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An Examination of the Relationship Between Self-concept and Creative/Non-Creative Attitude in a Sample of Polish University Students Who Major in Special Education

Abstract

This study aimed to examine the relationship between self-concept and creative/non-creative attitudes among undergraduate students majoring in special education. A total of 99 Polish university students participated in the study. A creative/non-creative attitude – the dependent variable was examined by a Creative Behaviour Questionnaire by Popek. Students' self-concept (including self-esteem) – the independent variable was assessed with a Tennessee Self-Concept Scale by Fitts. The outcomes of the regression analysis proved that the strongest predictors were found for non-creative (reconstructive) attitudes. The personal barriers to developing students' creative attitudes (concerning self-concept) were identified. The article contains conclusions in conjunction with practical implications.

Keywords: *self-esteem, self-concept, special education, creative attitudes, teacher competence, higher education*

Introduction

Creativity is considered not only potential and necessity but also a value in contemporary teacher education (Dyrda & Przybylska, 2005; Karwowski, 2006; Karwowski et al., 2007; Li et al., 2022). From a special education perspective, adequate teachers' support for the development of children with disabilities is directly

linked to teachers' creativity or creative attitude. The low quality of expected standard pedagogical intervention activities can even force special education teachers to keep searching for new solutions or educational innovations that will make it possible to overcome numerous ongoing difficulties. A high creativity level, inherent in a creative attitude, could make this process faster and easier. However, creative competence does not constitute a well-exposed factor in the classifications of teachers' professional skills (Dyrda & Przybylska, 2006). Furthermore, it is not prioritised in teachers' preparation and professional development (Anderson et al., 2022).

Research Problem

Considering a multivariate investment approach, self-esteem is classified as one of the significant personal factors contributing to creative giftedness. To confirm this view, Sternberg and Lubart (1993, p. 11) claim that creatively gifted people need some degree of self-esteem because they have to believe in themselves and their ideas. These researchers can also note that: "This belief does not require that they think their ideas are absolutely correct... Rather, they need enough independence to believe their ideas are worthy of expression. In the face of criticism, sometimes there is little but self-esteem to get one through". Following this belief, we should also mention self-image barriers to creative behaviours denoting the lack of self-confidence in the value of one's own ideas (Rickards & Jones, 1991).

Importantly, based on past and recent research findings into the direction of the interplay between self-esteem and creativity of subjects representing various age groups, it is possible to confirm that the correlation between these two constructs is positive (Goldsmith & Matherly, 1988; Wang & Wang, 2016; Barbot, 2018). Therefore, students with high self-esteem should develop a creative attitude more easily. This consideration is also consistent with a notable notion by Dowd (1989), who concludes that creativity and self-concept are probably moderately positively related.

However, even though the relationship between self-concept and creativity is evident, self-esteem, which is part of self-concept, cannot always be proved as playing a "key role in facilitating creativity". Considering the strength, a correlation between self-esteem and creativity found in some research samples is marked. For example, it is likely to be much stronger in the case of the creatively gifted (Sternberg & Lubart, 1993). Moreover, Chen, He, and Fan (2022) demonstrated that self-esteem was positively related to creativity to a considerable degree in a sample of bilingual college students.

Research Focus

Our main research purpose was to assess the relationship between self-concept and creative/non-creative attitude in a sample of university students who majored in special education. Several stepwise multiple regression models were constructed to achieve this goal and find the best predictors of creative and non-creative attitudes.

Based on the research findings, we hypothetically presumed that there is a relationship between self-concept and creative/non-creative attitude regarding the outcomes of stepwise multiple regression analysis.

Research Methodology

General Background of Research

It is worthy of note that most of the literature of the 1980s and 1990s was concentrated exclusively on global self-esteem. However, for a few decades, many researchers interested in this topic, such as Harter, Marsh, Marsh & Shavelson, Swan, and Rosenberg, have stressed the importance of studying specific self-esteem, and such a suggestion is particularly valuable in terms of multidimensionality of self-concept, distinct facets of self (Rosenberg et al., 1995, p. 141). The notion somehow inspired our study on the relationship between different dimensions of self-concept and the creative/non-creative attitudes of university students.

Research Sample

99 Polish university undergraduate students who majored in special education participated in the current quantitative research. They represented two different specialisations and academic special education courses. 34 subjects (34.34%) enrolled in a special education academic course concerning the rehabilitation of the socially maladjusted. 64 undergraduates (64.65%) chose to study the education and rehabilitation of individuals with sensory impairments and intellectual disabilities (1 participant did not respond to the question – 1.01%). The average age in the respective sample was 24.18. All the participants were in their third year of study at Maria Curie-Skłodowska University. In terms of gender, women outnumbered men in the sample (89.90% of women and 10.10% of men).

Instrument and Procedures

The idea of the Creative Behaviour Questionnaire (KANH) by Popek is based on the assumption that creative and non-creative attitude is composed of cognitive and personal, also known as the characterological dimension (Gindrich & Kazanowski, 2017). The KANH was reported to have very good reliability (Cronbach's α for Conformity–Nonconformity Scale=.87, Cronbach's α for Algorithmic–Heuristic Behaviour=.83). The internal consistency of respective scales exceeds a threshold of .93 (Popek, 2010, pp. 30–32).

Tennessee Self Concept Scale (TSCS) is a well-standardised research tool with a wide range of applications, enabling a subject to make a multidimensional self-description in terms of self-esteem and other self-related aspects (Fitts, 1965). The data processing involved determining the levels of self-esteem, self-perception, and other properties of self (defensiveness, consistency, integrity, variability) in a randomised sample of university students.

The participants were familiarised with the strictly scientific purpose of the study, its anonymity and confidentiality. The researchers also notified the students of their right to refuse to participate in the assessment process at any time. The examination lasted about half an hour, and the respondents were asked to fulfil the rating scales after finishing their university classes.

Data Analysis

Several linear stepwise multiple regression models were constructed. Every model comprised a set of predicting/explanatory variables (self-esteem and self-concept) and response variables, namely creative and non-creative attitudes. Performing the stepwise multiple regression analysis, three separate sets (see models 1, 2, 3, Table 2, 4), combinations of the TSCS predictors of creative and non-creative attitude, were introduced. Model 1 encompassed the internal conflict, actual/false self and self-criticism scores. Model 2 involved a combination which pertained to global and specific self-esteem regarding identity, self-satisfaction, behaviour, somatic, moral-ethical, personal, social and family self-serving as the predictors of student creative and non-creative attitude. Model 3 was composed of other self-concept characteristics such as self-confidence, self-description accuracy, variability across various dimensions, and facets of perceived self.

Results

At the first stage of the analysis, the descriptive statistics values for creative and non-creative attitudes in the sample were determined. The respective statistical values are presented in Table 1. Based on the data summarised in Table 1 (e.g., M, Me, Q3), it may be said that the students had a higher intensification of self-reported creative attitudes than non-creative ones.

Table 1. Descriptive Statistics of Creative and Non-Creative Attitude in a Sample of Undergraduate Students (n=99)

Variable	M	Me	SD	Minimum	Maximum	Mode	N Mode	Q1	Q3	Range	Quartile Range
Creative Attitude	102.65	103	11.36	77	136	107	7	94	110	59	16
Non-Creative Attitude	88.86	89	11.64	64	127	90	7	81	95	63	14

Note: M – mean; Me – median; SD – standard deviation; Minimum – the lowest score; Maximum-the highest score; Q1 – lower quartile; Q3 – upper quartile; N mode – mode frequency

Table 2. Regression Analysis for Determining Predictors of Creative Attitude (Nonconformity+Heuristic Behaviour)

Model	R	R2	Adjusted R2	SE	F	p-value
1	.304	.092	.063	10.99	3.23	.025*
2	.255	.065	.035	11.15	2.20	.092
3	.131	.017	.007	11.32	1.70	.194

Note: * – is statistically significant

Based on the results of an analysis of regression which are visible in Table 2, we could claim that the proposed models explain just a modest percentage of variance regarding creative attitudes (model 1 – 9.2%, model 2 – 6.5%, model 3 – 1.7%). The highest value of a multiple correlation coefficient can be found with respect to model 1 of the creative attitude prediction (R=0.304). It indicates a weak linear relationship between creative attitude and certain dimensions of self-concept, such

as TNCONF, T/F, and SC, that have been included in it. F-value suggests omitting an analysis of models 2 and 3 because they do not allow for rejecting a hypothesis stating that the unstandardised and standardised regression coefficients that provide a basis for these models are indistinguishable.

Table 3. Predictive Validity of Self-Concept to Creative Attitude

Model	Predictors	Unstandardised Coefficients		Standardised Coefficients	T	p-value
		B	SE	Beta		
1	Intercept	101.969	7.116		14.329	.000*
	Total Net Conflict (TNCONF)	.065	.027	.234	2.368	.019*
	True/False Score (T/F)	2.969	1.315	.227	2.257	.026*
	Self-Criticism (SC)	-.206	.197	-.104	-1.046	.298

Note: * – is statistically significant

Taking a look at the data illustrated in Table 3, we may point at the two regression coefficients for model 1 that are statistically significant (p-value is lower than $\alpha=.05$). The awareness of these ratings lets us estimate the predictive value of creative attitude merely at a 9.2% confidence level (Table 2).

A value of regression coefficient for T/F seems to have a stronger effect on creative attitude than the respective value for TNCONF. The former association may mean that an increased student tendency to stress exclusively who they are and just as strong a tendency to reject those personal aspects which are not theirs can be the most influential factor in terms of an increase in the self-reported level of student creative attitude. However, despite a lower value of the regression coefficient concerning TNCONF, the association of this self-concept component is also significant and worth interpreting (Table 3). To make sense of the latter link, we may admit that whilst the students show a stronger affirmation of self, an increased tendency for underlining just positives about themselves and as strong a tendency for rejecting negatives, they are also more ready to take a creative attitude.

Based on the results of a multiple regression analysis which are summarised in Table 4, it may be said that the proposed predictive models for non-creative attitude much better explain the variance (model 1 – 37.1%, model 2 – 14.3%, model 3 – 17.3%) compared to the relevant models that pertain to creative attitude, even though the contributions are moderate.

Table 4. Regression Analysis for Determining Predictors of Non-Creative (Reconstructive) Attitude (Conformity+Algorithmic Behaviour)

Model	R	R2	Adjusted R2	SE	F	p-value
1	.609	.371	.345	9.419	13.915	.000*
2	.378	.143	.125	10.883	8.050	.000*
3	.416	.173	.156	10.691	10.075	.000*

Note: * – is statistically significant

Correlation coefficients regarding self-concept dimensions and non-creative attitudes indicate stronger interdependencies between response and explanatory variables. F value insinuates that all three models should be included because they allow to confirm the hypotheses stating that the unstandardised and standardised regression coefficients that provide a basis for these models are distinguishable.

Table 5. Predictive Validity of Self-Concept to Non-Creative (Reconstructive) Attitude

	Model	Unstandardised Coefficients		Standardised Coefficients	T	p-value
		B	SE	Beta		
1	Intercept	101.947	6.312		16.150	.000*
Predictors	Total Conflict (TCONF)	-.0120	.058	-.284	-2.057	.042*
	True/False Score (T/F)	5.210	1.131	.038	4.604	.000*
	Self-Criticism (SC)	-.823	.170	-.140	-1.665	.099
	Total Net Conflict (TNCONF)	-.040	.039	-.139	-1.011	.314
2	Intercept	30.825	14.585		2.113	.037*
Predictors	Personal Self (COLC)	.620	.217	.277	2.856	.005*
	Moral-Ethical Self (COLB)	.437	.210	.201	2.077	.040*
3	Intercept	90.042	4.786		18.811	.000*
Predictors	Column Total Variability (CTV)	.562	.148	.367	3.784	.000*
	Distribution of Responses (D)	-.131	.038	-.333	-3.431	.000*

Note: * – is statistically significant

Table 5 illustrates the detailed quantitative data on specified regression models encompassing consecutive combinations of self-concept dimensions (explanatory variables/predictors) and non-creative attitude (response variable). Analysing model 1 of the non-creative attitude prediction, we may see that the two regression coefficients (TCONF and T/F) appear to be statistically significant because all the respective p-values of T tests are below $\alpha=.05$. However, another two different aspects of self-concept (SC and TNCONF) were also incorporated into it. The entire model ensures the prediction at 37.1% of the explained variance of student non-creative attitudes. It is the highest level compared to the remaining two models.

Considering model 2 of the non-creative attitude prediction, each of the two values of regression coefficients (including the self-concept predictors COLC and COLB) are statistically significant. Therefore, both COLC and COLB have an impact on the non-creative attitudes formation. Being aware of these coefficients, we can estimate the predictive value of student reconstructive attitude, reaching a level of 14.3% of the variance explained by the entire model.

Analysing the data concerning model 3 of the non-creative attitudes prediction, the two values of regression coefficients (the predictors D and CTV) are statistically significant (see Table 6). Moreover, both D and CTV can influence the student acceptance of non-creative attitudes. Focusing on these coefficients, we may assess the predictive value regarding student reconstructive attitude with a confidence level of 17.3% of an overall variance explained by the model. Thus, trying to make sense of these two interdependencies of the distinguishable direction which are visible in model 3, we may confer that a strong student's sense of perceived diversity among specific self domains (such as somatic, moral-ethical, personal, family, social) is a quite good predictor of reconstructive attitudes formation. Moreover, we should also note that a high level of student confidence in a disclosed description of oneself lets us predict the suppression of such attitudes. However, this time the effect of the D score on the prediction is rather mild compared to CTV.

Discussion

Considering the regression analysis outcomes with respect to the intensity of creative attitude, we may infer that:

1. The variability of self-reported creative attitudes is somehow dependent on a few dimensions of self-concept embodied in a selection of regression models, but to a low degree. Thus, our hypothesis can be just partially confirmed regarding the described associations.

2. The most important component of self-concept, which influences self-reported creative attitudes, is a university student's tendency to emphasise personality areas denoting who she or he is, which co-occurs with an equally strong drive for the rejection of those elements which are not her or him.

Based on the outcomes of the regression analysis concerning the predictors of the self-reported reconstructive, non-creative attitudes we may focus our attention on the following aspects:

1. The variability of the self-reported non-creative attitudes may be better explained by the structural factors of self-concept compared to the variability of the self-rated creative attitudes. Thus, it is possible to accept the hypothesis for the selected domains of self-concept included in all the significant predictive models.
2. The crucial component of self-concept impacting the non-creative attitudes is the university students' tendency to highlight the personality sides describing who they are, which co-exists with an equally strong drive for rejecting those elements of self that are not them.
3. The last important factor affecting the students' self-reported non-creative attitudes is their approval of conflicting perceptions of self. In general, their inability to accept self-contradictions favours such attitudes.

Karwowski et al. (2007) claim that humans are neither born creative nor non-creative. Moreover, nothing and no one can deprive someone of creative potential, but a creative attitude's deficit may be linked to certain personal obstacles pertaining to the self-concept of preservice teachers. Thus, self-confidence, in combination with the creative attitudes of university students, could be translated into practice by introducing effective and innovative teaching strategies. The recent findings on attempts to enhance and support creativity at the higher education level seem to be very promising (Zielińska et al., 2022).

Conclusion

First of all, our findings prove the strongest associations between the T/F, TCONF scores of TSCS and university students' reconstructive attitudes incorporated into model 1 of prediction (the highest percentage of the variance explained – 37%). This outcome cannot be ignored in searching for those self-concept properties that may impede the students' creativity. Nevertheless, T/F is a predominant contributing factor regarding an increase in self-reported non-creative attitudes (it might also be noted for the creative attitudes, but to a lesser degree). If the students

emphasise who they are by seeing themselves in a positive or negative light, their reconstructive attitudes will be invulnerable to change. Another notable factor is TCONF. The link between TCONF and non-creative attitudes may direct our attention to the students' ability to accept ambiguities, contradictions, and incompatibilities of the self. Therefore, openness to internal conflicts seems beneficial in boosting university students' creative attitudes.

Our research aimed to recognise the barriers to student teachers' creativity. However, the revealed connections do not allow us to respond to all the questions or queries. We still need further studies in this area.

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