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CREATIVE SELF-EFFICACY: A COMPARATIVE STUDY OF OUTSTANDING AND ORDINARY STUDENTS IN THE UNITED ARAB EMIRATES

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Abstract. This study investigated the self-efficacy performance of outstanding and ordinary students. The study determined the level of creative self-efficacy among outstanding and ordinary students. A total of 76 undergraduates participated in the study, 37 outstanding students, and 39 ordinary students. Data were collected using an online survey questionnaire. The questionnaire consisted of the Abbott scale of creative self-efficacy. The scale contains 21 items that cover self-efficacy in creative thinking and self-efficacy in creative performance. The findings of the study showed that the level of creative self-efficacy is high among the participants. The results of the study revealed statistically significant differences due to gender variables in favour of male students. Similarly, significant differences are found in the total score of the Abbott scale of creative self-efficacy in favour of the outstanding students. The study offers several recommendations.

Keywords: creative self-efficacy, gender, ordinary students, outstanding students, performance.

Introduction

The ultimate goal of education is to develop creativity and thinking in all forms. Therefore, the role of educational institutions is thus growing. These institutions are tasked to prepare capable creative individuals who can solve the problems they face in their lives and possess the ability to think of various alternatives for coping with all situations (Khambayat, 2017).

One of the most important duties and priorities of developed countries to maintain their progress is nurturing creative and talented individuals. The Arab world has also paid the same interest by providing many pertinent programmes, and this interest is the focus of the Arab strategy for talent and creativity in 2009 (Cooc, 2019).

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Educating creative and talented individuals is a major educational priority in the United Arab Emirates (UAE). As this interest is relatively new in the country, a plan is necessary for regulating programmes for the talented. The National Plan for Giftedness is an ideal framework for leading efforts in planning and implementing gifted programmes in the UAE over the next five years. It is based on the most recent research in the field of gifted education. The plan serves as a reference and methodological structure that organises all practices that direct efforts toward promoting talent and nurturing the gifted (AlGhawi, 2017).

As the hope of society towards progress in all aspects of life, university students bear the responsibility of overcoming various difficulties. This is because they represent the starting point of human resources in all institutions. The UAE, like other countries, is full of creative and distinguished students. In universities, those in charge of the educational process are required to reveal aspects of excellence and creativity among students. Various activities and programmes are available in the places where creative and distinguished students are located in different universities. Accordingly, universities are entrusted with preparing students' intellectual and psychological development to achieve the hope of their societies, especially now, when progress necessitates thought and creativity.

1. Creative self-efficacy

Creative self-efficacy is a relatively recent topic in educational psychological literature. Interest in it began at the beginning of the current century (Mróz & Ocetkiewicz, 2021; Tierney & Farmer, 2002). Creative self-efficacy is a special case of general self-efficacy. General self-efficacy is the degree of an individual's belief in their ability to successfully perform a particular task within a specific context, regardless of the degree of difficulty. Creative self-efficacy refers to an individual's beliefs about their creative abilities and motivation towards creativity, possession of the knowledge necessary for creativity, and the courses of action required to meet various creative demands to produce new products (Al-Dhaimat et al., 2020).

Zhou et al. (2008) defined creative self-efficacy as the awareness of individuals to produce new and useful ideas. In detail, they viewed creative self-efficacy as the specific beliefs in an individual's abilities that follow motivation, cognitive resources, and courses of action needed to deal with different circumstances. Diliello et al. (2011) regarded creative self-efficacy as self-assessment in which individuals evaluate their creative potential particularly in solving creative problems and coming up with new ideas. Bandura (2007) pointed out that self-efficacy is affected by individuals' thinking, emotions, and behaviour. Individuals' beliefs about their mental and emotional capabilities direct their behaviour towards choosing different activities and life tasks. With continuous effort and perseverance, individuals achieve their goals through a certain level of emotional arousal that may disable or encourage their behaviours.

Abbott (2010) defined creative self-efficacy in two ways. The first is creative thinking self-efficacy. It denotes the efficacy of one's internal mental condition, such as the ability to exhibit innovation through creative thought. Fluency, adaptability, originality, and attention to detail are among some of the characteristics that enable people to come up with fresh and relevant ideas. Self-efficacy in creative performance is the second. It denotes the efficacy of an external social context, such as the expression of creativity through individuals' internal

and external systems interacting throughout a creative performance. Motives, personality, mood, social setting, and other factors all fall within this category.

Creative self-efficacy plays a crucial role in promoting innovation. It can be enhanced by improving the classroom climate or by continuously reinforcing teachers' support for the behaviour of students. Enhancing students' creative self-efficacy depends on teachers' awareness of the creative process as well as its scientific and practical frameworks (Al-Dhaimat et al., 2020; Beghetto, 2006). Khatena (1995) and Karwowski et al. (2020) conducted many investigations about creative cognition and its relationship to creativity as a whole and commented that an individual who accurately perceives himself as a creator is an individual who is expected to act in creative ways.

Nevertheless, creative people need guidance toward the right path. For example, a graduate student who has a promising research idea needs a wise supervisor and/or mentor who can help them test their idea, which later leads to several conclusions. People lacking guidance fear failure. They have less tolerance for ambiguity, less knowledge about creative events, and less ability to take risks than individuals directed by supervisors and specialists. The environment also plays an important role in the success of the creative process. Most creative people migrate and search for a suitable environment, and sometimes they adopt the environment where they live to match their creative abilities and skills.

To be more creative, a person needs an increase in creative awareness. They must appreciate the importance of creativity for the growth of their personality and the development of their talents. They should be aware of the rules that govern creativity throughout the history of civilizations and those for solving the problems of present and future societies (Runco, 2002).

People with creativity embrace chaos as a daily reality. At the same time, they possess the ability to transcend and arrange chaos in the way they see fit. They find innovative solutions to the problems resulting from the chaos and enjoy the process of research and thinking away from any external pressures brought about by the surrounding environment (the internal pressures result from internal control (Pannells & Claxton, 2008).

2. Previous studies

Many previous studies deal with creative self-efficacy, and they attempt to reveal its relationship to many variables. A study conducted by Beghetto (2006) on the creative self-efficacy among middle and high school students, discovered a relationship between creative self-efficacy and attitude toward mastery, beliefs about creative performance, and comments from the teachers on the student's performance. Furthermore, students with higher degrees of creative self-efficacy were more engaged in better activities and performed than those with lower levels.

Michael et al. (2011) investigated the relationship between creative self-efficacy, optimism, and innovative behaviour. The results of the study showed that employees with high creative self-efficacy have a high level of innovative behaviour at work. Optimism plays as a mediator when creative self-efficacy is high. If employees have high levels of creative self-efficacy and optimism, they are prone to creative behaviours at work. Karwowski (2012) studied the relationship between indicators of curiosity manifestations, creative self-efficacy, and creative personal identity. The findings of the study revealed a strong relationship between high curiosity, creative

self-efficacy, and creative personal identity. Shiu et al. (2012) explored the role of creative self-efficacy as a mediator between learning motivation and innovative behaviour. They found a relationship between learning motivation, innovative behaviour, and creative self-efficacy. This relationship was mediated by a link between learning motivation and creative self-efficacy.

A study by al Azzam and Talafha (2013) aimed to reveal the relationship between the level of metacognitive thinking and perceived self-efficacy and control centre among a sample of upper basic stage students in light of certain variables. The study sample includes 805 male and female students, and they possess a high level of metacognitive thinking. The results indicate a correlation between metacognitive thinking and self-efficacy. Jaussi and Randel (2014) determined the requirements and processes that lead to progressive creativity and rooted creativity. They conducted a study on eight organisations and found a positive relationship between creative self-efficacy and rooted creativity as individuals who are highly creative can be those with rooted creativity.

Al-Zoubi (2014) investigated the relationship between the creative self-efficacy of students and teachers in Jordan. The author used the Abbott scale of creative self-efficacy (ASCSE) to measure the creative self-efficacy of 190 talented male and female students from the basic seventh and tenth grades and 44 teachers of gifted students. The levels of creative self-efficacy of the gifted students and their teachers were found high. A study conducted by Malik et al. (2015) revealed the role of external rewards in creativity. The study includes 181 workers. The external rewards for positive creativity predicted creative performance when employees have high creative self-efficacy.

Heilat (2017) measured the relationship between creative self-efficacy and metacognitive thinking among students of the professional diploma in teaching at Abu Dhabi University, UAE. The study sample includes 135 female students. The Schraw and Dennison scale was used to measure metacognitive thinking (Song et al., 2021) while the ASCSE was used to measure creative self-efficacy (Table 3). The levels of both creative self-efficacy and metacognitive thinking were found high. In addition, the researcher found that self-efficacy is not related to specialization. Likewise, no differences were observed in metacognitive thinking according to specialization. However, the results indicated a predictive relationship between creative self-efficacy and metacognitive thinking.

This review of previous studies shows diversity in the objectives, countries, samples, variables, procedures, tools, and findings. Similarities lie in how these studies explore creative self-efficacy, that is, separately or by adding variables such as extra-cognitive thinking, curiosity, optimism, innovative behaviour, creative personal identity, and others. The current study is distinguished by the fact that it deals with a sample of two categories of students (the outstanding and the ordinary). No previous studies use this exact sample, whether foreign or Arab, at the undergraduate level. Previous studies are used to justify the research problem and theoretical basis as well as the selection of study tools and interpretation of the results.

3. Research questions

This study aims to determine the level of creative self-efficacy among students at Al Ain University (AAU), UAE. The study attempts to identify the level of creative self-efficacy among outstanding students at AAU. Accordingly, the study should provide answers to the following research questions:

1. What is the level of creative self-efficacy among outstanding and ordinary students at AAU?
2. Are there statistically significant differences at the significance level (a ≤ 05.0) in students' performance on the ASCSE due to gender?
3. Are there statistically significant differences at the significance level (a ≤ 05.0) in students' performance on the ASCSE due to the student category?

4. Objective and significance of the study

This study aims to determine the level of creative self-efficacy among outstanding students in the College of Education, Humanities and Social Sciences (CEHSS) at AAU. The importance of this study stems from the segment it belongs to, which is outstanding students. Knowledge of the level of creative self-efficacy for outstanding students at the university level is scarce. To the best of the researchers' knowledge, this study is the first to measure the level of creative self-efficacy among outstanding and ordinary students in the CEHSS. Thus, this research contributes to enriching the Emirati literature and filling the gap in this field.

In addition, the current study provides faculty members at the university with information about the level of creative self-efficacy among outstanding students. The information can then help them modify the contents of the courses, that is, how lessons are presented to students in general and outstanding students in particular. This study helps build training programmes for outstanding students based on the level of creative self-efficacy among undergraduate students and spread interest in creative self-efficacy.

5. Study population and sample

The study population consists of all outstanding and normal. The outstanding student list consists of male and female undergraduate students who have a minimum grade point average (GPA) of 3.5 or higher and are enrolled in the CEHSS. On the other hand, the undergraduate students enrolled at the CEHSS who have less than 3.5 GPAs are classified as ordinary students.

As for the sample, the total number is 76. The number of outstanding students is 37, with 23 male and 14 female students. The number of ordinary students is 39, with 14 male and 25 female students. They were selected in the intentional sample during the academic year 2020–2021. The reasons behind their selection are these students are among those studied under the supervision of one of the researchers, and they showed a willingness to answer the study tool. Moreover, understanding and cooperation from the administration were obtained to proceed with the study using this sample. Table 1 shows the distribution of the sample.

Table 1. The sample (source: created by authors)

Gender	STUDENT		Total
	Outstanding	Ordinary	
Male	23	14	37
Female	14	25	39
Total	37	39	76

6. Research tool

Data were collected using an online survey questionnaire. The questionnaire consisted of the ASCSE. The ASCSE consists of 21 items that cover two main areas: self-efficacy in creative thinking and self-efficacy in creative performance. The former includes four dimensions (self-efficacy in fluency, flexibility, originality, and details), whereas the latter includes three dimensions (self-efficacy in education for creativity, communication and promotion of creativity, and preservation of the creative personality). The ASCSE is found suitable for adults and children because the items are general and address an individual's own beliefs about creativity, regardless of age. As in the original ASCSE, the Likert scale of always, often, sometimes, rarely, and never was stated in the questionnaire, but converted later on to 5, 4, 3, 2, and 1, respectively. The ASCSE was modified for the Emirati environment (Abbott, 2010).

7. Validity of the study instrument

The validity of the study instrument was verified by an independent panel of arbitrators. The tool was presented to a committee of nine specialist arbitrators from AAU with experience and expertise in the fields of talent, excellence, creativity, special education, and educational psychology. Researchers modified the ASCSE in accordance with the arbitrators' suggestions. All comments were considered, and the validity of the internal consistency was calculated through the correlation between performance on the two main dimensions and areas. As presented in Table 2, the results of the analysis indicate that the correlation coefficients are statistically significant, which means the validity of the tool is acceptable.

Table 2. Total score and correlation coefficients for each item (source: created by authors)

Item	Total score	Item	Total score
1	0.884	12	0.829
2	0.820	13	0.763
3	0.834	14	0.849
4	0.775	15	0.872
5	0.797	16	0.888
6	0.851	17	0.910
7	0.859	18	0.891
8	0.623	19	0.875
9	0.618	20	0.825
10	0.854	21	0.617
11	0.842		

Note: Total scores are significant at 0.05 (2-tailed).

Table 3. Adopted criteria for measuring creative self-efficacy (source: created by authors)

CREATIVE SELF-EFFICACY	LOW	MEDIUM	HIGH
Items	1.00–2.499	2.50–3.74	3.75–5.00
Dimensions	3.00–7.99	8.00–11.99	12.00–15.00
Creative thinking domain	4.00–30.00	30.10–55.00	55.1–70.00
Creative performance domain	4.00–30.00	30.10–55.00	55.1–70.00
Total score	21.00–70.00	70.10–90.00	90.10–125.00

8. Findings

8.1. Level of creative self-efficacy

The first research question asked, "What is the level of creative self-efficacy among outstanding and ordinary students at AAU?". To answer this question, we calculated the averages of the items as presented in Table 4. The response categories were divided as follows: highest value − the lowest value of category length divided by the number of categories. Example: 5 − 1 / 5 = 0.8.

Accordingly, the researchers considered the score of 1–1.8 very weak, 1.81–2.6 weak, 2.61–3.4 average, 3.41–4.2 high, and 4.21–5 very high. As presented in Table 4, the findings of the study indicate that the levels of creative self-efficacy range between high and very high and that the total degree is high.

Table 4. Level of creative self-efficacy (N = 76) (source: created by authors)

Item	Average	Level of creative self-efficacy	Item	Average	Level of creative self-efficacy
1	4.039474	High	12	4.026316	High
2	4.078947	High	13	4.381579	Very high
3	4.355263	Very high	14	4.368421	Very high
4	4.118421	High	15	4.315789	Very high
5	4.157895	High	16	3.973684	High
6	4.131579	High	17	3.960526	High
7	4.078947	High	18	3.671053	High
8	3.421053	High	19	4.013158	High
9	3.473684	High	20	4.065789	High
10	3.802632	High	21	3.684211	High
11	3.842105	High	Total average	3.99812	High

8.2. Differences between male and female students

The purpose of stating the second research question is to find statistically any significant differences between male and female students on creative self-efficacy. To answer the question, we calculated the averages of male and female students on the ASCSE. As presented in Table 5, the average score for male students (average = 4.3308) is higher than that of female students (average = 3.6825).

A Student's *t*-test was used to determine whether the difference was statistically significant. As indicated in Table 5, the level of significance is 0.001, which indicates a statistically significant difference with respect to gender. Given the average of males = 4.3308 and the average of females = 3.6825, the difference in creative self-efficacy is in favour of males.

Table 5. Gender differences on creative self-efficacy (source: created by authors)

Gender	Number	Average	Standard deviation	*t*-value	*p*-value
Male	37	4.3308	0.78559	3.362	0.001*
Female	39	3.6825	0.88861		

**Note:* Significant at 0.05 level (2-tailed).

8.3. Differences between outstanding and ordinary students

Like the second research question, the third research question aimed to identify statistically significant differences between outstanding and ordinary students on the ASCSE. For this purpose, we calculated the students' averages. As presented in Table 6, the average score of outstanding students (average = 4.3874) is found higher than that of ordinary students (average = 3.6288). A Student's *t*-test was used to determine whether the difference was statistically significant.

As indicated in Table 6, there is a statistically significant difference between outstanding students and ordinary students in their performance on the ASCSE (*p*-value = 0.000). With consideration of average scores, the difference in creative self-efficacy is in favour of the outstanding students. Moreover, Table 7 showed that the average score of male outstanding students (average = 94.7101) is found higher than that of male ordinary students (average = 72.9560). Likewise, the average score of female outstanding (average = 79.5458) is much higher than that of female ordinary students (average = 70.4265).

Table 6. Creative self-efficacy differences between outstanding and ordinary students (source: created by authors)

Student	Number	Average	Standard deviation	*t*-value	*p*-value
Outstanding	37	4.3874	.81589	4.051	0.000*
Ordinary	39	3.6288	.81614		

**Note:* Significant at 0.05 level (2-tailed).

Table 7. Male or female outstanding against male or female ordinary (source: created by authors)

Gender	Status	Mean	Number	Standard deviation
Male	Outstanding	94.7101	23	7.74591
	Ordinary	72.9560	13	17.31782
	Total	86.8545	36	15.90094
Female	Outstanding	79.5458	13	21.92576
	Ordinary	70.4265	23	15.87728
	Total	73.7196	36	18.52065

Discussion

The study revealed at least high levels of creative self-efficacy among respondents. This result can be attributed to the fact that the nature of the programmes and activities offered to students provides them with opportunities to create tasks that require creative thinking. Students' high levels of creative self-efficacy may be due to the presence of compulsory courses, such as talent courses. Mental excellence, thinking skills, and self-assessment, which are evident in these courses, enhance and develop students' creative skills and personal traits.

Moreover, modern curricula focus on providing courses and lectures that move students from the stage of knowledge acquisition to the stage of knowledge production. Furthermore, the students are on the verge of graduating from the university as they are in their fourth year. Their feelings of pride and achievement and self-confidence for reaching this level in their life path are reflected in their positive motivation, beliefs, and creative self-efficacy. Individuals who have a high level of creative self-efficacy feel more confident and understand difficulties as a challenge (Michael et al., 2011).

The findings of the study revealed gender differences among the participants. The presence of statistically significant differences in creative self-efficacy in favour of male students may be attributed to the lack of similarity between male and female students in their latent creative abilities. Another reason is the role of parents which may be positive for both genders, but support, motivation, and ambition are higher for males. The findings differ from the results of a previous study (Gibbs, 2009). However, our results are in line with the findings reported by Beghetto (2006) wherein creative self-efficacy is in favour of males.

The results of the study indicated significant differences between outstanding and ordinary students on creative self-efficacy. These findings can be attributed to the outstanding students' ability to dialogue, interact and participate in the various activities held by the university. By contrast, ordinary students usually do not participate in such activities because they lack initiative. The reason for the superiority of outstanding students over ordinary students in the total score of creative self-efficacy is that the former believe that their creative abilities may assist them in achieving creative outputs. They believe that even if their creative abilities cannot be of help at present, they will be in the future when they are the subject of responsibility and work.

On the contrary, the beliefs of ordinary students about their creative abilities may be affected by the reality in which they live. Given the obstacles they face, whether in their studies, work, or private lives, their reality may not provide them with opportunities wherein creative abilities are required. Consequently, their beliefs about their creative self-efficacy is negatively affected. Moreover, the results may also reflect the great interest and focus of universities in developing creative thinking skills and creativity, particularly among outstanding students. This is evinced by the presence of courses that support creative thinking skills such as talent and mental superiority.

Conclusions

The nature of the programmes and activities offered to students provides them with opportunities to perform creative thinking. Students with high levels of creative self-efficacy may be due to the presence of compulsory courses, such as talent courses. Mental excellence, thinking skills, and self-assessment, which are evident in these courses, enhance and develop students' creative

skills and personal traits. Moreover, modern curricula focus on providing courses and lectures that move students from the stage of knowledge acquisition to the stage of knowledge production. Furthermore, the students are on the verge of graduating from the university as they are in their fourth year. Their feelings of pride and achievement and self-confidence for reaching this level in their life path are reflected in their positive motivation, beliefs, and creative self-efficacy.

The presence of statistically significant differences in creative self-efficacy in favour of males may be attributed to the lack of similarity between male and female students in their latent creative abilities. Another reason is the role of parents which may be positive for both genders, but support, motivation and ambition are higher for males. The reasons for the superiority of the outstanding students over other ordinary students in the total score of creative self-efficacy are the former's ability to dialogue, interact and participate in the various activities held by the university. Outstanding students also believe that their creative abilities may assist them in achieving creative products.

Based on the findings of the study, we believe that universities should offer courses and training programmes aimed to develop creative self-efficacy among faculty members and outstanding and ordinary students. Educational and creative self-efficacy programmes should be included in university curricula. Similarly, researchers should conduct a comparative study of the impacts of social, economic, and cultural factors on the creative self-efficacy among outstanding and ordinary students at the university level. In addition, more studies should be carried out to find out the relationship between creative self-efficacy and other variables (*e.g.* humanities and scientific disciplines) and other categories (*e.g.* students with motor and hearing disabilities).

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