



Passionately Curious: How passion affects creativity in the context of supervisory support

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Abstract

In a sample of 400 employees working in 7 different large as well as moderately-sized manufacturing and engineering companies in and around Jamshedpur, India, I plugged a research gap recognized by creativity experts in the form of identifying a motivational mechanism other than intrinsic motivation that could affect creativity. Building on self-determination theory, I developed and tested a model in which harmonious passion (HP), identified as a novel motivational mechanism affects employee creativity with work engagement playing an important role in translating HP into employee creativity especially in an atmosphere of support from the supervisors. As hypothesized, HP positively related to employee creativity, work engagement partially mediated this relationship in a supportive atmosphere. Same-source common method bias was reduced by employing dyadic data, both from the employees as well as their supervisors.

Keywords: Harmonious Passion, Intrinsic motivation, Self-determination, Employee Creativity, Supervisory Support, Work Engagement



With an increasingly uncertain environment, intensification of competition and unpredictable technological change, more and more organizations are coming to realize that employee creativity needs to be encouraged. This growing interest in creativity does not come as a surprise given that many organizations have shifted their focus from production to knowledge work and thus increasingly depend on the creativity of their employees to establish and maintain a competitive advantage. Scholars and practitioners, therefore share a strong interest in understanding the psychological forces that motivate creativity—the production of ideas that are both novel and useful (Amabile, 1996).

Creativity refers to the production of novel and useful ideas concerning products, services, processes and procedures by an individual or by a group of individuals working together (Amabile, 1988; Shalley, Gilson, & Blum, 2009; Zhou & Shalley, 2003). This definition can include creative solutions to business problems, creative business strategies, or creative changes in job processes. To be considered creative, ideas should be new and should have the potential to create value for the organizations in the long and short run (George, 2007).

People are the main source of creativity; hence the processes that have received the most significant attention in the creativity literature are the with-in individual processes. In the extant creativity literature, the within-individual process which featured most prominently is intrinsic motivation. George (2007) and Zhou and Shalley (2003), are of the view that intrinsic motivation most often have been studied as a theoretical and unmeasured mediating process (e.g., Amabile, 1988, 1996; Shalley et al., 2004) linking organizational variables to creativity.

However, the empirical evidence linking intrinsic motivation to creativity is equivocal (George, 2007; Shalley et al., 2004). Some studies have demonstrated that intrinsic motivation is associated with higher levels of creativity (Amabile, Hill, Hennessey, & Tighe, 1994), whereas others have shown weak or nonsignificant associations (e.g., Dewett, 2007; Perry-Smith, 2006; Shalley & Perry-Smith, 2001). Research on creativity has yet to support consistently and rigorously the intuitively appealing foundation that intrinsic motivation facilitates creativity (Zhou & Shalley, 2004; George, 2007). Based on the above, George (2007) urged researchers to look at the linkage between intrinsic motivation and creativity in more depth and called for looking at a motivational mechanism other than intrinsic motivation that explains creativity.



This study aims at plugging in the above-mentioned research-gaps as recognized by creativity experts by delving into Self-Determination Theory (SDT) to get the relevant motivational mechanism appropriate for the study. SDT is an organismic theory of motivation that accounts for psychological needs such as autonomy, competence, and relatedness. These three needs are assumed to be innate in SDT and are essential for people's survival, growth, and integrity. If these three needs are satisfied, intrinsic motivation for the task increases. When the three needs are not met, negative emotions may result, and intrinsic motivation for the task is undermined. Within SDT, Deci, and Ryan outlined the organismic integration theory (OIT) to explain a process of internalization through which individuals satisfy their needs. OIT proposes a taxonomy of types of behavioral regulations in the internalization process, each one reflecting a qualitatively different "reason" for acting out the behavior in question. They are external regulation, introjected regulation, identification, and intrinsic motivation.

One of the motivational forces which is slowly receiving attention in Psychology research but has not been studied at length in Management studies is Harmonious passion. Derived from SDT, Harmonious passion (HP) results from an autonomous internalization of the activity into the person's identity. An autonomous internalization occurs when individuals have freely accepted the activity as important for them without any contingencies attached to it. People spend a lot of time and energy on this activity. This type of internalization produces a motivational force to engage in the activity willingly and engenders a sense of volition and personal endorsement about pursuing the activity. Individuals are not compelled to do the activity but rather they freely choose to do so. With this type of passion, the activity occupies a significant but not overpowering space in the person's identity and is in harmony with other aspects of the person's life.

Opposed to HP is Obsessive Passion (OP) which results from a controlled internalization of the activity into one's identity. Such internalization originates from intrapersonal and/or interpersonal pressure either because certain contingencies are attached to the activity such as feelings of social acceptance or self-esteem, or because the sense of exhilaration derived from activity engagement becomes uncontrollable.

Researchers in the past (e.g. Liu, 2011) examined the relationship between HP and creativity but only as a conduit linking social context with creativity.



In this study, however, it is suggested that HP influences the creative process by enhancing individuals' capacities to engage in their work. This brings us to the concept of work engagement. Work engagement has been conceptualized as a "positive affective motivational state of fulfillment" as manifested in three dimensions, namely, vigor, dedication and absorption. Further, most of earlier literature linked contextual variables to work engagement in order to provide a positive outcome. This study is a departure from previous studies and asserts that work engagement can be derived from psychological variables as well (e. g. Chughtai & Buckley, 2008). This study has extended work engagement literature by linking it to a psychological variable as its antecedent.

However, this can be done only in a supportive environment. Previous research shows that workplace creativity can flourish only with support for creativity (Amabile, 1988, Carmeli & Schaubroeck, 2007, Tierney & Farmer, 2004). This paper looked at supervisory support as one of the variables affecting creativity.

When supervisors are supportive, they show concern for employees' feelings and needs, encourage them to voice their own concerns, provide positive, chiefly informational feedback, and facilitate employee skill development (Deci & Ryan, 1987). These actions on the part of a supervisor are expected to promote employees' feelings of self-determination by engaging in work, which should then boost levels of interest in work activities and enhance creative achievement.

Theory Development and hypotheses: Harmonious passion and creativity

Harmonious passion emerges when "there is autonomous internalization of a task or an activity into one's identity", in other words, "it happens when individuals have freely accepted the activity as important for themselves without any contingencies attached to it."

Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Le'onard, M., Gagne', M., & Marsolais, J. (2003) suggested that harmoniously passionate individuals are flexible in their approach. Flexibility in thinking is one of the criteria for creativity. Runco (2007, p.358) opines that flexibility is one of the important inputs to creativity because it precludes "rigidity and functional fixity (the tendency to remain in a rut and see a problem from only one perspective)". Harmoniously passionate individuals are also open to experience. This is because



when people are flexible in their approach and thinking they demonstrate openness to experiences (Runco, 2007, p.404). Openness to experience describes the extent to which individuals are imaginative, curious, independent thinkers, and amenable to new ideas, and unconventional perspectives. People who are high on openness to experience tend to be willing and able to come up with and think about new ideas that challenge the status quo (McCrae & Costa, 1997). Openness allows the individual to deal with the ill-defined nature of problems that have creative potential. It also allows them to tolerate the range of options that should be considered. In organizational settings, people who are high on openness to experience may have both a broader range and depth of experience, and more of an appreciation of the merits of new ways of doing things and the potential for improving and changing the status quo, than individuals who are low on openness to experience.

Creativity researchers have established that creativity increases when employees find the work interesting, exciting and personally involving. As a result they develop a sense of control over their work processes and outcomes (Amabile & Mueller, 2007). Studies have shown that excitement drive individuals to pursue novel solutions (Shalley et al., 2004). Therefore, it is reasonable to argue that harmonious passion influences creativity. Accordingly, it is proposed:

Hypothesis 1: Harmonious passion is positively related to creativity

The mediating role of work engagement

Harmonious passion occurs when an individual autonomously internalizes an activity into one self. This kind of internalization gives rise to a motivation that creates a sense of volition in the pursuance of the activity that the person is engaged in. HP individuals exhibited flexibility and persistence (Vallerand et al, 2003; Amiot et al, 2006). Persistence is a prerequisite to creative accomplishment because creative insights require a great investment of time.

Also autonomous internalization of the activity leads the person to engage in the task in a more flexible manner and thus to experience task engagement more fully. Such a flexible form of activity engagement facilitates better concentration and absorption (Vallerand et al, 2003).

Furthermore, the sense of control in the pursuance of the activity in harmoniously passionate individuals (Vallerand et al, 2003) gives rise to cognitive flexibility and concentration (Deci &



Ryan, 1987). Autonomous motivation is the principle source of enjoyment and vitality (Ryan & Deci, 2000b).

Work engagement is ‘an active, positive, fulfilling work related motivation, characterized by vigor, dedication and absorption.’ Kahn (1992) proposed that employees must feel that they have physical and emotional energies in order to be able to dedicate themselves to their work. It follows that feeling vigorous is a necessary precursor to dedication, as operationalized by the Utrecht Work Engagement Scale (UWES). Going by the above definition of work engagement, when people are engaged, their capacities to attend to and think about different arrays of choices and actions are enhanced and when one enjoys the work one feels fully immersed in it (Barsade, 2002; Arieti, 1976). Immersion helps in concentrating and focusing attention on the job. Concentration involves attention (Brown, 2006) and attention has long been linked to creativity (Csikszentmihalyi, 1996; Mednick, 1962).

Other criteria for creativity are: physical energy and perseverance which come from vigor and dedication. In this context, Csikszentmihalyi (1996), is of the view that “it seems that the energy of these people (creative) is internally generated and is due more to their focused minds than to the superiority of their genes” (p. 58). He opines that there is a “combination of playfulness” as also “a quality of doggedness, endurance, perseverance” (p.61) helps the personalities studied to be creative individuals.

Integrating the above reasoning for the relationships between harmonious passion, work engagement and creativity, it is expected that work engagement will play a pivotal role in translating this autonomously internalized motivational mechanism into creativity. Accordingly it is proposed:

Hypothesis 2: Harmonious passion will be positively related to work engagement.

Hypothesis 3: Work engagement will be positively related to creativity.

Hypothesis 4: Work engagement will partially mediate the relationship between harmonious passion and creativity.



Moderation of supervisory support for creativity

Although, there are conceptual reasons to expect that engaged individuals will be creative, nevertheless there could be situational factors that could strengthen this relationship.

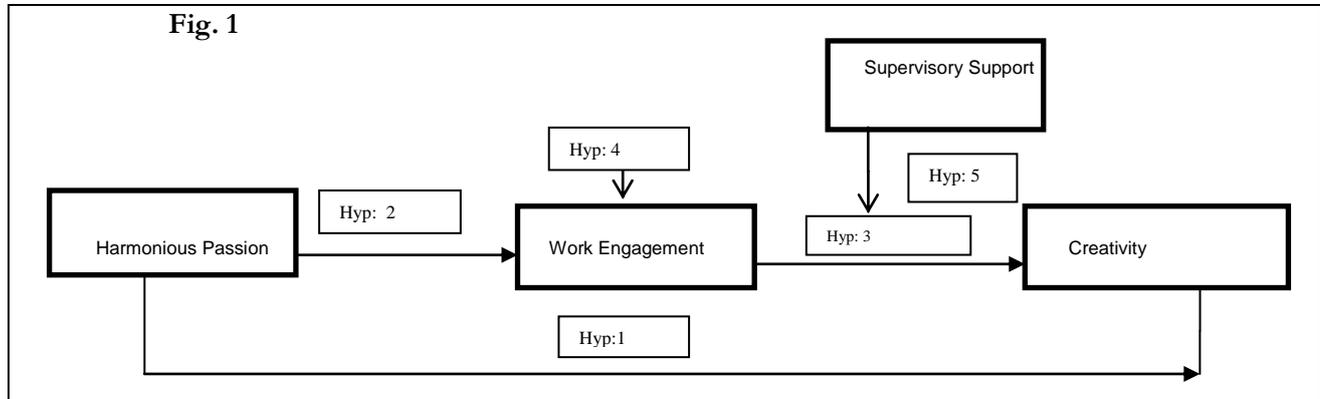
One of the important situational factors that may enhance the relationship between engagement and creativity is supervisory support for creativity. Based on earlier theory and research (Baer & Oldham, 2006; Woodman & Schoenfeldt, 1989), this study examines whether a dimension of the social environment, supervisory support for creativity, moderates the relationship between work engagement and creativity. Previous work suggests that such support not only provides employees with the encouragement and assistance necessary to engage in the idea generation process, but also signals expectations that creativity is not only desirable but also valued by the organization. Tierney and Farmer (2004) showed that employees who perceived their supervisors as supportive of their creative efforts came to believe that creativity is an expected and valued aspect of their performance.

Quite a few previous studies concerned with supervisory support for creativity have shown that it has positive relations to employee creativity; some of them have failed to produce evidence supporting this link (Shalley et al, 2004). Zhou & Shalley (2003) found a non-significant relationship between employee creativity and supervisor developmental feedback. Shalley et al (2004) and Zhou & Shalley (2003) suggest that support from supervisors and coworkers may serve to moderate the effects of contextual conditions on creativity.

Extending this line of research, the present study examines the moderating role of support for creativity in the form of supervisory support, on the relationship between work engagement and creativity. It has been argued that employees who are engaged in their work are expected to be creative; it is possible that when supervisors provide employees with creativity-relevant feed-back and information (Madjar, et al, 2002), the employees may attempt to be creative because they perceive that creativity is valued and supported by the supervisor and hence the organization. Formally it is proposed:

Hypothesis 5: Supervisory support strengthens the relationship between work engagement and employee creativity.

The Proposed research Model



Sample and Procedure

Data for this study was collected from an Indian multinational conglomerate company headquartered in Mumbai, Maharashtra, India. It encompasses seven business sectors such as Communications and information technology, Engineering, Materials, Services, Energy, Consumer products and Chemicals.

The data therefore was collected from 7 organizations under this conglomerate in and around Jamshedpur. All the organizations are in the manufacturing and engineering sector related to steel manufacturing, auto parts manufacturing, roll making, tinplate manufacturing, construction machinery manufacturing etc. The respondents are employed in factories and offices located in industrial towns in and around this township.

The survey was administered to about 600 superior-subordinate pairs/dyads working in different divisions of the organization. Data from a total of 415 pairs/dyad respondents were received. Out of which 345 were found complete in all aspects and used for data analysis resulting in a final response rate of 57.5%.

The valid responses consisted of 345 managers (subordinates) and their 110 bosses, yielding 345 boss-subordinate pairs. The sample comprised of 106 males & 4 females (Bosses) of ages from 32 years to 61 years (Median= 45.5 years) and having work experience ranging from 1



year to 30 years in their current organization. The subordinates consisted of 330 males and 15 females of ages between 22 years to 59 years (Median= 35 years) having work experience ranging from 1 year to 39 years.

Measures

Harmonious passion for work. Vallerand et al.'s (2003) seven-item scale was used to measure a subordinate's harmonious passion for work. The items were modified by Liu et al. (2011) to refer to an employee's harmonious passion for work. Sample item included, "The new things that I discover with my job allow me to appreciate it even more". In the present research, the Cronbach's alpha of this scale is .90.

Work engagement. To measure work engagement a 9-item scale (Work Engagement Short scale) by Schaufeli and Bakker (2003) was used. This is a self-reported questionnaire and was filled by the subordinates. Sample items included "At my work, I feel that I am bursting with energy" and "Time flies when I'm working". The scale reliability for the present study is 0.93.

Supervisory support for creativity. Madjar et al.'s (2002) 3-item Likert-type scale was adopted for this study. The reliability of this scale in the present study is 0.86.

Creativity. In line with previous creativity studies (e.g., Zhou & Shalley, 2003), bosses were asked to assess each subordinate's creativity using a 13-item scale developed by Zhou and George (2001) measured on a Likert type scale ranging from 1 (*Never*) to 7 (*Always*). In the present research the Cronbach's alpha for this scale is 0.95.

Model estimation

Because past research has suggested that demographic differences may influence employees' harmonious passion and creativity (e.g., Liu et al, 2011; Vallerand et al., 2003) age, education and organization type were used as control variables.

The objectives of my study are to test the hypothesized relationships. To analyze my data, I used Structural Equation Modeling (SEM) to test the hypotheses. Table 1 presents the descriptive statistics and correlations of the study variables.



Table 1

Descriptive Statistics and Correlation Matrix

	M	SD	1	2	3	4	5	6
1) HP	4.88	1.13	(.90)					
2) CR	4.50	1.21	0.50**	(.95)				
3) WE	4.67	.95	0.64**	0.64**	(.93)			
6) SS	5.36	1.22	-0.12	-0.10	-0.09	0.04	0.97**	(.82)

Note. The reliability coefficients are in diagonal. HP= harmonious passion; WE= work engagement; CR = creativity; SS= supervisory support.

* $p < .05$ (two tailed) ** $p < .01$ (two tailed).

Table 2

Cronbach's alpha and composite reliabilities of the scales

Factors	Cronbach's alpha	Composite
Harmonious Passion	.90	.94
Creativity	.95	.98
Supervisory Support	.82	.95
Work Engagement	.93	.94



The Cronbach alpha and the composites of the variables used show that the scales used have a good reliability.

Table 3
Average Variance Extracted (AVE) of the constructs under use

Constructs	Average Variance Extracted (AVE)
Harmonious Passion	.69
Creativity	.80
Work Engagement	.52
Supervisory Support	.87

Table 3 shows that the all AVEs are above 0.50, this means that there is a fairly good convergent as well as discriminant validity of the constructs used in the study.

The exploratory factor analysis showed that all the items of the scales used loaded onto a single factor. This is in line with the literature where most of the studies where the scales have been used have pointed towards their unidimensionality.

The exploratory factor analysis for the scales clearly shows one-factor structure for the WE scale. This is because there were very high correlations among the 3-factors.

Factor structure of the scales used

In order to examine the factorial validity, the fit of two models (the one-factor and three-factor models) for the 9-item versions of the Work Engagement Scale were assessed. The fit indices for both the three-factor and the one-factor models for the 9-item UWES (Utrecht Work Engagement Scale) are reported in Table 4

Table 4
Results of the Confirmatory Factor Analyses of the 9-Item UWES

	χ^2	df	χ^2/df	TLI	CFI	RMSEA
9-item/1-factor	72.1	17	4.24	.925	.963	.075
9-item/3-factor	109	24	4.56	.908	.951	.098



The fit index suggests the superiority of the one-factor model over the three-factor model.

Because of the substantial inter-correlation among the factors, an alternative two factor model with vigor and absorption merged into one factor and dedication as the second factor was examined. This is due to the highest correlation found between vigor and absorption in the original three-factor model. The two-factor model was not an improvement over the one-factor model and demonstrated an acceptable but inferior fit when compared with the one-factor model ($\chi^2 = 576.185$, $df = 108$; $\chi^2/df = 5.33$; RMSEA = 0.085; TLI = 0.931; NFI = 0.885; CFI = 0.930).

Table 5 provides the measurement models for 7-items single-factor Harmonious Passion and 13 items single-factor Creativity scales:

Table 5
Results of the Confirmatory Factor Analyses of the 7-Items, 1-factor model of

	χ^2	df	χ^2/df	TLI	CFI	RMSEA
7 items/1 factor (HP)	102	14	7.258	.943	.952	.069
13 items /1 factor(Creativity)	116.8	65	2.566	.977	.845	.061

Harmonious Passion and 13-items 1-factor model of Creativity

The fit indices in table 5 show that both the 1-factor models have a reasonably good fit enough to go ahead with the structural model. Finally Table 6 shows the overall CFA model with 3-factors and 1-factor WE-short scale. Model 1 consists of 3-factors WE. Model 2 consists of 1-factor WE-short.



Table 6
Over-all CFA model

	χ^2	df	χ^2/df	TLI	CFI	RMSEA
Model 1	1264.2	637	1.985	.932	.951	.064
Model 2	1257	650	1.933	.952	.961	.045

The fit index suggests the superiority of Model 2 ($\chi^2=1257$; $df=650$; $\chi^2/df=1.933$; $CFI=.961$ & $RMSEA=0.045$). The model 1 also seemingly has a reasonably acceptable fit; I decided to go ahead with Model 2 based on RMSEA as a fit index.

Results

After proving the uni-dimensionality of the variables of the individual constructs I then move on to gather evidence on the relationships of the hypothesized structural model.

Structural model

I used SEM (M-Plus statistical tool) to test the hypotheses. Hypothesis 1 posited that HP would be positively related to creativity. Hypotheses 2 & 3 predicted that HP would be positively related to WE, and WE would be positively related to creativity respectively. Hypothesis 4 predicted that WE would mediate the relationship between HP and creativity. The results for testing Hypotheses 1 and 3 are shown in Tables 7 and 9. I controlled for employees' age, education and organization type in this analysis. Specifically, the results indicate that HP was positively and significantly related to creativity ($\beta=.477, p .000$) and WE ($\beta= .690, p .000$). These results support Hypotheses 2 and Hypotheses 4, respectively.

Table 7

Work	Estimate	S.E.	Est./S.E.	P-Value
Engagement(DV)				
Age	-.006	.005	-1.2	.228
Education	-.033	.087	-.379	.521
Org. Type	0.022	0.006	3.666	0.016
HP (Predictor)	0.494	0.123	4.016	0.000

Note: HP=Harmonious Passion

Test for mediation

According to Baron and Kenny (1986), four conditions are necessary to establish mediation. This method was used to ascertain mediation (Table 8):

- (a) the independent and mediating variables must be significantly related ($\beta=0.494$; $p < .000$)
- (b) the independent and dependent variables must be significantly related
- (c) the mediator (WE) and dependent variable (Creativity) must be significantly related
- (d) the relationship between the independent and dependent variable should be non-significant or weaker when the mediator is added ($\beta=.230$; $p < 0.05$). To further assess the significance of the mediation, I applied Sobel's test for indirect effects in order to cross-verify our results (MacKinnon et al, 2002). Results show that the intervening effect of WE ($p < .000$) was significant. Taken together, Hypothesis 4 was supported

Table 8
Result of Mediation

Factor and statistic	WE	Creativity (Step 1)	Creativity (Step 2)
Age	-.006	-.19***	-.17***
Education	-.033	.068	.072
Org. Type	0.022*	.018*	.016*
HP	.494***	.477***	.230**
WE		.690***	.688***
R. Sq	.276	.305	.343
Adjusted R. Sq	.273	.300	.335

Note: HP=Harmonious Passion; WE= Work Engagement; * $p < 0.10$ ** $p < 0.05$ * $p < 0.00$**

Interactive effects

Hypothesis 5 posited that the interaction of WE and supervisory support would predict creativity. This hypothesis was not supported. In fact it shows that the interaction of WE and supervisory support have a negative relationship with creativity. These results are also shown in Table 9.

Table 9
Interactive effects of supervisory support

Creativity (DV)	Estimate	S.E.	Est./S.E.	P-Value
Age	-.199	.135	1.474	.000
Education	-.068	.064	1.062	.201
Org. Type	0.018	.006	3.000	.002
HP (Predictor)	0.477	.059	8.084	.000
WE (Predictor)	0.690	.080	8.595	.000
WE X SS	-0.001	0.000	5.885	.000

Note: WE= Work Engagement; SS=Supervisory Support; WEXSS=interaction of work engagement with supervisory support

Following the procedure recommended by Aiken and West (1991), I charted and conducted simple slope tests of the significant cross-level interactive effects.

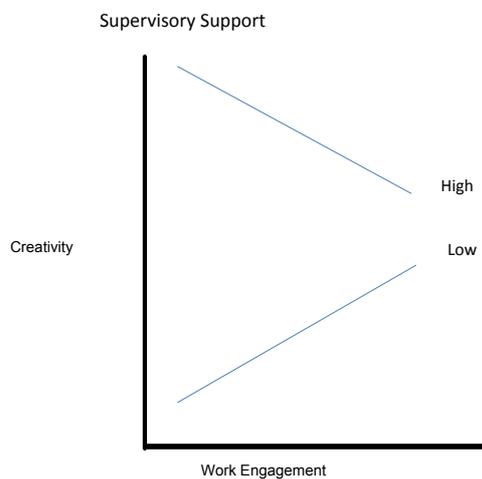


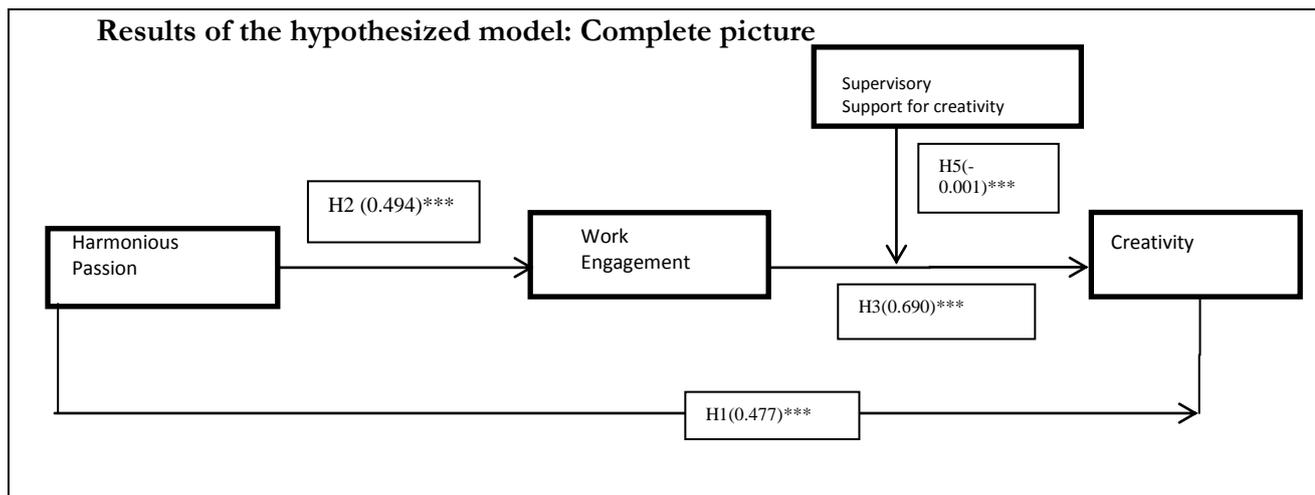
Table 10

Over-all Structural Model

	χ^2	df	χ^2/df	TLI	CFI	RMSEA
Estimated Model	1435.7	657	2.185	.918	.928	.05

Finally, result of the structural model is significant as shown in Table 10. The present findings suggest that creativity is influenced by a newer motivational mechanism known as harmonious passion. Not only that, this for my study means the estimated model, models the data well. Figure 3 gives the complete picture of the results found in the above tests.

Fig 3



Summary of findings

This study confirmed that harmonious passion influences creativity and that the relationship is partially mediated by work engagement. This is a cross-sectional study with data collected from two sources-one set of data (the independent variables) from the employees and the dependent variable namely creativity was collected from the boss. This has been done to reduce common method variance.

The results confirm that harmonious passion is indeed a different motivational mechanism other than intrinsic motivation that influences creativity. Hypothesis 1 gets supported. Second, as theorized, work engagement partially mediates the linkage between harmonious passion and creativity. Earlier studies in work engagement have related work



engagement only to contextual factors. This study departs from earlier studies in conceptualizing and testing that work engagement can be induced by psychological factors as well (Chughtai & Buckley, 2008). Hypothesis 2 (HP will be positively related to WE) confirms this view.

Third, Hypothesis 3 (WE will be positively related to creativity) too is supported. Fourth, H4 (WE will particularly mediate the relationship between HP & creativity) got supported.

Fifth, the H5 states that supervisory support will moderate the relationship between work engagement and creativity. Though earlier research on creativity has always supported this view, this study shows a negative relationship between the two.

There could be various explanations for this negative relationship, one, that since work engaged individuals are already creative and that they are both able and willing to perform creative work supervisory support for creativity might be an obstacle rather than a facilitator in the generation of creative ideas. In fact, it is quite possible that for an engaged manager interaction with and involvement of supervisors may take the employees' focus, energy and attention away from the process of creative idea generation to other tasks. This reasoning is a further indicator of the fact that concepts which are by definition positive and have an intuitively positive appeal may not always yield positive outcomes. Future research may want to look into the darker side of such positive concepts in relation to creativity.

The other reason could be that while supervisory support and creativity research has been mostly conducted in the Western countries it is possible that supervisor support has a different connotation in the Indian context. Finally, it is possible that supervisory support may be important to those employees who are low on work engagement than those who are high on work engagement. Future research is needed to identify additional aspects of the work environment that may serve to encourage the creative tendencies of individuals who are high on work engagement.

Limitations and Contributions

This study has some limitations that must be taken into account. For example, data in this study was collected at the single point in time, raising questions about the direction of causality. Predictions were based on the logic and literature that employee creativity will be influenced by



harmonious passion, work engagement along with the individual level variables and contextual variables but the possibility that highly creative individuals would be harmoniously passionate and/or work engaged cannot be ruled out.

In this study, only one situational variable such as supervisory support have been studied whereas other variables could have been taken into account. For example, perceived organizational support has been studied in creativity literature as situational variable that affects creativity. Future research in the Indian context could take this variable into consideration.

The limitation of my study was countered by several important strengths. Firstly this study plugged in the loopholes of earlier studies on creativity by introducing a motivational mechanism other than intrinsic motivation. Harmonious Passion has not been explored in organizational studies. In addition this research looked at work engagement literature and as variables influencing creativity. These variables have not been studied systematically in earlier organizational creativity research.

Second, the possibility of common method bias was reduced by collecting data from two sources: employees and their immediate supervisors. Supervisors rated the employees' creativity and employees reported their harmonious passion, work engagement, and supervisory support. Although the results were more conservative than if collected from the employees, the data collected this way is probably more convincing. Consequently the response biases and self-generated validity was mitigated in this study.

In addition, data was collected from 5 companies of the manufacturing and engineering sector but from different industries. This sample diversity increases the statistical confidence that the results were not simply-based on the idiosyncratic characteristics from a single firm and a single industry (Kim et al, 2005). Thus, the characteristics of the sample increased the confidence of the results, and these results can be generalized at least in the Asian context.

Implications for practice

The findings signify that harmonious passion indeed has an implication for creative performance and outcomes. Because harmonious passion is also associated with flexible task



engagement and other behavioral outcomes there could be ways by which harmonious passion could be developed in organizations. Managers should tailor their recruiting and selection processes so as to attract harmoniously passionate candidates. A former study on harmonious passion and creativity (Liu et al, 2011) looked into the antecedent conditions of harmonious passion; hence these conditions need to be encouraged for harmonious passion to develop in organizations which could further lead to creative performance in organizations.

The findings are also important because for work engagement to develop in organizations, harmonious passion needs to be developed.

Conclusion

In sum, this study suggests that there is a need to look at Harmonious Passion as an important variable affecting creativity rather than assuming intrinsic motivation as the only motivational mechanism that influences creativity. This study brings novelty to both creativity as well as harmonious passion Literature and also plugged the loopholes of earlier studies on creativity by introducing a new motivational mechanism. Harmonious Passion has not been explored in organizational studies. In addition this research looked at work engagement literature as an important variable influencing creativity. This variable has not been studied systematically in earlier organizational creativity research. All in all the foregoing study makes an important contribution to creativity literature.

References

- Aiken, L. S. & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Amabile, T. M. (1983). *The social psychology of creativity*. New York: Springer-Verlag.
- Amabile, T. M. (1988). A model of creativity and innovation in organizations. In B. M. Staw, & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp. 123–167). Greenwich, CT: JAI Press.
- Amabile, T.M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The Work Preference Inventory: assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology*, 66(5), 950-67.
- Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview.
- Amabile, T. M. (1998). How to kill creativity. *Harvard Business Review*, 77–87.



- Amabile, T. M. (2003). Stimulate creativity by fuelling passion. In Locke, E. A. (Eds.), *The Blackwell handbook of principles of organizational behavior*.
- Amabile, T. M., & Gryskiewicz, N. D. (1989). The creative environment scales: Work environment inventory. *Creativity Research Journal*, 2(4), 231-253.
- Amabile, T. M., & Mueller, J. S. (2007). Studying creativity, its processes, and its antecedents: An exploration of the componential theory of creativity. In J. Zhou & C. Shalley (Eds.), *Handbook of organizational creativity* (pp. 33–64). Mahwah, NJ: Erlbaum.
- Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly*, 50, 367–403.
- Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39, 1154–1184.
- Amabile, T. M., Goldfarb, P., & Brackfield, S. C. (1990). Social influences on creativity: Evaluation, coercion, and surveillance. *Creativity Research Journal*, 3, 6–21.
- Amabile, T. M., Hennessey, B.A., & Grossman, B.S. (1986). Social influences on creativity: The effects of contracted-for rewards. *Journal of Personality and Social Psychology*, 50 (1), 14-23.
- Amiot, C. E., Vallerand, R. J., & Blanchard, C. (2006). Passion and psychological adjustment: A test of the person–environment fit hypothesis. *Personality and Social Psychology Bulletin*, 32, 220–229.
- Arieti, S. (1976). *Creativity: The Magic synthesis*. New York: Basic Books.
- Baer, M., & Oldham, G. R. (2006). The curvilinear relationship between experienced time pressure and creativity: Moderating effects of openness to experience and support for creativity. *Journal of Applied Psychology*, 91(4), 963-970.
- Bakker, A.B., Demerouti, E., & Schaufeli, W.B. (2005). Crossover of burnout and work engagement among working couples. *Human Relations*, 58, 661-689.
- Baron, R.M. & Kenny, D.A. (1986). The Moderator-Mediator variable distinction in Social Psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Barsade, S. G. (2002). The Ripple Effect: Emotional Contagion and its Influence on Group Behavior. *Administrative Science Quarterly*, 47, 644-675.
- Brown, K. W. (2006). *Mindfulness and attentional control*. Unpublished data, University of Rochester.



- Carmeli, A., & Schaubroeck, J. (2007). The influence of leaders' and other referents' normative expectations on individual involvement in creative work. *The Leadership Quarterly*, 18, 35–48.
- Chughtai, A.A., & Buckley, F. (2008), Work engagement and its relationship with state and trait trust: A conceptual analysis. *Journal of Behavioral and Applied Management*, 10, 47-71.
- Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. New York: Harper Collins.
- Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, 49, 14–23.
- Deci, E. L. & Ryan, R.M. (1987). Support of autonomy & control of behavior. *Journal of Personality and Social Psychology*, 53(6), 1024-1037.
- Deci, E. L., & Ryan, R. M. (1985a). *Intrinsic motivation and self-determination theory in human behavior*. New York, NY: Plenum Press.
- Deci, E. L., & Ryan, R. M. (1985b). The General Causality Orientations Scale: Self-determination in personality. *Journal of Research in Personality*, 19, 109–134.
- Dewett, T. (2007), Linking intrinsic motivation, risk taking, and employee creativity in an R&D environment. *R&D Management*, 37 (3), 197–208.
- Drazin, R., Glynn, M. A., & Kazanjian, R. K. (1999). Multilevel theorizing about creativity in organizations: A sense making perspective. *Academy of Management Review*, 24, 286–307.
- George, J. M. (2007). Creativity in organizations. In J. P. Walsh & A. P. Brief (Eds.), *Annals of the Academy of Management* (Vol. 1, pp. 439–477). London, England: Routledge/Taylor & Francis.
- George, J. M., & Zhou, J. (2006). Dual tuning in a supportive context: Joint contributions of positive mood, negative mood, and supervisory behaviors to employee creativity. *Academy of Management Journal*, 49(3), 605–622.
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87(2), 268-279.
- Kahn, W. A. (1990). Psychological conditions for of personal engagement at work. *Academy of Management Journal*, 33, 692-724.



- Kahn, W. A. (1992). To be fully there: Psychological presence at work. *Human Relations*, 45, 321-349.
- Kim, T. Y., Hon, A. H. Y., & Lee, D-R. (2010). Proactive personality and employee creativity: The effects of job creativity requirement and supervisor support for creativity. *Creativity Research Journal*, 22(1), 37-45.
- MacKinnon, D.P., Lockwood, C.M., Hoffman, J.M., West, S. G., Sheets, V. (2002). A comparison of methods to test mediation & other intervening variable effects. *Psychological Methods*, 7(1), 83-104.
- Madjar, N., Oldham, G. R., & Pratt, M. G. (2002). There's no place like home? The contributions of work and non-work creativity support to employees' creative performance. *Academy of Management Journal*, 45, 757-767.
- McCrae, R. R., & Costa, P. T. (1997). Conceptions and correlates of Openness to Experience. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology*, (pp. 825-847). San Diego, CA: Academic Press.
- Mednick, S.A. (1962). The associative basis of the creative process. *Psychological Review*, 69, 220-232.
- Liu, D., Chen, X-P., & Yao, X. (2011). From autonomy to creativity: A multilevel investigation of the mediating role of harmonious passion. *Journal of Applied Psychology*, 96(2), 294-309.
- Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39, 607-634.
- Perry-Smith, J. E. (2006). Social yet creative: The role of social relationships in facilitating individual creativity. *Academy of Management Journal*, 49, 85-101.
- Pfeffer, J., & Sutton, R. I. (2006). Evidence-based management. *Harvard Business Review*, 84, 62-74.
- Redmond, M. R., Mumford, M. D., & Teach, R. J. (1993). Putting creativity to work: Leader influences on subordinate creativity. *Organizational Behavior and Human Decision Processes*, 55, 120-151.
- Runco, M. A. (2007). *Creativity theories and themes: Research, development, and practice*. London: Elsevier Academic Press.
- Ryan, R. M., & Deci, E. L. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.
- Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual



- characteristics on creativity: Where should we go from here? *Journal of Management*, 30, 933–958.
- Seppala, P., Hakanen, J., Kinnunen, U., Schaufeli, W. (2009). The Construct Validity of the Utrecht Work Engagement Scale: Multisample and Longitudinal Evidence. *Journal of Happiness Studies*, 10, 459-481.
- Shalley, C. E., & Perry-Smith, J. E. (2001). Effects of social–psychological factors on creative performance: The role of informational and controlling expected evaluation and modeling experience. *Organizational Behavior and Human Decision Processes*, 84, 1–22.
- Shalley, C. E., Gilson, L. L., & Blum, T. C. (2009). Interactive effects of growth need strength, work context, and job complexity on self-reported creative performance. *Academy of Management Journal*, 52, 489–505.
- Schneider, B., Macey, W. H., Barbera, K. H., & Martin, N. (2009). Driving customer satisfaction and financial success through employee engagement. *People and Strategy*, 32, 22-27.
- Spreitzer, G.M., Lam, C. F., & Fritz, C. (2010). Engagement and human thriving: Complementary perspectives on energy and connections to work (pp. 132-146). In Bakker, A. B. & Demerouti, E. (Eds). *Work engagement: A handbook of essential theory and research*. New York: Psychology Press.
- Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Potential antecedents and relationship to creative performance. *Academy of Management Journal*, 45, 1137–1148.
- Tierney, P., & Farmer, S. M. (2004). The Pygmalion process and employee creativity. *Journal of Management*, 30, 413–432.
- Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Le´onard, M., Gagne´, M., & Marsolais, J. (2003). Les passions de l’âme: On obsessive and harmonious passion. *Journal of Personality and Social Psychology*, 85, 756–767.
- Woodman, R. W., & Schoenfeldt, L. F. (1989). Individual differences in creativity: An interactionist perspective. In J. Gilover, R. Ronning, & C. Reynolds (Eds). *Handbook of creativity: Assessment, research, and theory*. New York: Plenum Press.
- Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, 44(4), 682-696.
- Zhou, J., & Shalley, C. E. (2004). Research on employee creativity: A critical review and directions for future research. In J. Martocchio (Ed.), *Research in personnel and human resource management* (pp. 165–217). Oxford, England: Elsevier.



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