

Exploring the Impact of Flow Experience on Job performance

Li-Chuan Chu, Associate Professor, Department of Business Administration, Nanhua University
Chen-Lin Lee, Ph.D Student, Corresponding Author, Department of Business Administration, Nanhua University, Buddhist Dalin Tzu-Chi General Hospital

ABSTRACT

The main purpose of this study was to investigate the relation between flow experience of elementary school teachers and their job performance. The study empirically tests predictions of relationship by using mail survey data from 150 elementary schools of teachers. The results of the hierarchical regression analysis showed that the flow experience positively impacts the job performance; the personality traits of conscientiousness and emotional stability moderated the relationship between flow experience and job performance. Findings of the study not only extend the exit aspect and concepts of flow theory, but also provide new insights into how flow can be comprehensive conceptualized in future research.

INTRODUCTION

In recent years, revolutionary of Taiwan's education have been emphasis on improving the quality of education and making the surrounding lively. To achieve educational goals increase interest in learning and in ensuring effective learning conditions. While the implementation of a series of education reform system, teachers have improvements with their own professional ability. In addition, teachers will understand other studying areas as follow the pace of education reform. Eventually, improvement the quality of education is not only the software, hardware and system planning, but also coherence with education policy which is a specific topic and a detailed planning. It is an important foundation for educational system. Most teachers cannot be ignored some issues which including the intention of teaching, to face the educational development and to reform of the multiple pressures. The teaching is a sense of impact and influence, unconvinced that if the intervention when some outside force or intervention mode of teaching will make a dedicated teachers to give up the idea of initiation.

The importance part of being a teacher, it is not only teaching about knowledge, but also giving students responsibilities that continue transmission of cultural values and inspired their potential. Being an educator, we should concerns about the learning process and give students all kind of solution. I also expect to teach them a positive attitude and the values of life. Therefore, teachers have so much influence on students and lead them for the future achievement and personality. For the education sector and the public perception is more that the personality of teachers is of a whole, research and academic attention. The most realistic and educational environment when faced with change in cognition, for teachers, which is the source of stress and, in the past, the concept of education to focus on cramming as the main teaching methods, and teaching methods, emphasize that the effectiveness of focus is the student can make a difference between the interaction and feedback, thus the potential to inspire students and imagination.

The difference between two point of views mentioned above are completed their part in fulfilling the former, the latter more than a responsible outside of the heart, dedication and effort for teaching, and hold the enthusiastic and dedicated attitude of continuing to pay for teaching, policy or other changes will not change the current situation and impact of anti-to a sense that can be played and contributions to professional is happy, whether because different personalities produced under the conditions of possibility, this dissertation will be the mainly motivation for exploration, and then will analyze what kind of personality traits have, for more appropriate duties as elementary school teachers are also address in this project. According to a psychologist Csikszentmihalyi (1990) described that when people in a specific activity, it will focus on the neglect things. The reason is because the process will naturally experience the fun lies. This particular state of mind will lead to people willing to pay unpaid, and work experience in the heart flow. It will help to improve the concentration and creativity. The work pressure faced by the further increase access to

appropriate mitigation the performance (Donner & Csikszentmihalyi, 1992). The teachers from elementary school should improve performance will benefit greatly. So this project is to study the structure by adding the flow experience among elementary school teachers for exploring job characteristics are prone to lead to the generation of flow experience, also the principal motivation for this study originated. Looking at the current flow experience for the study of relevant articles, the flow experience in general still browse the Internet or online gaming, to quantify the basis for the study (Chen & Wigand, 1998; Novak & Hoffman, 2003), a few studies have been based the flow experience as a teacher after the performance of their work will produce useful to explore. Moreover, the same type of work, but teachers with different personalities into the Flow experience in the process of how the impact of job performance is also expected the future plan and successful goal for teachers.

CONCEPTUAL DEVELOPMENT AND RESEARCH VARIABLES

Flow experience

As Csikszentmihalyi (1975) original definition, flow means that when a person immersed in an activity in the performance of current mental state. The flow is a condition “in which people are so involved in an activity that nothing else seems to matter at the time” . In this state, many people have described the sense of effortless action they feel in moments that stand out as the best in their lives. Athletes refer to it as “being in the zone” , religious mystics as being in “ecstasy” . These exceptional moments are called flow experience, which is similar to peak experience or optimal experience (Csikszentmihalyi, 1990). Bakker(2008) defined flow experience as a short-term peak experience at work that is characterized by absorption, work enjoyment and intrinsic work motivation. Subsequently, many researchers have described flow as a temporary and subjective experience, and it play a vital role in determining why people continue to repeatedly perform the same activity (Webster & Martocchio, 1992; Webster, Trevino & Ryan, 1993; Csikszentmihalyi, 1990).

According to flow theory, the activity inducing flow becomes autotelic (worth doing for its benefit), an effect later found in the work setting and connected to work satisfaction (Csikszentmihalyi, & LeFevre, 1989). Csikszentmihalyi (1997) proposed that when goals are clear, feedback is relevant, and challenges and skills are in balance, attention becomes ordered and fully invested. Because of total demand on psychic energy, a person in flow is completely focused. Csikszentmihalyi’s flow theory holds that an individual’s satisfaction and motivation depend on the match between skill and challenge inherent in the task (Csikszentmihalyi, 1975, 1990; Eisenberger, Jones, Stinglhamber, Shanock & Randall, 2005). Researchers generally agree that the occurrence of flow is most likely to occur when people perceive a balance between the challenge of a situation and their own skills to deal with this challenge (Csikszentmihalyi, 1990; Ellis, Voelki, & Morris, 1994; Clarke & Haworth, 1994; Bakker, 2008). However, Csikszentmihalyi emphasizes the intrinsically motivated. People who are motivated by the intrinsic aspects of their job tasks want to continue because they are fascinated by the tasks they perform and not because of an external reward (Csikszentmihalyi, 1997).

Flow experience tends occur when a person’s skills are fully involved in overcoming a challenge that is just about manageable. Low perceived skill and high perceived challenge would produce anxiety, while high perceived skill and low perceived challenge would result relaxation. If both challenges and skills are perceived to be high, then the deep involvement that set flow apart from ordinary life is likely to occur. What are the possible causes of flow? Csikszentmihalyi (1997, 1999) has documented several situational factors that influence the onset of flow experiences, including goal are clear, feedback relevant, challenges and skills are in balance. These core characteristics have been repeatedly found to predict work motivation, job performance (e.g., O’Neil, 1999; Byrn, MacDonald, & Carlton, 2003).

Csikszentmihalyi’s flow theory provides one of the most widely cited explanations for pleasurable and conscientiousness in activities. Researches have identified flow experience during many different activities, including competitive and recreational sports (Jackson, Kimiecik, Ford, & Marsh, 1998; Catley & Duda, 1997), and music performance (O’Neil, 1999). The association between pleasurable subjective experience and absorption in activities has been found in a variety of employment setting, such as Asakawa and Csikszentmihalyi (2000) in cross-cultural study found that the flow experience will contribute to positive learning, and improve academic performance. Demerouti

(2006) tested on a sample of 113 employees from several occupations and found motivating job characteristics were predictive of flow, flow experience predicted in-role and extra-role performance for only conscientious employees. Salanova, Bakker, & Llorens (2006) investigates 258 secondary school teachers also found that work-related flow has a positive influence on personal and organization resource. Although there is some scarce evidence that flow can lead to better performance in specific domains such as school. Some earlier empirical finding substantiates flow positive influence on job performance. Thus, the following hypothesis was formulated:

Hypothesis 1 the teacher's flow experiences are positively influences their job performance.

The definition of Job performance

Campbell (1999) has argued that job performance is a function of knowledge, skill, abilities, and motivation directed at role-prescribed behavior, such as formal job responsibilities. Rothmann & Coetzer (2003) also proposed that the Job performance is a multi-dimensional construct, which indicates how well employees perform their tasks, the initiative they take, and the resourcefulness they show in solving problems. Job performance consists of the task dimension (as in-role) and the contextual dimension (as extra-role) (Goodman & Svyantek, 1999; Borman & Motowidlo, 1993). Within the work context, particularly in-role performances are defined as those officially required outcomes and behaviors that directly serve the goals of the organization (Motowidlo & Van Scotter, 1994; Demerouti, 2006). Extra-role performance is defined as organizational discretionary behaviors that do not necessarily directly influence employee productivity (MacKenzie, Podsakoff, & Fetter, 1991; Demerouti, 2006). From the perspective of teachers, the job performance should be seen as the outcome of a teaching or ability performance. It is also reflect the teacher's self-confidence performs.

Personality Traits

Personal characteristics indicate different characteristics that can contribute to inferences about behavioral results (Liao & Lee, 2009). A review of organizational psychology literature suggests that the sum of all personality characteristics can be categorized into five traits (extraversion, openness, conscientiousness, agreeableness, and emotional). The five-factor model of personality represents a structure of traits, more specifically the five-factor model of personality dimensions as conceptualized by Costa and McCrae (1992). Researchers agree that most personality measures can be categorized according to the big-five model of personality traits (Barrick & Mount, 1991; Tett & Burnett, 2003; Flaherty & Moss, 2007; Liao & Lee, 2009; O'Connell & Sheikh, 2011). An extraversion personality tends to be sociable, assertiveness, activity, and talkativeness. Openness to experience appears to be a personality trait that reflects individual habitual willingness to try new ideas, including traits of active imagination, aesthetic sensitivity, and attentiveness to inner feelings. An agreeable person is fundamentally altruistic, sympathetic to other and in return believes that other will be equally helpful (Rothmann & Coetzer, 2003). The fourth dimension, conscientiousness, refers to individuals who are generally well-organized, careful, thorough, goal oriented, deliberation, and hardworking (Costa & McCrae, 1992; Petrou, Kouvonen, & Maria, 2011). Finally, emotional stability individuals tend to have relatively negative core self-evaluations, leading to emotional distress and associated behaviors (Rusting & Larsen, 1998).

Although there is good reason to believe that the five-factor traits are related to job performance across studies, several possible moderators of the relationship exist. Many researchers have been draw to investigate the impact of personality traits on educational attainment and achievement. Nofle and Robins (2007) summarized 20 studies that personality traits and academic outcome had been published between 1995 and 2006. As result, three studies find mildly negative effects of extraversion on academic achievement, and four studies support moderate positive effects of emotional stability. Two studies support moderate positive effects of conscientiousness. Demerouti (2006) also found that the personality of conscientiousness moderated the relationship between flow and job performance. Rothmann and Coetzer (2003) have argued that open individuals are curious about both inner and outer trait and they experience both positive and negative emotions more keenly than do close individuals. Thus, this study tests the following hypotheses:

H2a: The extraversion trait mediates between flow experience and job performance.

H2b: The openness to experience trait mediates between flow experiences and job performance.

H2c: The agreeableness trait mediates between flow experience and job performance.

H2d: The conscientiousness trait mediates between flow experience and job performance.

H2e: The emotional stability trait mediates between flow experience and job performance.

RESEARCH METHODOLOGY

Research Framework

According to research purposes and literature review, this study propose the research frame as shown in Figure 1, flow experience is the independent variable, job performance is the dependent variable, and personality traits is set to moderating variables.

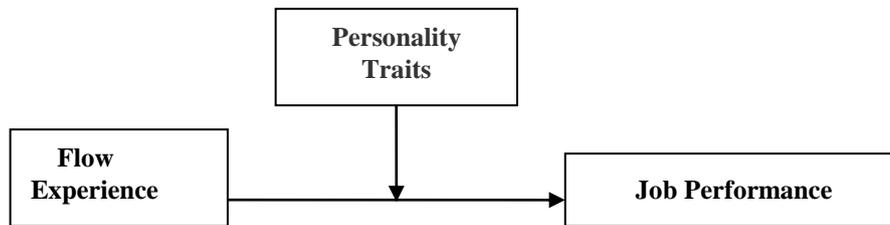


Figure 1: Research framework

Sample and Data Collection

The sample frame consists of a relatively homogenous sample of 150 elementary schools teachers in Yunlin County at Taiwan. The research subjects were elementary school teachers who had at least one year's teaching experience. Before each fill out the questionnaires, inform respondents about the confidentiality of their responses and the academic purpose of the study. In this study used a questionnaire to measure teacher's perceptions of the research constructs using multiple-item scales, adapted from previous studies that reported high statistical reliability and validity. The original items were translated from English into Chinese and following the back-translation process for accuracy. The questionnaire was first pilot tested with a convenient sample, and items were revised before finalizing the mail survey content.

This procedure ensures an effective response rate and quality control of the data. After excluding 25 invalid respondents, a total number of valid samples were 376, yielding a response rate of 65.2%. Demographically, 68% of the respondents were women; 42% were aged between 31 and 40; and 26% were aged between 20 and 30. 12% of the respondents had a master's degree, and almost all of the respondents' education was at the university level. All items among the constructs were against demographic controls (gender, age, level of education), and using t-test or ANOVA. The result showed the two groups or three groups were not significantly different ($P > 0.05$), suggesting that sample collection was valid.

Measurement

A multiple item method was used to construct the questionnaires. All of the items were validated in previous Data analysis applies a multi-step approach. This study first developed the measurement model by conducting confirmatory factor analysis (CFA) with Amos 17.0 to assess the convergent and discriminant validity. To evaluate the fit of the model, A good fit is normally deemed to exist when GFI and NFI were greater than .9, AGFI was greater than .8, and RMSEA less than .08. a chi-square with degrees of freedom, goodness of fit index (GFI)=.92, adjusted goodness of fit (AGFI)=.91, normal fit index (NFI)=.92, and root mean square error of approximation (RMSEA)=.035. furthermore, all factor loadings for each construct were significant ($p < .01$), the composite reliability (CR) of all focal construct exceeds the .6 benchmark (Bagozzi & Yi, 1988).

All items standardized loading and estimates were positive and significant, which provides evidence of convergent validity (Bagozzi & Yi, 1998). Lastly, we performed the chi-square difference test for all the constructs in pairs to examine whether the restricted model was significantly different from the freely estimated model. In the restricted model, the correlation was fixed at 1 for the pair of constructs under examination (Chang & Cheng, 2009). These results support discriminant validity (Anderson & Gerbing, 1988).

ANALYSIS AND RESULTS

In this study, because the model contains the interaction effects of flow experience and personality traits, we used a moderated hierarchical regression analysis appropriate for testing the hypotheses (Zhou & Li, 2010; Jansen, Van Den Bosch, Volberda, 2006). In order to reduce multicollinearity between the main and interaction terms. We mean centered the independent variables to reduce multicollinearity (Aiken & West, 1991), furthermore, to examine multicollinearity, the study calculated variance inflation factors (VIF) for each of regression equation. As a result, the VIF values in the three models range from 1.25 to 1.42, well below the usual 10.0 benchmark (Hair et al., 1998).

A hierarchical regression approach assesses the R-square change of each model and test the research hypothesis. The Model 1 includes the control variable and independent variable. Model 2 also includes personality constructs. As shown in Model2, the result discloses that flow experience ($\beta=0.342$) is positively and significantly to Job performance. Therefore, H1 is supported. As Table 3 (model 2) shows, the main effects of extraversion and Emotional Stability on job performance are both positive and significant ($\beta=0.31$, $p<0.000$; $\beta=0.278$, $p<0.000$), pertain to the moderating role of personality traits. As model 3 shows, flow experience \times conscientiousness interaction is significantly ($\beta= 2.91$, $p<.01$). In addition, the flow experience \times emotional stability interaction is positive and significant ($\beta=3.085$, $p<.01$).

Table 3: Results of hierarchical regression analysis compiled

Independent variables	Job performance		
	Model1	Model2	Model3
	β value (p value)		
Constant			
Gender		*	
Age			
Flow experience			
Extraversion			
Openness			
Conscientiousness			
Agreeableness		0.014 (0.625)	
Emotional Stability		0.278	
Flow experience \times Extraversion			
Flow experience \times openness			
Flow experience \times conscientiousness			
Flow experience \times Agreeableness			
low experience \times emotional stability			
F value			
R ²			
Δ R ²			

To understand the conscientiousness and emotional stability of the level of elementary school teachers for the flow experience of its impact on job performance, we plotted the results using the same method shown in Aiken and West (1991). In the graph presented in figure 2 and figure 3, we show the effects of conscientiousness and emotional stability on job performance and both were divided into high and low groups(minus one standard deviation from the mean and plus one standard deviation from the mean, respectively) , through Figure 2, Figure 3, the content can be found, high and low flow experience and high conscientiousness, emotional stability, low and high two groups did not draw the line intersection of the phenomenon can be inferred that the frequency of flow experience into high or low density of elementary school teachers are able to produce a positive significant impact on job performance, and with the increased frequency of flow experience and improved. Therefore, H2d & H2e hypotheses are supported.

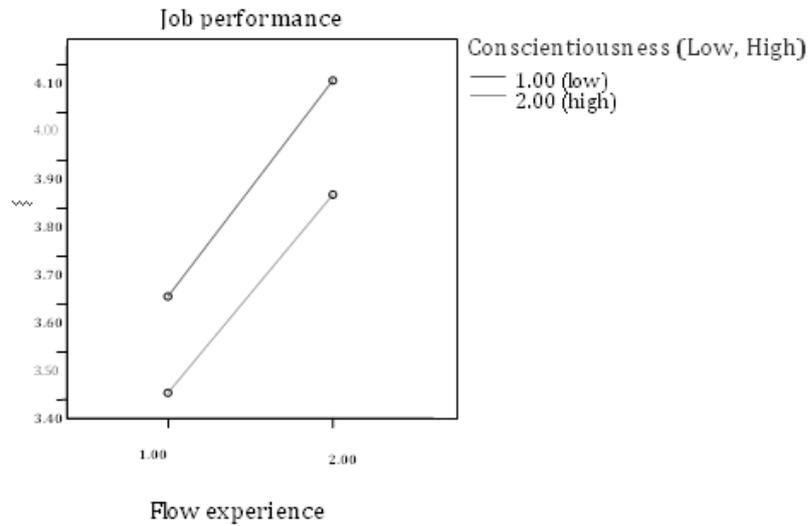


Figure 2: Flow experience and Conscientiousness interaction analysis diagram integrity

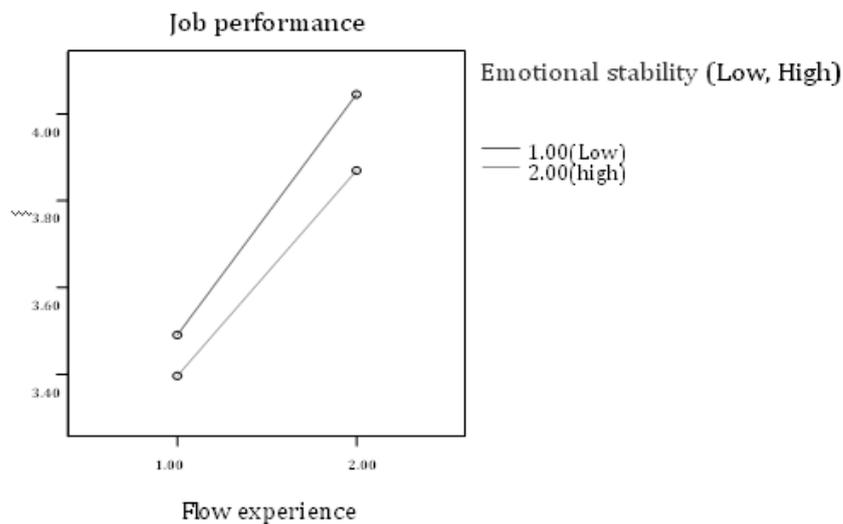


Figure 3: Flow experience and emotional stability interaction analysis diagram integrity

DISCUSSION

The goal of this study was to examine the relationship between flow experience and job performance effectiveness by personality traits. The first contribution of the present study to the literature is to examine the relationships among the main constructs of the model.

The second contribution is the finding that flow experience has direct effects on teacher job performance. This finding is consistent with the flow theory assumptions that a pleasurable state of task conscientiousness results from individual's comparison of their perceived skill and challenge. When teachers are goal oriented and hardworking, their flow experience will strongly influence their job performance. As expected, goal and achievement oriented teachers who were frequently immersed in and enjoyed their activities also received favorable performance (Demerouti, 2006). The findings of this study provide additional evidence that can be integrated with previous literature from sports and music domains (Jackson et al., 1998; O'Neil, 1999).

Results of the hierarchical regression approach examining hypotheses show that, the personality traits of conscientiousness and emotional stability moderated the relationship between flow experience and job performance.

This finding is consistent with previous research such as Demerouti (2006) proposed that personality seems to play more a moderating rather than causal role in the prediction of job performance. Unexpectedly, openness, agreeableness, and extraversion did not moderate influence job performance. The moderator analyses, especially those by measure of job performance, did reveal variability in personality-job performance correlations. These results consistent with Judge, Heller, and Mount (2002) argued that most of the moderators did not follow expectations or did not reveal significant differences. Schmitt, Gooding, Noe, and Kirsch (1984) also argued that personality is frequently regarded as an antecedent of job performance. However, existing findings reveal that they share only 4% of variance (Hurtz & Donovan, 2000). In summary, though the results seem to indicate that flow at work relates to job performance. One possible explanation may be that goal and achievement oriented teachers who were frequently immersed in and enjoyed their activities also performed better. It seems worthwhile for schools to promote flow among their teachers by creating working conditions. Because when the teachers have positive feeling toward the work, they will commit to and expect stay with the schools.

LIMITATION AND FUTURE RESEARCH

Empirical results from this study contribute to understanding the relationship among flow experience, personality traits, and job performance. However, this study has methodological and theoretical limitations that provide some aspect for future study. First, in this study used a retrospective and self-evaluations method to measure about the participant's past flow experience. The data is not always assures of validity. Because flow experience as temporary and transient information embedded in particular's memory. Flow could be easily ignored or inaccurately reported by the participants if their flow experience happened a few months ago (Lee & Chen, 2009). Future research should consider longitudinal study if replication of the study is to establish of flow experience overtime. Secondly, future research should consider to advised include a broad range of job positions for test of relationship between flow experience and job performance. It would be increase the probability of finding variation results.

REFERENCES

- Aiken, L. S. & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Sage Publishing, Thousand Oaks, CA.
- Anderson, J. C. & Gerbing, D. W. (1998). *Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach*. *Psychological Bulletin*, 103, pp.411-423.
- Asakawa, K. & Csikszentmihalyi, M. (2000). Feeling of Connectedness and Internalization of Value in Asian American Adolescent. *Journal of Youth and Adolescence*, 29(2), pp.121-145.
- Bagozzi, R. P. & Yi, Y. (1988). On the evaluation of structural equation model. *Journal of Academy of Marketing Science*, 16, pp.74-94.
- Barrick, M. R. & Mound, M. K. (1991). The Big Five Personality Dimensions and Job performance: A Meta-analysis. *Personnel Psychology*, 44, pp.1-26.
- Borman, W. C. & Motowidlo, S. J. (1993). *Expanding the Criterion Domain to Include Elements of Contextual Performance*. San Francisco: Jossey-Bass.
- Byrne, C., MacDonald, R. & Carlton, L. (2003). Assessing creativity in musical compositions: Flow as an assessment tool. *British Journal of Music Education*, 20, pp.277-290.
- Bakker, A. B. (2008). The work-related flow inventory: Construction and initial validation of the WoLF. *Journal of Vocational Behavior*, 72, pp. 400-414.
- Campbell, J. P. (1999). The definition and measurement of performance in the new age. In D. R. Ilgen & E. D. Pulakos (Eds), *the changing nature of performance: Implications for staffing, motivation, and development: 399-429*, San Francisco, Calif: Jossey-Bass.
- Csikszentmihalyi, M. (1975). *Beyond Boredom and Anxiety*. San Francisco: Jossey Bass.
- Csikszentmihalyi, M. & LeFevre, J. (1989). Optimal Experience in Work and Leisure. *Journal of Personality and Social Psychology*, 56(5), pp. 815-822.
- Csikszentmihalyi, M. (1990). *Flow: the Psychology of Optimal Experience*. New York: Harper & Row.
- Clarke, S. G. & Haworth, J. T. (1994). "Flow" experience in the daily lives of sixth-form college students. *British Journal of Psychology*, 85,

pp.511-523.

- Csikszentmihalyi, M. (1997). *Finding flow: The psychology of optimal experience*, New York: HarperCollins.
- Costa, P. T. & McCrae, R. R. (1992). An Introduction of the Five-factor Model and Its Applications. *Journal of Personality*, 60, pp. 175-215.
- Catley, D. & Duda, J. L. (1997). Psychological Antecedents of the Frequency and Intensity of Flow in Golfers. *International Journal of Sport Psychology*, 28, pp.309-322.
- Csikszentmihalyi, M. (2003). *Good business: Leadership, Flow and the Marking of Meaning*. London: Hodder and Stoughton.
- Chang, H. H. & Chen, S. W. (2009). Consumer perception of interface quality, Security, and Loyalty in Electronic commerce. *Information & Management*, 46, pp.411-417.
- Donner, E. J. & Csikszentmihalyi, M. (1992). Transforming Stress to Flow Executive Excellence, Provo: Feb. 9, pp.16-17.
- Demerouti, E. (2006). Job Characteristics, Flow, and Performance: The Moderating Role of Conscientiousness. *Journal of Occupational Health Psychology*, 11, pp.266-280.
- Ellis, G. E., Voelkl, J. E. & Morris, C. (1994). Measurement and analysis issue with explanation of variance in daily experience using the flow model. *Journal of Leisure Research*, 26, pp.337-356.
- Eisenberger, R., Jones, J. R., Stinglhamber, F., Shanock, L. & Randall, A. T. (2005). Flow Experience at Work: for High Need Achievers Alone? *Journal of Organizational Behavior*, 26, pp.755-775.
- Flaherty, S., & Moss, S. A. (2007). The Impact of Personality and Team Context on the Relationship Between Workplace Injustice and Counterproductive Work Behavior. *Journal of Applied Social Psychology*, 37, 2549-2575.
- Goodman, S. A. & Svyantek, D. J. (1999). Person-organization fit and contextual performance: Do shared values matter? *Journal of Vocational Behavior*, 55, pp.254-275.
- Hair, J.F., Anderson, R.E., Tathan, R.L. & Black, W.C. (1998). *Multivariate Data Analysis*. New Jersey: Prentice Hall.
- Hurtz, G. M. and Donovan, J. J. (2000). Personality and job performance: The big five revisited. *Journal of Applied Psychology*, 85, 869-879.
- Jackson, S. A., Kimiecik, J. C., Ford, S. K. & Marsh, H. W. (1998). Psychological correlates of flow in sport. *Journal of Sport and Exercise Psychology*, 20, pp.358-378.
- Judge, T. A., Heller, D., & Mount, M. K. (2002). Five-Factor Model of Personality and Job Satisfaction: A Meta-analysis. *Journal of Applied Psychology*, 87(3), pp.530-541.
- Jansen, J.J., P.F. AJ Van Den Bosch, HW. Volberda (2006). Exploratory Innovation and Performance: Effects of Organizational Antecedents and Environmental Moderators. *Management Science*, 52, pp.1661-1674.
- Liao, C. S. and Lee, C. W. (2009). An Empirical Study of employee Job Involvement and Personality Traits: The Case of Taiwan International *Journal of Economics and Management*, 3, pp.22-36.
- Lee, S. M. & Chen, L. (2010). The Impact of Flow on Online Consumer Behavior, *Journal of Computer Information Systems*. Summer 2010, pp.1-9.
- Motowildo, S. J. & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, 79, pp.475-480.
- MacKenzie, S. B., Podsakoff, P. M. & Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salespersons' performance. *Organizational Behavior and Human Decision Processes*, 50, pp.123-150.
- Noftle, E. & Robins, R. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT Scores. *Journal of Personality and Social Psychology*, 93, pp.116-130.
- O'Neil, S. (1999). Flow theory and the development of musical performance skills. *Bulletin of the Council for Research in Music Education*, 141, pp.129-134.
- O'Connell, M. and Sheikh, H. (2011). Big Five' Personality Dimensions and Social Attainment: Evidence from beyond the campus. *Personality and Individual Difference*, 50, pp.828-833.
- Petrou, P., Kouvonen, A., & Maria, K. M. (2011). Social Exchange at Work and Emotional Exhaustion: The Role of Personality. *Journal of Applied Social Psychology*, 41, 2165-2199.
- Rusting, C. L. & Larsen, R. J. (1998). Personality and cognitive processing of affective information. *Personality and Social Psychology Bulletin*, 24, 200-213.
- Rothmann, S. & Coetzer, E. (2003). The big five personality dimensions and job performance. *SA Journal of Industrial Psychology*, 29, pp.68-74.
- Schmitt, N. W., Gooding, R. Z., Noe, R. A. & Kirsch, M. (1984). Meta-analyses of validity studies published between 1964 and 1982 and the investigation of study characteristics. *Personnel Psychology*, 37, 407-422.
- Webster, J. & Martocchio, J. J. (1992). Microcomputer Playfulness: Development of a Measure with Workplace Implications. *MIS-Quarterly*, 16,

pp.201-227.

- Salanova, M., Bakker, A. B.& Liorens, S. (2006). Flow at Work: Evidence for an Upward Spiral of Personality and Organizational Resource. *Journal of Happiness Studies*, 7, pp.1-22.
- Tett, R. P. & Burnett, D. D. (2003). A Personality Trait-Based Integrationist Model of Job performance. *Journal of Applied Psychology*, 88, pp.500-517.
- Webster, J., Trevino, L.K.& Ryan, L. (1993). The Dimensionality and Correlates of Flow in Human-computer Interactions. *Computers in Human Behavior*, 9(4), pp. 411-426.
- Zhou, K.Z.& Li, K.Z. (2010). How Strategic Orientations Influence the Building of Dynamic Capability in Emerging Economies. *Journal of Business Research*, 63, pp.224-231.