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Intrinsic-Extrinsic Motivation and Creativity: Exploring relation among Learning Disabled Students

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Abstract

Both motivation and creativity constructs are multi-dimensional and complex in nature. Motivation is a very important factor affecting creative performance. Although, large number of studies found that intrinsic motivation has high impact on creativity rather than extrinsic motivation among normal students, while among learning disabled students few studies has been done and found that they are motivated extrinsically rather intrinsically and in our knowledge no study has been conducted to investigate relation between motivation and creativity among learning disabled students. By considering these points, the present study is planned to determine whether learning disabled students are motivated extrinsically or intrinsically for their creative performance. The tools used for the study are Specific Learning Disability Comprehensive Diagnostic Battery, A scale of Intrinsic Versus Extrinsic Orientation in the Classroom, and Torrance test of Creativity- Figural. The sample consisted of 252 learning disabled students with age range from 6 to 14 years. The students selected through purposive sampling technique. Pearson correlation coefficients and regression were used for data analysis. Results demonstrated significant positive correlation was found between curiosity, preference for challenge, and independent mastery dimensions of intrinsic motivation with total creative potential and significant negative correlation of easy work assigned and getting grades dimensions of extrinsic motivation with total creative potential among learning disabled students. Preference for challenge and curiosity are the potent predictors of creativity among learning disabled students.

Keywords*:* Intrinsic Motivation, Extrinsic Motivation, Creativity , Learning Disability.

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INTRODUCTION:

Motivation plays important role in our lives. It directs people to act in a specific way. Motivation enables us to attain worthwhile outcomes such as personal growth, a sense of purpose, improved performance, etc. Motivation is salient for creative processes (Nakamura & Csikszentmihalyi, 2003). Motivation is the most significant factor influencing creative performance (Sternberg & Lubart, 1993; Amabile, 1996).Creativity and the motivations have shown inconsistency in relationship in previous studies. The link between motivation and creativity has been described through two viewpoints: the behavioral and cognitive viewpoints. The behavioral viewpoint depicts that the extrinsic reinforcements foster creativity (De Jesus, Rus, Lens and Imaginario, 2013). The cognitive viewpoint depicts extrinsic reinforcements as determinant of intrinsic motivation (IM) and creative behavior (Friedman, 2009). Numerous researches on IM and creativity displayed a significant positive relation (Amabile, 1997; Hennessey,

2003; Dewett, 2007; Prabhu, Sutton, & Sauser, 2008; Eisenberger & Aselage, 2009; Lew, 2012; Ceci & Kumar, 2015) whereas others indicate no significant relationship (Dewett, 2007; Shalley & Perry-Smith, 2001). In addition, researchers used to believe that extrinsic motivation (EM) had a negative impact on creativity (Amabile & Gryskiewicz, 1989). Nonetheless, numerous researches have demonstrated that EM does not inevitably undermine creativity and IM (Hou, Cheng & Wang; Aguilar-Vafaie & Runco, 2008; Al-Dhamit & Kreishan, 2013).

The impact of EM on creative performance can vary contingent on how the motivation is interpreted (Baer, Oldham & Cummings, 2003; Klotz, Wheeler, Halbesleben, Fenouillet & Shankland, 2015; Choi, 2004). Eisenberger & Rhoades (2001) found that extrinsic motivation is the strong predictor of creative performance rather than intrinsic motivation. Byron and Khazanchi (2012), in a meta-analysis demonstrated that rewards related with generalized performance may hinder creative ideas, whereas if providing specifically for creativity, have positive impact on creative ideas. According Amabile (1983) when people primarily have IM to engage in an activity, it tends to enhance creativity while primarily has EM, it tends to suppress creativity. Hennessey & Amabile (1998) confirmed that IM fosters creativity, whereas EM is harmful for creativity. Though, Amabile herself has started to reexamine this negative assessment of extrinsic motivation's role in creativity. According Hennessey & Amabile (2010), rewards can actually boost intrinsic motivation and creativity under particular conditions. Specifically, rewards may be beneficial when they offer helpful information in a supportive manner, confirm competence, or allow individuals to participate in activities for which they previously have IM. The boosting effects of rewards on IM and creativity are most likely to occur when people already have strong IM (Amabile, 1993). Thus, these researches came up with contradictory results. Furthermore, among normal students, numerous researches have demonstrated that, IM has greater impact on creativity in comparison to EM.

OLOGY:Among learning disabled students, the studies found that they are motivated extrinsically rather intrinsically (Lincoin & Chazan, 1979; Harter, 1981; Rilett, 1998; Carlson, Booth, Shin, & Canu, 2001) and in our knowledge no study has been conducted to investigate relation between motivation and Creativity among learning disabled students.

METHOD

Objectives:

The present research is planned to determine whether students with Specific learning disability are motivated for creativity by their own drives (intrinsically motivated) or from external rewards (extrinsically motivated) and to investigate whether intrinsic motivation predict creativity among learning disabled students.

Hypotheses:

H1: There would be positive relation between Intrinsic Motivation and creativity among learning disabled students.

H2: There would be negative relation between Extrinsic Motivation and creativity among learning disabled students.

H3: Intrinsic Motivation would predict creativity among learning disabled students.

Sample

The sample consisted of 254 special learning disabled students with age range from 6 to 14 years. Data was collected from 300 students but 46 subjects were rejected on technical grounds (e.g. large number of

rejection responses, absent).The students were selected from various town and village schools of Karnal and Kurukshetra districts of Haryana. The students with specific learning disability selected through purposive sampling technique during regular school hours and after school hours from homes on the basis of inclusion and exclusion criteria given below:

Inclusion Criteria

- Age 6 – 14 years
- IQ ≥ 70 (+ / − 5).
- Low academic achievement
- Persistent problems in learning academic skills (spelling, arithmetic calculation,reading, writing, mathematic reasoning) as reported by teacher, parents and on the basis of diagnosis
- Consent from principals, parents and children

Exclusion Criteria

- IQ ≤ 70 (+ / − 5).
- Suffering from other mental /neurological disorders, medical conditions, intellectual disabilities, emotional disorders, visual and auditory impairment, psychosocial adversities, lack of inadequate education instruction, economic disadvantage.

Tools:

Specific Learning Disability: Comprehensive Diagnostic Battery (Mehta & Sagar, 2003)

This battery is meant for children of age group 6-14 years. This battery is administered individually. It assesses children basic reading, writing, and arithmetic skills. Pre-reading skills (identification of colors, shapes, and body parts) are also assessed for 5-6 years old children with basic skills. The test demonstrates .73 test-retest reliability and .78 content validity.

A Scale of Intrinsic versus Extrinsic Orientation in the Classroom (Harter, 1981)

The scale has intrinsic and extrinsic motivational pole: Intrinsic pole included independent mastery, curiosity/ interest, preference for challenge, internal criteria, independent judgment five dimensions and extrinsic pole included pleasing the teacher/ getting grades, external criteria, preference for easy work assigned, reliance on teacher's judgment, and dependence on the teacher five dimensions. Each of the five dimensions consists of six distinct items. The scale has 'really true for me' and 'sort of true for me' option formats for answering. In the starting of scale, there are two additional items for practice purpose and these items do not contribute to the final score.

Torrance test of Creativity Figural- Form: A (Torrance, 1966)

It includes three activities: 'picture construction', 'picture completion' and 'lines activity'. Each activity is allotted ten minutes for completion. It is suitable for use in the fourth grade through adult, administered individually or in small groups. Generally, problem-solving or a game like thinking atmosphere is to be created. The psychological climate and physical conditions both should be comfortable. It has five norm-referenced measures and thirteen criterion- referenced measures.

Procedure

The participants were contacted in their respective schools and houses. First, principals of the concerned schools were approached and their permission was sought for the study. Then, after seeking their class teacher's and parent's consent; participants' readiness to participate in the study was taken. Specific

Learning Disability Comprehensive Diagnostic Battery, A scale of Intrinsic Versus Extrinsic Orientation in the Classroom and Torrance test of Creativity- Figural: A; tests were administered to the participants. The tests were administered with proper sitting arrangements, adequate facilities for ventilation and light. All the tests were administered individually and using the instructions specified in the respective test manuals. Initially rapport was established with the participants of the study, in order to enhance their level of comfort with the testing procedure. They were told to answer fearlessly. There is no right and wrong answers. They were also instructed that answers given by them would be kept confidential. After completion of the tests, the participants were thanked for their contribution and chocolates, pens, pencils were distributed to them as an appreciation of their effort and time spent for participation in the study.

RESULTS:

The data is analyzed using SPSS. The mean and standard deviation descriptive statistics are applied. Correlation and step-wise multiple regression are applied to examine the nature of relation. The outcomes of the present study are presented in Table No. 1, 2, and 3.

Table 1: Outcomes of descriptive statistics of intrinsic-extrinsic motivation and creativity among learning disabled students.

Variables	N	Mean	SD
Preference for challenge	254	13.606	8.549
Curiosity	254	12.315	8.743
Independent mastery	254	10.669	8.571
Independent judgment	254	5.940	7.955
Internal criteria	254	6.708	8.451
Easy work assigned	254	3.224	5.429
Getting grades	254	3.964	5.825
Dependent on teacher	254	4.417	5.787
Reliance on teacher's judgment	254	7.259	5.742
External criteria	254	6.937	5.898
Frequency	254	6.724	6.389
Originality	254	2.220	2.347
Elaboration	254	6.271	5.936
Abstractness of titles	254	0.086	0.526
Resistance to premature closure	254	0.303	0.699
Creative Potential	254	39.866	22.836

Table 1 shows the descriptive statistics for the variables being studied in the current study on the total sample (N=254). The dependent variable creativity has five dimensions; the mean and standard deviation values have been reported as frequency (M=6.724; SD=6.289), originality (M=2.220; SD=2.347), elaboration (M=6.271; SD=5.936), abstractness of titles (M=0.086; SD=0.526), resistance to premature closure (M=0.303; SD=0.699) and the mean score for total creative potential is reported (M=39.866; SD=22.836). Whereas, the mean and standard deviation for various dimensions of intrinsic-extrinsic motivation as preference for challenge (M=13.606; SD=8.549), curiosity (M=12.315; SD=8.743),

independent mastery (M=10.669; SD=8.571), independent judgment (M=5.940; SD=7.955), internal criteria (M=6.708; SD=8.451), easy work assigned (M=3.224; SD=5.429), getting grades (M=3.964; SD=5.825), dependent on teacher (M=4.417; SD=5.787), reliance on teacher's judgment (M=7.259; SD=5.742), and external criteria (M=6.937; SD=5.898) are reported respectively.

Table 2: Outcomes of correlation coefficients of intrinsic-extrinsic motivation and creativity among learning disabled students.

Variables	**F**RE	ORI	ELB	AT	RPC	CP
PC	.119	.027	.114	.047	.050	**.181****
CUR	**.186****	**.124***	**.166****	.052	.067	**.165****
IM	.146*	.089	.112	.001	.057	**.130***
IJ	.104	.015	.028	-.002	-.086	.033
IC	.000	.095	.020	.061	.010	.025
EWA	-.122	-.037	-.110	-.046	-.042	**-.154***
GG	**-.171****	-.118	**-.155***	-.030	-.058	**-.142***
DT	-.099	-.045	-.069	.032	-.043	-.081
RTJ	-.076	.009	-.005	-.005	.081	-.004
EC	.020	-.063	.002	-.048	.008	.008

Here, ** Correlation is significant at .01 level, and* Correlation is significant at .05 level.

Note: IM (Independent mastery), CUR (Curiosity), IJ (Independent judgment), PC (Preference for challenge) , EWA (Easy work assigned), IC (Internal criteria), RTJ (Reliance on teacher's judgment), DT (Dependent on teacher), GG (Getting grades), EC (External criteria), FRE (Frequency), ORI (Originality), ELB (Elaboration), AT (Abstractness of titles), RPC (Resistance to premature closure), CP (Creative Potential).

Table 2indicates the significant positive correlation of curiosity dimension of intrinsic motivation with frequency (r=.186, p<.01), observation (r=.124*, p<.05); and elaboration (r=.166**, p<.01) dimensions of creativity and significant negative correlation of getting grades dimension of extrinsic motivation with frequency (r= -.171, p<.01) and elaboration (r= -.155, p<.05) dimensions of creativity. It further depicts the significant positive correlation of preference for challenge (r=.181, p<.01); curiosity (r=.165, p<.01); independent mastery (r=.130, p<.05) dimensions of intrinsic motivation with total creative potential and significant negative correlation of easy work assigned (r= -.154, p<.05); and getting grades (r= -.142, p<.05) dimensions of extrinsic motivation with total creative potential among learning disabled students.

Table 3: Outcomes of stepwise multiple regression analysis for the dimensions of intrinsic-extrinsic motivation predicting creativity among adolescents (N=254).

Step	Variable	R	R^2	R^2-Change	B	F	Sig.
1	Preference for challenge	.181	.033	.033	.412	8.542	.001
2	Curiosity	.224	.050	.017	.350	6.610	.001

Table 3 presents the results of a step-wise multiple regression analysis for the dependent variable creativity among learning disabled students. The predictor variable preference for challenge accounts for 3% of variance (R2= .033) in creativity and has positive beta weight (β = .412). It shows that, students who accept life's challenges manifest their creative minds. Multiple R for preference for challenge variable is .181and F value is 8.542 (df =252) that is significant at .001 level. The next potent predictor of creativity is emerged as curiosity accounts for 5% of variance (R2= .050) in creativity having multiple R = .224. The F value is 6.610 (df =251) it is significant at .001probability level. Curiosity has positive beta weight (β = .350) that indicates if the student is more curious, will be more creative.

DISXUSSION:

The mean and standard deviation values suggested that, learning disabled students tended to report large variability in their responses. The first objective of the present study is to find out whether students with specific learning disability are motivated for creativity by their own drives (intrinsically motivated) or from external rewards (extrinsically motivated). The study confirmed a significant positive relationship between curious dimension of intrinsic motivation with frequency, originality, elaboration dimensions of creativity and a significant negative relationship between getting grades dimension of extrinsic motivation with frequency, elaboration dimensions of creativity. From the results, it was concluded that, a significant positive correlation was found between curiosity, preference for challenge, and independent mastery dimensions of intrinsic motivation with total creative potential. These results confirms first hypothesis. It means learning disabled students motivated for creativity by their own drives (intrinsically motivated). Previous researches among normal population also support this relationship (Guilford, 1968; Dewett, 2007; Zhang and Bartol, 2010; Cerasoli et al., 2014; Liu et al., 2016). Kaczmarek (2012) revealed that intrinsic motivation results a higher evaluation of the creative process throughout all stages of creation. Creative capacity correlated highest with intrinsic motivation. Both creative capacity and intrinsic motivation correlated similarly with creativity styles subscales in magnitude and direction (Ceci and kumar, 2016).But, findings of this research also manifest that not all dimensions of intrinsic-extrinsic motivation demonstrate relation with all dimensions of creativity among learning disabled students that indicating a complex relation. A significant negative correlation is found of easy work assigned and getting grades dimensions of extrinsic motivation with total creative potential among learning disabled students. This finding has been empirically supported in several previous studies among normal population (Amabile, 1979; Amabile, Hennessey & Grossman, 1986; Hennessey & Zbikowski, 1993) and as accordance to second hypothesis. As, preference for challenge and curiosity are predictors of creativity among learning disabled students; thus third hypothesis is also accepted. While numerous studies found learning disabled students are motivated extrinsically rather intrinsically (Lincoin &Chazan, 1979;Harter, 1981;Rilett, 1998; Carlson, Booth, Shin, & Canu, 2001;Cameron& Pierce, 2002; Seyed, 2017).

Therefore, the further researches are needed to explore the interaction between intrinsic and extrinsic motivation with creativity among leaning disabled students.

LIMITATIONS AND SUGESSIONS:

The first limitation of this study is the sample taken from only two districts of Haryana. It may affect the generalization of the findings. Secondly, though it is quantitative research, the chance of the effect of social desirability and fixed response set is always there. Considering the above limitations, some suggestions may be given for future research like sample should be collected from a larger regional area to increase the generalizability of the study. Future studies might explore integrating multiple sources of information, such as questionnaires administering to parents and teachers etc. In our knowledge, there are no studies available with references to learning disabled students on intrinsic-extrinsic motivation in relation to Creativity in Indian social-cultural settings. These areas should be explored by more empirical evidences.

Implications:

Learning disabled students are often misunderstood and may be mistakenly seen as lazy or poorly motivated. The present research aids in getting a better understanding of the nature of motivation of learning-disabled students. The present findings would serve to incrementally attempt to bring awareness toward positive aspect of creative side of learning-disabled students. The results from our research suggest that parents, teachers by encouraging and promoting motivation of learning disabled open the door of success for them as learning disabled students might be creative and may be successful as few successful people like Walt Disney, Winston Churchill and Alexender Graham Bell all had learning disabilities.

Conclusion:

A significant positive correlation was found between curiosity, preference for challenge, and independent mastery dimensions of intrinsic motivation with total creative potential and significant negative correlation of easy work assigned and getting grades dimensions of extrinsic motivation with total creative potential among learning disabled students. Preference for challenge and curiosity are the potent predictors of creativity among learning disabled students. To conclude, learning disabled students driven by intrinsic motivation and who embrace life's challenges and are curious tend to come up with more creative ideas.

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