Predictors of Cognitive Flexibility

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Summary

Introduction
Cognitive flexibility is defined as the ability of adapting to changing conditions and being able to develop solution strategies when faced with unexpected situations. Cognitive flexibility can also be considered as a learning process. In addition, it involves the adaptation of cognitive process strategies. Since cognitive flexibility is adapting to unexpected situations and developing appropriate solution strategies, the converse situation is the persistence to use ones already existing strategies. While training individuals for a specific profession, it is extremely important to also improve their cognitive flexibility. But what other aspects of the individuals should be developed while improving their cognitive flexibility? What aspects should be considered as important and which types of activities should be included when designing the instruction for these individuals so that it would be possible to enhance their cognitive flexibility? The current study seeks answers to these questions. In this study, variables that are thought to be predictors of cognitive flexibility, and hence were included in the model and tested are as follows: coping with stress, critical thinking and creative thinking.

Method
Study group consists of 30 participants who are over 18 years old; 15 of which are female and 15 are male. The ages of participants are between 22 and 33 (X = 26.77; range = 11) . All of the participants are teachers or senior pre-service teachers (who are 4th year students at faculties of education). Instruments used in data collection are as follows: Wisconsin Card Sorting Test, Coping with Stress Scale, Watson – Glasser Critical Thinking Test, Torrence Test of Creative Thinking. Data analysis was conducted in computerized setting and data were tested using non-parametric regression analysis. In order to determine the variables predicting cognitive flexibility and perseverance, two different models were developed and tested.

Findings
Results of non-parametric regression analysis revealed that the independent variable of figural creativity significantly predicts cognitive flexibility but critical thinking skills, verbal creativity, Skill of Coping with Stress (SCS), Avoidance Level of Coping with Problems (LAP), Level of Problem Oriented Coping (LPOC) and Level of Seeking Social Support variables are not found to be significant predictors of cognitive flexibility. The results of another non parametric regression analysis showed that variables of verbal and figural creativity significantly predict perseverance while other variables are not significant predictors of cognitive flexibility.

Conclusion
The most important result obtained from this study is that none of the variables that were included in the regression model except figural creativity significantly predicts cognitive flexibility. This suggests that cognitive flexibility may be a very different variable than executive cognitive processes and other cognitive skills. Cognitive flexibility may be not only a cognitive variable, but also a variable that is affected from social and personal factors.

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For instance, social and personal variables such as tolerance and acceptance of uncertainty are thought to be more in relation with cognitive flexibility than other cognitive variables.

These results regarding cognitive flexibility and perseverance are generally consistent with existing literature. No study investigating the relationship between creativity and cognitive flexibility in literature has been accessed by the researcher, but it has been reported that cognitive flexibility is an important element of creativity. However, while a positive relationship has been found between figural creativity and cognitive flexibility, it is unexpected and interesting that a negative relationship has been revealed between verbal creativity and cognitive flexibility. This suggests that, in terms of cognitive flexibility, verbal and figural creativity may be very diverse entities. Further research is needed in this regard.