role, task & interpersonal demands) and environmental factors (i.e., family problems, health issues) can influence psychological well-being. The relative importance of dispositional and situational influences on employee behavior is currently being widely debated within organizational behavior (Arvey, Bouchard, Segal, & Abraham, 1989; Judge, Locke, & Durham, 1997; Steel & Rentsch, 1997). Taken together, the present

findings suggest the need for more research to further delineate the relative merits of dispositional and situational explanations for creativity and such other organizational outcomes as performance, turnover and absenteeism.

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