THE CONTRIBUTIONS OF WORK AND NONWORK CREATIVITY TO EMPLOYEES CREATIVE PERFORMANCE

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Abstract

We examined relations between creative performance and the extent to which employees received support for creativity from both work (supervisors/coworkers) and nonwork (family and friends) sources. We also examined whether (1) employees’ creative role identity mediated the support-creativity relations and (2) employees’ mood states and champion behavior moderated these relations. Results demonstrated that support for creativity from work and nonwork made independent contributions to employees’ creative performance. Our study was the first to show (1) that support from an adult individual’s family members and friends contributed to his or her creativity at work and (2) that this support made a contribution to creativity over and above that made by support from people inside the work place who were not family or friends. Our results showed that positive mood made a positive, significant contribution to creativity while negative mood did not. Our study also showed that employee’s creative personality (their CPS rating) moderated the relation between nonwork support and creativity but no the relation involving work support. We also found that the married employees in our study exhibited higher creativity, despite receiving less nonwork support than their unmarried counterparts. This result suggests that marriage may provide unique experiences or may influence psychological states conducive to creativity.

Key words: support for creativity, creativity role identity, mood state, creative personality
INTRODUCTION

Evidence suggests that employee's creativity makes an important contribution to organizational innovation, effectiveness, and survival (Amabile, 1996). Researchers have become increasingly interested in identifying the social conditions that influence employee creativity (see Oldham & Cummings, 1996; Tierney, Farmer, & Graen, 1999). One of these conditions is support for creativity, or the extent to which individuals aid and encourage employees' creative performance (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Although it is known that creative individuals possess strong self-images of creativity (e.g., Barron & Harrington, 1981), the relationship between self-concept and creativity is far from clear (Dowd, 1989). To date, there have been few, if any, attempts to examine how self-identity relates to workplace creativity. The self-concept of role identity (Burke, 1991; Stryker, 1980) may hold particular relevance for understanding how an employee develops a sense of self relative to creativity, and how this identity relates to creative action (Petkus, 1996). A role identity is a self-view, or a meaning attributed to oneself in retain relation to a specific role (Burke & Tully, 1977) that is generated reflexively through perceived appearance to self or others, self-judgment of that appearance and affect based on that judgment (McCall & Simmons, 1978). As a specific role becomes closely tied to an individual's sense of self or identity and tends to behave in accordance with this role identity (Callero, Howard, & Piliavin, 1987) in order to gain verification of the identity (Petkus, 1996). The dynamics surrounding the support-creativity link and the mediator role of “creative role identity” are not well understood. To help address this situation, we propose some interrelated issues, which will be described in details at the next section.

The overall goal of the current study was to examine identity and creative action in the workplace by integrating role identity theory (Burke, 1991; Stryker, 1980, 1987) with theory on organizational creativity (e.g., Amabile, 1988; Ford, 1996; Woodman, Sawyer, & Griffin, 1993). First, we examine the possibility that support from individuals both inside and outside, which encompass support from supervisors and coworkers. We will also investigate how the creativity personality and intrinsic motivation will affect the extent to which the source of creative support comes from. In addition, our significant contribution here is that we employ self-view of “creativity role identity” as a mediator in support-creativity link. Finally, we examine some factors that would affect the self-identity and creativity performance. For our purposes, we propose a conceptual model of the support from individuals both inside and outside the organization and using creative role identity as a mediator to examine how it would affect to employees’ creative
performance at work. Our integrated model provides a basis for identifying the 
social factors of employees and creative role identity for understanding how it 
plays out in an organization context in terms of employee creativity.

LITERATURE REVIEW

Creativity and Support from Supervisors and Coworkers

Employee creativity is considered here as the production of ideas, products, 
or procedures that are (1) novel or original and (2) potentially useful to the 
employing organization (Amabile, 1996). Madjar et al. (2002) thought that these 
ideas might reflect either a recombination of existing materials or an introduction 
of new materials to the organization. They do not equate “creative work” with 
“creative jobs”, which should be generated by employees in any job and at any 
level of the organization, not just in jobs that are traditionally viewed as 
necessitating creativity. Previous research suggests that supportive behavior on 
the part of others in a workplace (such as, coworkers and supervisors) enhances 
employees’ creativity (Amabile et al., 1996; Oldham & Cummings, 1996).

Creativity and Support from Family and Friends

Several studies suggest that support from individual outside of the 
organization employed often contributes to work-related responses. For 
example, Ray and Miller (1994) showed that support from family members outside 
an organization had an impact on the level of emotional exhaustion employees 
experienced at work. A few studies have also suggested that support from family 
members and friends have a direct impact on individuals’ creative responses (e.g., 
Koestner et al., 1999). For example, Harrington, Block, and Block (1987) 
assessed parenting practices when children were 3-5 years old and obtained 
judgments of creativity when they were 11-14 years old. Results showed that 
children scored high on the creativity measures when parents were supportive.

Intrinsic motivation

Intrinsic motivation is the motivation to perform an activity for itself, in order to 
experience the pleasure and satisfaction inherent in the activity (Deci, Connell, & 
Ryan, 1989; Vallerand, 1997). Autonomy has been identified as a crucial 
determinant of intrinsic motivation (e.g., Hackman & Oldham, 1980). For example, 
Richer and Vallerand (1995) demonstrated that a control-supervisory style, 
whether punitive or non-punitive, had a detrimental effect on subordinates’ intrinsic 
motivation. Providing employees with autonomy allows them to make certain 
choices and decisions about their work; these may concern how they plan their
work (timing control) or the methods they use to carry out their work (method control).

Creative Role Identity

According to role identity theory, the self consists largely of the various social roles in which an individual engages (Piliavin & Callero, 1991). A sense of role identity stems from two main sources: (1) feedback about the self from social relations and (2) associated self-views (Riley & Burke, 1995). The generation of self-meaning by a role identity reflects a self-regulatory interpretative process of sense making in which relevant inputs from others and oneself are reconciled in an attempt to verify, support, and validate the identity (Riley & Burke, 1995). Thus, a role identity reflects an internalized part in role expectations and the identity would be a function of commitment to the relevant role.

Mood States

“Mood” defined as a pervasive generalized affective state that is unnecessarily directed at any particular object or behavior. Moods are relatively transient states that are experienced over the short run, fluctuate over time, and may be affected by contextual conditions. Moreover, previous work suggests that mood consists of two independent dimensions: positive (characterized by emotions ranging from high to low excitation and elatedness) and negative (characterized by feelings of distress and fear (Burke, Brief, George, Roberson, & Webster, 1989). Most of the theoretical work concerned with creativity focuses on positive mood and suggest suggests that when employees experience it, their cognitive motivational processes are enhanced in such a way that they exhibit high creativity (Hirt, Leine, McDonald, & Melton, 1997).

Although less attention has focused on negative mood, some theorists have argued that it might facilitate creativity (Kaufmann & Vosburg, 1997). Previous research provides most support for the latter position. For example, Vosburg (1998) demonstrated that a measure of negative mood had a significant, negative relation to creative problem solving. Hirt and colleagues (1997) showed that individuals experiencing negative moods exhibited lower creativity than those in positive mood states.

Champion Behavior

Following Howell and Shea’s definition (2001), we refer “champion behavior” as expressing confidence in the innovation, involving and motivating others to support the innovation, and persisting under adversity. By initiating frequent and varied influence attempts, obtaining critical management support and resources, and displaying persistence in achieving project goals, champions are able to overcome the inertia and resistance that radical change provokes to

Van Yperen and Hagedoorn (2003) thought that the perceived availability of instrumental support may elevate levels of intrinsic motivation because it enhances employees’ confidence that the job will get done and facilitates perceptions of relatedness, that is, the feeling of being connected to others. Herein, we expected:

H1: The extent to which a person’s intrinsic motivation will significantly impact on the support of creativity both from supervisors and co-workers, and from friends and family member.

Normative expectations of important “social others” are a major source of an individual’s self-concept through reflexivity, or seeing oneself through such expectations. These perceptions reflect behavioral expectations and, more importantly, expectations about whom others expect one to be. Research has provided ample support for the effects of social expectations on role identity development (e.g., Callero et al., 1987). Creativity expectations are also a catalyst for creative performance (Ford, 1996). Although supervisors’ expectations may influence innovative behavior (cf. Scott & Bruce, 1994), coworkers are another social context factor with the potential to shape employee creativity (Woodman et al., 1993). Recent studies have shown coworkers to influence creativity through encouragement, support, open communication, and informational feedback (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Madjar et al., 2002; Zhou & George, 2001). Given that a sense of identity is often formed by face-to-face interactions within small groups (Oyserman & Packer, 1996), coworkers may also be a salient referent for creativity expectations informing an employee’s sense of creative role identity (Riley & Burke, 1995). Role identity theory suggests that employees perceiving that their coworkers expect them to be creative may be likely to define themselves as creative.

H2: Employee’s creativity role identity will mediate the relations between support for creativity from work and non-work source and employees’ creative performance.

H3: The extent to which a person’s intrinsic motivation will significantly impact on the creativity role identity.

Most of the theoretical work concerned with creativity focuses on positive mood and suggest suggests that when employees experience it, their cognitive motivational processes are enhanced in such a way that they exhibit high creativity (Hirt, Leine, McDonald, & Melton, 1997).
Although less attention has focused on negative mood, some theorists have argued that it might facilitate creativity (Kaufmann & Vosburg, 1997). Previous research provides most support for the latter position. For example, Vosburg (1998) demonstrated that a measure of negative mood had a significant, negative relation to creative problem solving. Hirt and colleagues (1997) showed that individuals experiencing negative moods exhibited lower creativity than those in positive mood states.

Overall, then, previous research suggests that positive mood enhances creativity, while negative mood adversely affects it. How might these mood stated explain the expected support-creativity association? Thus, we predicted:

H4: Employee’s mood state will positively related to the relationship between creative role identity and creativity performance.

H4a: Employee’s positive mood will be positively impact on the relationship between employee’s creativity role identity and creative performance.

H4b: Employee’s positive mood will be negatively impact on the relationship between employee’s creativity role identity and creative performance.

In their theoretical model of the factors influencing innovation speed, Kessler and Chakrabarti argue (1996) that product champions can accelerate the product innovation process by gathering and applying external information to development activities, actively promoting the innovation to key stakeholders, maneuvering the innovation through bureaucratic barriers, securing resources to support the innovation, and communicating effectively with all parties. Thus, we expected that:

H5: Champion behavior will be positively related to the relationship between creative role identity and creativity performance.

METHOD
Measurement

For the purposes of this study, the following seven major constructs are operationalized in this study: (1) Support of creativity from supervisors and co-workers as well as friends and family members items developed by Madjar et al. (2002) with totally 11 items, (2) Creativity personality used 30 items from Gough’s (1979) Creativity Personality Scale (CPS), (3) intrinsic motivation 12 items by Van Yperen and Hagedoorn 2003, (4) creativity role identity adapted Farmer et al. (2001), (5) positive and negative mood using the Job Affect Scale-JAS; Brief,
Data Analysis Procedure

In order to achieve the purpose of this research and hypothesis, SPSS 10.0 and AMOS 4.0 software will be used to help us analyze the collected data. To purify the measurement scales and to identify their dimensionality, principal components factor analysis with varimax rotation was applied to condense the collected data into certain factors. After factor analysis has been done, we use item-to-total correlation and internal consistency analysis (Cronbach’s alpha) to confirm the reliability of each research factors. Multiple regression analysis and stepwise regression analysis are used to analyze the relation between a single dependent variable and several independent variables. Structure Equation Model compasses an entire family of models known by names, among them covariance structure analysis, latent variable analysis, confirmatory factor analysis and often simply LISREL analysis. SEM can also be used as a means of estimating other multivariate models, including regression, principal components, canonical correlation and even MANOVA. In order to find the relationships in the whole research model in this study, SEM is used. The Amos 4.0 package software is used analyze the relationship in the entire model to find out the relationships among variables in this model.

RESULT

Sample included more than 65% of respondents are female. More than 78% of respondents are single. More than 66% of respondents’ ages are between 20 and 30. About 72% of the respondents possess a college degree. Variables of support from creativity have high loading score (higher than 0.8) on one dimension and low loadings on the other. For factor 2, it shows that there are four variables have high loading score on one dimension and low loadings on the other. All data are useful due to the loading factor is high. We name the three factors as: (1) Support for creativity from supervisors and co-workers, and (2) Support for creativity from friends and family members. Internal consistency for the factors of support from creativity; shows all variables within a factor tend to have a high coefficient of item-to-total correlation. This suggests a high degree of internal consistency for each dimension. In addition, the high coefficient of Cronbach’s α on each factor further confirms the reliability of the measurement items. Cronbach’s α for each
factor exceed the generally accepted guideline of 0.70 (Hair, et al, 1998)

The result of factor loadings for measurement of mood shows two factors to identify the mood. For factor 1, it shows that there are three variables have high loading score on one dimension and low loadings on the other. For factor 2, it shows that there are seven variables have high loading score on one dimension and low loadings on the other. We name the two factors as: (1) positive mood, and (2) negative mood also the internal consistency for the factors of reputation of the university, it shows all variables within a factor tend to have a high coefficient of item-to-total correlation. This suggests a high degree of internal consistency for each dimension. In addition, the high coefficient of Cronbach’s α on each factor further confirms the reliability of the measurement items.

Measurement of intrinsic motivation shows three factors to identify the reputation of the university. For factor 1, 2 and 3, they show that there are four variables have high loading score on one dimension and low loadings on the other.. We name the four factors as: (1) Pleasure from learning new things in job, (2) Pleasure from improving in job, and (3) Pleasure from the job. Factor loadings for measurement of benefits offered. It shows only one factor to identify the benefits offered. For this factor, it shows that there are two variables have high loading score on one dimension and low loadings on the other. We name the this factors as: (1) creativity role identity.

Measurement of champion behavior shows three factors to identify the reputation of the university. For factor 2, 3, they show that there are five variables have high loading score on one dimension and low loadings on the other. For factor 1, they show that there are six variables have high loading sore on one dimension and low loading on the other. We name the three factors as: (1) Persists under adversity, (2) Demonstrates conviction in the innovation, and (3) Builds involvement and support.

Measurement of creative performance shows only one factor to identify the characteristic. At this factor, they show that there are two variables have high loading sore on one dimension and low loading on the other. Such kind of high factor loading can make the results shows the high correlation with the structure.

For the relationships between the Intrinsic motivation and support of creativity form “Supervisors and co-works” and “Friends and family members”, the results of canonical correlation show that the levels of indicators for Intrinsic motivation tend to not so significantly impact on support of creativity form “Supervisors and co-works” and “Friends and family members” (Can R²=0.341, Eigenvalue=0.457, F=5.946, P=0.000, RI=24.021%).
Regression Analysis of for factors influencing Creativity role identity
For the purpose of empirically investigating the influences of the factors of Support of creativity and Intrinsic Motivation on creativity role identity, multiple regression analyses were conducted in this study.

The regression results indicate that, first of all the levels of support of creativity are significantly impact on the level of creativity role identity ($R^2=0.090$, $F=4.656$, $P=0.013$, $D-W=2.06$). Secondly, the levels of intrinsic motivation are significantly highly impact on the level of creativity role identity ($R^2=0.273$, $F=10.266$, $P<0.000$, $D-W=2.207$). Based upon the above results, hypotheses 2 and 3 are supported.

Regression Analysis of for factors influencing Creativity Performance

For the purpose of empirically investigating the influences of the factors of creativity role identity, mood, champion behavior on creativity performance, multiple regression analyses were conducted in this study.

The regression results indicate that, first of all the levels of creativity role identity are significantly highly impact on the level of creativity performance ($R^2=0.440$, $F=59.147$, $P<0.000$, $D-W=2.154$). Secondly, the levels of creativity role identity and mood are significantly highly impact on the level of creativity performance ($R^2=0.485$, $F=24.253$, $P<0.000$, $D-W=2.105$). CRI*Mood : ($R^2=0.491$, $F=36.741$, $P<0.000$, $D-W=2.037$). Based upon the above results, hypothesis 4 is supported.

The regression results indicate that, first of all the levels of creativity role identity and champion behavior are significantly impact on the level of creativity performance ($R^2=0.493$, $F=19.004$, $P<0.000$, $D-W=2.110$). CRI*CB ($R^2=0.501$, $F=25.754$, $P<0.000$, $D-W=2.127$). Based upon the above results, hypothesis 5 is supported.

Comparisons of Research Constructs under Different Levels of Champion Behaviors of Respondents

One of the purposes of this study is to verify that the differences of the constructs under different levels of the champion behavior that may create different levels of impact on other research variables. Through cluster analysis by using hierarchy cluster analysis and K-means method (nonhierarchical cluster analysis), we divide experiential perception into two groups. The result of the cluster analysis shows that group one has significant higher scores than the other group. Therefore, we name group one as high level of champion behavior group (n=45), and group two as low level of champion behavior group (n=30). The p-values of all three variables are extremely significant. Furthermore, for testing the fitness of the classification, we use discrimination analysis to calculate the hit
The MANOVA test results indicate that people with high level of champion behaviors group tend to perceive higher support of creativity, intrinsic motivation, creativity role identity, mood (negative mood is not so significant) and creativity performance.

Comparisons of Research Constructs under Different Levels of Mood of Respondents

One of the purposes of this study is to verify that the differences of the constructs under different levels of the mood that may create different levels of impact on other research variables. Through cluster analysis by using hierarchy cluster analysis and K-means method (nonhierarchical cluster analysis), we divide moods into two groups. The result of the cluster analysis shows that group one has not significant higher scores than the other group. Therefore, we name group one as high mood group (n=41), and group two as low mood group (n=34). The p-values of all three variables are extremely significant.

Table 5–12  Cluster Analysis of Champion Behavior

<table>
<thead>
<tr>
<th>Name of factor</th>
<th>1. High Mood (n=41)</th>
<th>2. Low Mood (n=34)</th>
<th>F-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive mood</td>
<td>5.13</td>
<td>5.91</td>
<td>13.411</td>
<td>.000</td>
</tr>
<tr>
<td>Positive mood</td>
<td>4.88</td>
<td>2.91</td>
<td>97.792</td>
<td>.000</td>
</tr>
</tbody>
</table>

Furthermore, for testing the fitness of the classification, we use discrimination analysis to calculate the hit ratio that the hit ratio is 77.3% and the classification of this experiment is admissible.

The MANOVA test results indicate that people with high level of mood group tend to perceive higher support of creativity, and champion behavior, but not very significant in those constructs of intrinsic motivation, creativity role identity, mood and creativity performance. Therefore, hypothesis 9 of this study is supported.

Comparisons of Research Constructs under Different Levels of Creativity Personality of Respondents

One of the purposes of this study is to verify that the differences of the constructs under different levels of the creativity personality that may create different levels of impact on other research variables. Through cluster analysis by using hierarchy cluster analysis and K-means method (nonhierarchical cluster analysis), we divide them into two groups. Therefore, we name group one as high creativity personality group (n=39), and group two as low creativity personality group (n=36).

The T-test results indicate that people with high creativity personality group
tend to achieve higher levels of creativity role identity and creativity performance. Therefore, hypothesis 9 of this study is supported.

These results have two managerial implications. First, the differences of research constructs between high group and low group are so significantly large that the influences of creativity personality is important to creativity role identity and creativity performance. As long as the consumers perceive higher levels of creativity personality, they tend to have greater creativity role identity and creativity performance simultaneously. Second, for the other items like support of creativity, intrinsic motivation, mood and champion behavior seems influence not so significant.

Structural Equation Model (SEM)

The purpose of this study is to find out the relationships among support of creativity, intrinsic value, creativity role identity, mood, champion behavior and creativity performance. For such an objective, structure equation model is employed to test the interrelationships of all the variables in the entire model. The proposed structural equation model is shown in Figure.

Figure  Structural Equation Model of this Study
Before evaluating the structural or measurement models, the overall fit of the model should be evaluated. In this study, five indices were used to test the fit of the model. The first one was the chi-square test, the essential for the nested model comparison. The chi-square value of 828.844 with 254 degrees of freedom is statistically significant at the 0.000 significance level. Thus, the research must conclude that significant differences exist between the design model and the actual model.

The rest of the fit indices adopted in this study were the root mean square residual (RMR), the goodness of fit index (GFI), and the adjusted goodness of fit index (AGFI). The smaller the RMR is, the better the fit of the model. A value of 0.05 is suggested as a close fit (Arbuckle & Wothke, 1999). GFI and AGFI will not be influenced by the sample size explicitly and they were adopted to test how much better the model fits than no model at all. A very good fit of research model would require GFI and AGFI to be higher than 0.9 (Arbuckle & Wothke, 1999). The quality of the apriority alternative models should rely on the fit indices. However, it does not necessarily mean that one model is superior or the corrected causal model. Another important criterion for the quality of the model is the plausibility criterion (Joreskog & Sorbom, 1994). It means that the path coefficients in the model adhere to the general theoretical conception and to the hypotheses. Therefore, a model that fits the data well, but with many unsupported hypothesized paths, cannot be defined as correct. Hence, the fit indices and the theoretical predictions should be taken into consideration.

CONCLUSIONS AND SUGGESTIONS

Our study showed that explicit support for creativity from work (supervisors/coworkers) and nonwork (family/friends) others made independent contributions to employees’ creative performance. The findings involving support from others at work are consistent with earlier research (e.g., Amabile et al., 1996; Frese et al., 1999). However, our study was the first to show (1) that support from an adult individual’s family members and friends contributed to his or her creativity at work and (2) that this support made a contribution to creativity over and above that made a contribution to creativity over and above that made by support from creativity and above that made by support from people inside the work place who were not family or friends.

Our study also showed that employee’s creative personality (their CPS rating) is significantly highly influence only on creativity role identity and creativity performance. Creative personality as measured by the CPS did not moderate the
work support-creativity link suggest that support from individual inside the workplace had generally positive effects—regardless of an employee’s personality. Conversely, only individuals with less creative personalities received a boost from support from nonwork others. This boost was not a function of positive mood: analyses showed that the nonwork-by-CPS interaction did not affect this mood state. It may be that individuals with less creative personalities need confirmation from nonwork others that they have creative potential and that their ideas are valued. Individuals with more creative personalities may find such nonwork support redundant, given their personal qualities. Research is needed to systematically examine the mediating conditions that explain the effects of the nonwork support interaction on creativity.

In addition to these issues, our study is limited in a few other ways. First, we obtained only one supervisor’s rating of each employee’s creativity. Although it is difficult to see how systematic bias on the part of supervisor might affect such variables as nonwork support, such bias is theoretically possible. Future research might address this issue by including objective indicators of creativity. Second, since employees provided ratings of support, mood, and personality, it is possible that relation among these constructs were inflated via common method variance. Future work should obtain independent assessment of these variables. Third, we argued throughout that support influence mood states that, in turn, affect creativity. Yet our study was not technically justified. It is possible that creative employees, or those in positive moods, simply received more ongoing support from others. Work is now needed that examine issues of reverse and reciprocal causality. In a related vein, although we showed that positive mood was generally effective in mediating the support-creativity link, our work does not rule out the possibility that intrinsic motivation also might have served as a mediator (Amabile, 1996). As noted earlier, although positive mood is expected to be present when individuals are intrinsically motivated, we did not include a direct measure of intrinsic motivation, which might have explained the support-creativity relations. Finally, we defined mood as a transient state that captured an individual’s experience over a relatively short period of time. We followed generally accepted procedures and had employees describe moods by indicating their feeling during the past week (see George, 1991; Stokes & Liven, 1990). Our significant mood-creativity relations suggest that supervisors were reflecting upon this one-week period when rating creativity, or that employee moods extended over the time period considered by supervisors. The literature suggest that moods are less stable than affective traits but can remain relatively constant over periods of time (George, 1997). Nonetheless, it may be that our mood
measures assessed permanent affective traits and that individuals with positive traits received more support from significant actors and exhibited higher creativity. Future work might address this possibility by examining the mediating effects of both affective traits and states.

Despite these limitations, results of our study have some clear implications for the management of creativity. First, they suggest that it may be possible to boost all employees’ creativity if supervisors and coworkers are trained and encouraged to provide explicit support. Support from family members of friends, however, is most likely to benefit those employees with less creative personalities. This implies that organization might consider assessing employees’ personalities and encouraging those with low CPS scores to seek out support from non-work others; or organizations might directly encourage those non-work others to offer employee appropriate, explicit support.

Suggestion

Our findings also suggest that employees who experience positive mood states are likely to exhibit high creativity. Thus, implementing other strategies that have been shown to enhance positive moods, such as providing informational feedback, should also have desirable effects.

In terms of future research, we suggest there is a need to examine whether support from particular individuals – a spouse or a coworker, for instance—has especially strong effects on employees’ moods and creativity. Research is also needed to determine if support and encouragement of creativity from childhood families and friends have an impact on the creativity of adult employees and if this impact is independent of the impact of support from the current work and non-work sources investigated in this study. Finally, inquires into the possible effects on creativity of other work and non-work conditions, including reward systems and family conflict, for instance, may also prove useful.

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