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## Predictors of the Creative Islamic Personality

### Penentu Keperibadian Islam Kreatif

Nourah bint Abdullah bin Matib Alshehri \*

#### Abstract

This paper, focusing on students of Islamic studies in public universities, was conducted to investigate the role of imaginal, intellectual, and emotional overexcitability in the creative Islamic personality. Also, the influence of self-efficacy and the creative environment on these three forms of overexcitability and the Islamic creative personality in public universities were examined. The sample comprised 396 Islamic students from 13 universities. The following instruments were used: the overexcitability (Imaginational, Intellectual, and Emotional) subscales, Creative Environmental Scale, Self-Efficacy Scale, and Islamic Creative Personality Scale. The data were analyzed through structural equation modeling. The results revealed the following: (1) Increases in intellectual and emotional overexcitability lead to the enhancement of the Islamic creative personality. (2) An enhancement in creative self-efficacy leads to the enhancement of the creative personality. (3) An enhancement in the creative environment leads to the enhancement of the Islamic creative personality. (4) Self-efficacy and the creative environment mediate the effects of intellectual and emotional overexcitability on the Islamic creative personality.

**Keywords:** Environmental Creativity, Overexcitability, Personal Creativity, Self-Efficacy.

#### Abstrak

Kajian terhadap pelajar-pelajar pengajian Islam universiti awam ini dijalankan untuk mengetahui peranan keterlaluhan berlebihan dalam imiginasi, intelektual, dan emosi dalam keperibadian Islam kreatif. Ia juga bertujuan mengetahui pengaruh kecekapan sendiri dan persekitaran kreatif terhadap ketiga-tiga bentuk keterlaluhan berlebihan dan keperibadian Islam kreatif di universiti awam. Sampel kajian adalah terdiri daripada 396 orang pelajar pengajian Islam dari 13 buah universiti awam. Instrumen yang digunakan merupakan sub-skala keterlaluhan berlebihan (Imaginational, Intellectual, and Emotional), Skala Persekitaran Kreatif, Skala kecekapan sendiri, dan Skala Keperibadian Islam kreatif. Kajian ini menggunakan Structural Equation Modelling (SEM) sebagai kaedah analisis data. Hasil kajian mendapati: (1) Peningkatan kelebihan keterlaluhan intelektual dan emosi menyebabkan peningkatan keperibadian

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Islam kreatif. (2) Peningkatan kecekapan sendiri kreatif membawa kepada peningkatan daya kreatif. (3) Peningkatan dalam persekitaran kreatif membawa kepada peningkatan keperibadian Islam kreatif. (4) Kecekapan sendiri dan persekitaran kreatif merupakan pengantara antara kesan kelebihan keterlaluan intelektual dan emosi terhadap keperibadian Islam kreatif.

**Kata Kunci:** Kreativiti persekitaran, keterlaluan berlebihan, kreativiti keperibadian, kecekapan sendiri.

### Introduction

An Islamic society is based on the behavioral characteristics of the Islamic personality of Muslims. The Islamic personality views Islam as an approach and behavior that have positive effects on the individual and society. An individual with an Islamic personality modifies and adjusts their behavior to conform to Islamic teachings in order to improve their society. Islam encourages creativity in the sciences and contributes to the development of the creative and integrative Islamic personality. Therefore, it is necessary to identify the influential factors in the creative Islamic personality. For example, the Al-Sharia sciences, such as the hadith of the Prophet Mohammad, have historical, analytical, critical, inductive, inferential, and explanatory dimensions. They are considered to be creative and luminous works that save humanity from ignorance, delinquency, intellectual loss, and mental dispersion. In addition, they demonstrate the creativity of Muslim scholars. They reflect the capacity of the Muslim mind to use the available resources for its development (environmental creativity) and the enhancement of the creative personality. Thus, an aim of the Islamic university curriculums in the Kingdom of Saudi Arabia (KSA) is the development of the creative personality and creative individuals. This requires researchers and policy makers in Islamic educational studies to identify the influences, such as overexcitability, a creative environment, and self-efficacy, on the creative personality.

Critical analyses of the related literature have revealed a gap in the understanding of the contribution of overexcitability to the creative personality through self-efficacy and the creative environment. Therefore, this study was conducted to determine the relationship between overexcitability and the creative personality as mediated by creative self-efficacy and the creative environment. The study contributes to the university's vision, mission, and goals. It also aimed to evaluate the students' attributes by revealing the keys to their creativity, i.e., the pivotal patterns in and features of their personalities.

## Theoretical Background

### Creativity

Creativity is an important human characteristic. It is the main driver of innovation and development. Creativity has been described as “the pattern or essence of existence that represents pure human potential”.<sup>1</sup> To study and to enhance this feature, a discussion on the meaning of creativity is necessary. Almost all of the definitions include novelty and interest, the core elements of creativity<sup>2</sup>.

Creativity has received a great deal of attention in education research. Two major research streams have emerged: the study of individual creative thinking and the elucidation of the creative personality. Previous studies have highlighted the relationship between creativity and the creative personality<sup>3,4</sup>. For example, Meneely and Portillo<sup>5</sup> discussed the predictive ability of cognitive flexibility regarding the creative personality. They asserted that a creative personality is a predictor of creative production. Tsai<sup>6</sup> also found a creative personality to be a predictor of creativity.

Several models have focused on the personal factors in and environmental determinants of creativity. For example, Rhodes<sup>7</sup> described creativity as a construct with four components: (a) the creative person, (b) the creative process, (c) the creative product, and (d) the creative environment. Rhodes explained creativity as a process in which an individual develops new products through implicit cognitive thinking and a sup-

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<sup>1</sup> Lemons, Gay. "Diverse perspectives of creativity testing: Controversial issues when used for inclusion into gifted programs." *Journal for the Education of the Gifted* 34, no. 5 (2011): 742-772. p. 151

<sup>2</sup> Runco, Mark A. "Products depend on creative potential: a comment on the productivist industrial model of knowledge production." *Gifted and Talented International* 25, no. 1 (2010): 81-87.

<sup>3</sup> Batey, Mark, and Adrian Furnham. "Creativity, intelligence, and personality: A critical review of the scattered literature." *Genetic, social, and general psychology monographs* 132, no. 4 (2006): 355-429.

<sup>4</sup> Meneely, Jason, and Margaret Portillo. "The adaptable mind in design: Relating personality, cognitive style, and creative performance." *Creativity Research Journal* 17, no. 2-3 (2005): 155-166.

<sup>5</sup> Ibid.

<sup>6</sup> Tsai, Kuan Chen. "Taiwanese elementary students' creativity, creative personality, and learning styles: An exploratory study." *Alberta Journal of Educational Research* 60, no. 3 (2014): 464-473.

<sup>7</sup> Rhodes, Mel. "An analysis of creativity." *The Phi Delta Kappan* 42, no. 7 (1961): 305-310.

portive environment. Keller-Mathers<sup>8</sup> and Jordanous<sup>9</sup> discussed the effectiveness of the Rhodes model for studying creativity in the teaching–learning process. These four concepts have also been studied individually<sup>10</sup>.

### Creative Personality

In Islam, personality is defined as an inclusive and integrated lifestyle that leads to an approach that links every aspect of behavior, attitudes, and feelings. Islam as a religion emphasizes the integrative Islamic personality. Haque<sup>11</sup> highlighted the difference between the essential understanding or concept of personality and the Islamic concept of personality. Integrating the Islamic and Western perspectives, Ismail and Tekke<sup>12</sup> defined Islamic personality as “one’s level of striving to acquire the faith of God and follow the prophet Muhammad as understood according to the principles of Islam, and acting in accordance with that faith; the level and manifestation of striving personally in everyday life; and leading to the ability of self-worth and regard.” Tekke and Ismail argued that the integrative Islamic personality has four constructs: belief in God, awareness of prophetic teaching, self-striving, and self-regard. In sum, the Islamic personality combines the oneness of God: the prophecy and the factors of the self to achieve harmony and balance in individual daily life.<sup>13</sup>

The search for the characteristics that are common to all creative individuals has revealed a somewhat stable set of essential features. They include conscience, self-acceptance, impulsivity, autonomy and self-confidence, broad interests, high energy, attraction to complexity, a high

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<sup>8</sup> Keller-Mathers, Susan. "1. Building Passion and Potential for Creative Learning in Higher Education." *Collected essays on learning and teaching* 4 (2011): 1-6.

<sup>9</sup> Jordanous, Anna. "Four PPP Perspectives on computational creativity in theory and in practice." *Connection Science* 28, no. 2 (2016): 194-216.

<sup>10</sup> Garcês, Soraia, Margarida Pocinho, Saul Neves de Jesus, and João Viseu. "The impact of the creative environment on the creative person, process, and product." *Avaliação Psicológica* 15, no. 2 (2016): 169-176.

<sup>11</sup> Haque, Amber. "Psychology from Islamic perspective: Contributions of early Muslim scholars and challenges to contemporary Muslim psychologists." *Journal of religion and health* 43, no. 4 (2004): 357-377.

<sup>12</sup> Ismail, Nik Ahmad Hisham, and Mustafa Tekke. "Development and initial validation of integrative Islamic personality inventory." *Advances in Environmental Biology* 9, no. 18 (2015): 163-171.

<sup>13</sup> Ibid.

evaluation of aesthetics, and openness to experience.<sup>14,15</sup> William<sup>16</sup> defined the creative personality as a construct comprising four dimensions: curiosity, tendency to complexity, risk-taking, and imagination. In the present study, the creative personality is characterized by high self-efficacy, independence, openness, flexibility, perseverance, intuitiveness, a strong work ethic, sensitivity to problem-solving, an attraction to issues that present challenges and require thinking, the ability to adapt to difficult situations, and the ability to assume responsibility.

Studies have explored the factors, such as environmental variables, overexcitability, the creative environment, and self-efficacy, that affect the creative personality. Consideration should also be given to the facets of creativity or creative output, the creative environment, and the capabilities of the creative person<sup>17,18,19,20,21,22</sup>. For example, Kandler et al.,<sup>23</sup> asserted that environmental factors were the influence on the creative personality.

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<sup>14</sup> Amabile, T. M. "Creativity in Context. Update To the Social Psychology of Creativity/Teresa M. Amabile." *Boulder, Colorado: Westview Press.*—336 p (1996).

<sup>15</sup> Feist, Gregory J. "A meta-analysis of personality in scientific and artistic creativity." *Personality and social psychology review* 2, no. 4 (1998): 290-309.

<sup>16</sup> Williams, Frank. *TCD. Test della creatività<sup>azzn</sup> e del pensiero divergente*. Edizioni Erickson, 1994.

<sup>17</sup> Baer, John. "Why teachers should assume creativity is very domain specific." *The International Journal of Creativity & Problem Solving* (2011).

<sup>18</sup> Batey, Mark, and Adrian Furnham. "Creativity, intelligence, and personality: A critical review of the scattered literature." *Genetic, social, and general psychology monographs* 132, no. 4 (2006): 355-429.

<sup>19</sup> Deng, Lifang, Lijuan Wang, and Yanyun Zhao. 2016. "How Creativity Was Affected by Environmental Factors and Individual Characteristics: A Cross-Cultural Comparison Perspective." *Creativity Research Journal* 28 (3): 357–66.

<sup>20</sup> Jordanous, Anna. "Four PPPPerspectives on computational creativity in theory and in practice." *Connection Science* 28, no. 2 (2016): 194-216.

<sup>21</sup> Kandler, Christian, Rainer Riemann, Alois Angleitner, Frank M. Spinath, Peter Borkenau, and Lars Penke. "The nature of creativity: The roles of genetic factors, personality traits, cognitive abilities, and environmental sources." *Journal of personality and social psychology* 111, no. 2 (2016): 230.

<sup>22</sup> Keller-Mathers, Susan. "1. Building Passion and Potential for Creative Learning in Higher Education." *Collected essays on learning and teaching* 4 (2011): 1-6.

<sup>23</sup> Kandler, Christian, Rainer Riemann, Alois Angleitner, Frank M. Spinath, Peter Borkenau, and Lars Penke. "The nature of creativity: The roles of genetic factors, personality traits, cognitive abilities, and environmental sources." *Journal of personality and social psychology* 111, no. 2 (2016): 230.

### Over excitability

The present study is based on Dabrowski's<sup>24</sup> theory of positive disintegration (TPD) and theory of emotional development. The TPD emphasizes the unique role of emotion in shaping personality along a continuum ranging from the primitive level of development (represented by biological instincts) to advanced levels of development (represented by autonomy, authenticity, and altruism<sup>25</sup>). Furthermore, at the core of the TPD is the innate developmental potential that consists of intelligence and specific abilities. The TPD emphasizes five levels of development: initial, unilevel, spontaneous multilevel, organized, and secondary integration<sup>26</sup>. Positive disintegration occurs when the lower levels of personality structures are dismantled and replaced with higher levels through a process that includes "positive maladjustment"<sup>27</sup>.

Dabrowski<sup>28</sup> asserted that individuals with the highest levels of overexcitability are more capable of moving upward on the continuum to achieve their developmental potential and ideal personality. According to Dabrowski<sup>29</sup>, "the disintegration process, through loosening and even fragmenting the internal psychic environment, through conflicts within the internal environment and with the external environment, is the ground for the birth and development of a higher psychic structure". Daniels and Piechowski<sup>30</sup> defined the construct as follows: "Overexcitability is an innate tendency to respond in an intensified manner to various forms stimuli, both external and internal . . . It means that persons may require less stimulation to produce a response, as well as stronger and more lasting reactions to stimuli".

<sup>24</sup> Dąbrowski, Kazimierz, Michael Marian Peichowski, Dexter R. Amend, and Marlene King. *Multilevelness of emotional and instinctive functions*. Towarzystwo Naukowe, Katolickiego Uniwersytetu Lubelskiego, 1996.

<sup>25</sup> Mendaglio, Sal, ed. *Dabrowski's theory of positive disintegration*. Great Potential Press, Inc., 2008.

<sup>26</sup> Mendaglio, Sal, ed. *Dabrowski's theory of positive disintegration*. Great Potential Press, Inc., 2008.

<sup>27</sup> Dąbrowski, Kazimierz. *Psychoneurosis is not an illness: Neuroses and psychoneuroses from the perspective of positive disintegration*. London: Gryf Publications, 1972. p:125

<sup>28</sup> Dąbrowski, Kazimierz, Michael Marian Peichowski, Dexter R. Amend, and Marlene King. *Multilevelness of emotional and instinctive functions*. Towarzystwo Naukowe, Katolickiego Uniwersytetu Lubelskiego, 1996.

<sup>29</sup> Ibid, p. 5–6

<sup>30</sup> Dąbrowski, Kazimierz, Michael Marian Peichowski, Dexter R. Amend, and Marlene King. *Multilevelness of emotional and instinctive functions*. Towarzystwo Naukowe, Katolickiego Uniwersytetu Lubelskiego, 1996, p. 8–9.



The TPD theory identifies five types of overexcitability: psychomotor, sensual, intellectual, imaginal, and emotional. Psychomotor overexcitability results from excess energy and nervousness. This may be manifested as drive, tics, fidgeting, restlessness, impulsive behavior, nail biting, animated gestures, rapid talk, delinquent behavior, self-mutilation, taking on self-improvement tasks, and a preference for sports<sup>31,32</sup>. Sensory overexcitability is characterized by overeating, excessive sexual stimulation, heightened aesthetic interests, heightened refinement or an intense interest in clothes and appearance, the need for comfort, an affection for jewelry and luxury, a dislike of loneliness, and an increased need to be touched or given affection.<sup>33</sup> Intellectual overexcitability is characterized by the thirst for knowledge and discovery, emphasis on learning over achievement, search for answers, and enjoyment of analysis, theoretical thinking, and logic<sup>34</sup>. Imaginal overexcitability is characterized by animism, distraction, daydreaming, high inventiveness, wandering attention, the liveliness of imagery, richness of association, use of metaphors in verbal language, and visualizations and associations of images and impressions<sup>35,36,37,38</sup>. Emotional overexcitability is characterized by heightened anxiety, depression, extreme feelings, fears, intense shyness or enthusiasm, an intense empathy for others, strong compassion, a strong need for security, heightened sense of responsibility, great depth and complexity of emotions, characteristic and easily recognizable somatic expressions, scrupulous self-examination, and strong attachments

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<sup>31</sup> Daniels, Susan, and Michael Marian Piechowski. *Living with intensity: Understanding the sensitivity, excitability, and emotional development of gifted children, adolescents, and adults*. Great Potential Press, Inc., 2009.

<sup>32</sup> Mika, Elizabeth. "Dabrowski's theory of positive disintegration." Retrieved [online] from: <http://talentdevelop.com/articles/DTOPD.html> (2002).

<sup>33</sup> Mendaglio, Sal, and William Tillier. "Dabrowski's theory of positive disintegration and giftedness: Overexcitability research findings." *Journal for the Education of the Gifted* 30, no. 1 (2006): 68-87.

<sup>34</sup> Mika, Elizabeth. "Dabrowski's theory of positive disintegration." Retrieved [online] from: <http://talentdevelop.com/articles/DTOPD.html> (2002).

<sup>35</sup> Dąbrowski, Kazimierz, and Michael Marian Piechowski. *Theory of levels of emotional development*. Vol. 2. Oceanside, NY: Dabor Science Publications, 1977.

<sup>36</sup> Daniels, Susan, and Michael Marian Piechowski. *Living with intensity: Understanding the sensitivity, excitability, and emotional development of gifted children, adolescents, and adults*. Great Potential Press, Inc., 2009.

<sup>37</sup> Mika, Elizabeth. "Dabrowski's theory of positive disintegration." Retrieved [online] from: <http://talentdevelop.com/articles/DTOPD.html> (2002).

<sup>38</sup> Piechowski, Michael M. "Emotional development and emotional giftedness." *Handbook of gifted education 2* (1991): 366-381.

to people, animals, or objects.<sup>39</sup> Intellectual, imaginative, and emotional overexcitability are crucial to personality development.<sup>40</sup>

Dabrowski noted that talented people exhibit high levels of intellectual, imaginative, and emotional overexcitability.<sup>41,42</sup> The TPD theory elucidates personality development and emphasizes the emotional, intellectual, and imaginative patterns that influence talent and creative personality. Many studies have examined overexcitability and its relationship to personality. The theory of overexcitability has become crucial to the understanding of the fundamental aspects of excellence, talent, and personality traits.<sup>43</sup> Dabrowski asserted that overexcitability patterns are among the most important predictors of the developmental potential of individual talent.<sup>44,45</sup>

Empirical evidence has shown that emotional, intellectual, and imaginative overexcitability are predictors of personality development and the means for identifying gifted individuals.<sup>46,47,48,49</sup>

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<sup>39</sup> Mendaglio, Sal, and William Tillier. "Dabrowski's theory of positive disintegration and giftedness: Overexcitability research findings." *Journal for the Education of the Gifted* 30, no. 1 (2006): 68-87.

<sup>40</sup> Dąbrowski, Kazimierz, Michael Marian Peichowski, Dexter R. Amend, and Marlene King. *Multilevelness of emotional and instinctive functions*. Towarzystwo Naukowe, Katolickiego Uniwersytetu Lubelskiego, 1996.

<sup>41</sup> Dąbrowski, Kazimierz, Michael Marian Peichowski, Dexter R. Amend, and Marlene King. *Multilevelness of emotional and instinctive functions*. Towarzystwo Naukowe, Katolickiego Uniwersytetu Lubelskiego, 1996.

<sup>42</sup> Piechowski, Michael M., and Nicholas Colangelo. "Developmental potential of the gifted." *Gifted Child Quarterly* 28, no. 2 (1984): 80-88.

<sup>43</sup> Tillier, William. "Dabrowski without the theory of positive disintegration just isn't Dabrowski." *Roepers Review* 31, no. 2 (2009): 123-126.

<sup>44</sup> Mendaglio, Sal, and William Tillier. "Dabrowski's theory of positive disintegration and giftedness: Overexcitability research findings." *Journal for the Education of the Gifted* 30, no. 1 (2006): 68-87.

<sup>45</sup> Smith, Chris MM, ed. *Including the gifted and talented: Making inclusion work for more gifted and able learners*. Taylor & Francis, 2006.

<sup>46</sup> Falk, R. Frank, and Nancy B. Miller. "Building firm foundations: Research and assessments." *Living with intensity* (2009): 239-259.

<sup>47</sup> He, Wu-jing, Wan-chi Wong, and Mei-ki Chan. "Overexcitabilities as important psychological attributes of creativity: A Dabrowskian perspective." *Thinking Skills and Creativity* 25 (2017): 27-35.

<sup>48</sup> Limont, Wiesława, Joanna Dreszer-Drogorób, Sylwia Bedyńska, Katarzyna Śliwińska, and Dominika Jastrzębska. "'Old wine in new bottles'? Relationships between overexcitabilities, the Big Five personality traits and giftedness in adolescents." *Personality and Individual Differences* 69 (2014): 199-204.

### Creative Environment

Ferrari et al.,<sup>50</sup> discussed the environmental determinants of creativity enhancement in schools. They identified eight main factors: evaluation, culture, curriculum, individual skills, teaching and learning styles, teachers, technology, and tools. The creative environment refers to the “place” where the individual is located, the creative product is produced, or the creative process occurs.<sup>51</sup> It involves an understanding of a set of individual and contextual factors, such as climate and culture.<sup>52</sup> Thus, the creative environment is viewed as the relationship between individuals and their environments, and this is important for assessing the environmental conditions that enhance or inhibit creativity.

Theories that elucidate the environmental determinants of creativity have emphasized the importance of individual and personal characteristics; however, they have focused on the role of environmental stimuli. These theories emphasize the necessity of a supportive environment for the development of individual attributes and the contribution of environmental factors to the mobilization and development of the creative personality.<sup>53</sup> Environmental theories in creativity research have prioritized creativity and its enhancement in creativity studies.<sup>54</sup>

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<sup>49</sup> Vuyk, M Alexandra, Thomas S Krieshok, and Barbara A Kerr. 2016. “Openness to Experience Rather than Overexcitabilities: Call It like It Is.” *Gifted Child Quarterly* 60 (3): 192–211.

<sup>50</sup> Ferrari, Anusca, Romina Cachia, and Yves Punie. "Innovation and creativity in education and training in the EU member states: Fostering creative learning and supporting innovative teaching." *JRC Technical Note 52374* (2009): 64.

<sup>51</sup> Scritchfield, M. L. "The creative person, product." *Process and Press: The 4P's*. Retrieved January 15 (1999): 2003.

<sup>52</sup> Isaksen, Scott G., Kenneth J. Lauer, Goran Ekvall, and Alexander Britz. "Perceptions of the best and worst climates for creativity: Preliminary validation evidence for the situational outlook questionnaire." *Creativity research journal* 13, no. 2 (2001): 171-184.

<sup>53</sup> Mathisen, Gro Ellen, and Stale Einarsen. "A review of instruments assessing creative and innovative environments within organizations." *Creativity Research Journal* 16, no. 1 (2004): 119-140.

<sup>54</sup> Runco, Mark A. "Products depend on creative potential: a comment on the productivist industrial model of knowledge production." *Gifted and Talented International* 25, no. 1 (2010): 81-87.

### Self-Efficacy

Self-efficacy refers to individuals' beliefs regarding their ability to perform specific tasks.<sup>55</sup> It influences goal setting and the effort expended in the process. Given its importance in motivation, self-efficacy needs to be understood for the determination of the options for improving creative and personal performance. The concept of self-efficacy is applicable to any field in which performance is possible.<sup>56,57</sup> Studies have addressed creative self-efficacy<sup>58,59,60</sup> and general self-efficacy.<sup>61,62</sup> Creative self-efficacy is "the belief that one has the ability to achieve creative products".<sup>63</sup> Self-efficacy is associated with creativity. Individuals are more likely to engage in tasks if they assume that they have the capability to accomplish them; thus, their motivation for achievement increases. Studies have confirmed the contribution of creative self-efficacy to creativity.<sup>64,65,66,67,68,69,70</sup>

<sup>55</sup> Bandura, Albert, W. H. Freeman, and Richard Lightsey. "Self-efficacy: The exercise of control." (1999): 158-166.

<sup>56</sup> Graham, Jeneen Di Benedetto. *Elements of human effectiveness: Intelligences, traits, and abilities that lead to success and fulfillment in life*. University of California, Irvine, 2011.

<sup>57</sup> Tamannaefifar, Mohammad Reza, and Mahshad Motaghedifard. "Subjective well-being and its sub-scales among students: The study of role of creativity and self-efficacy." *Thinking Skills and Creativity* 12 (2014): 37-42.

<sup>58</sup> Karwowski, Maciej. "Did curiosity kill the cat? Relationship between trait curiosity, creative self-efficacy and creative personal identity." *Europe's Journal of Psychology* 8, no. 4 (2012): 547-558.

<sup>59</sup> Pretz, Jean E., and Victoria A. McCollum. "Self-perceptions of creativity do not always reflect actual creative performance." *Psychology of Aesthetics, Creativity, and the Arts* 8, no. 2 (2014): 227.

<sup>60</sup> Tierney, Pamela, and Steven M. Farmer. "Creative self-efficacy development and creative performance over time." *Journal of applied psychology* 96, no. 2 (2011): 277.

<sup>61</sup> Beghetto, Ronald A., and Juliet A. Baxter. "Exploring student beliefs and understanding in elementary science and mathematics." *Journal of Research in Science Teaching* 49, no. 7 (2012): 942-960.

<sup>62</sup> Beghetto, Ronald A., James C. Kaufman, and Juliet Baxter. "Answering the unexpected questions: Exploring the relationship between students' creative self-efficacy and teacher ratings of creativity." *Psychology of Aesthetics, Creativity, and the Arts* 5, no. 4 (2011): 342.

<sup>63</sup> Tierney, Pamela, and Steven M. Farmer. "Creative self-efficacy: Its potential antecedents and relationship to creative performance." *Academy of Management journal* 45, no. 6 (2002): 1137-1148. p. 1138

<sup>64</sup> Chuang, Chih-Feng, Shih-Ching Shiu, and Chao-Jen Cheng. "The relation of college students' process of study and creativity: The mediating effect of creative self-efficacy." *World Academy of Science, Engineering and Technology* 43, no. 7 (2010): 960-963.

Some studies have found a positive relationship between creative performance and creative self-efficacy.<sup>71</sup> Others have indicated a negligible relationship or a lack thereof between creative performance and creative self-efficacy.<sup>72,73,74</sup> For example, Lemons<sup>75</sup> found a large gap between students who provided positive reports about their potential creativity and actual performance. Thus, the individual's ability to realistically analyze actual creative potential and their attitude toward creative efforts are as important as their belief in their creative ability.

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<sup>65</sup> Graham, Jeneen Di Benedetto. *Elements of human effectiveness: Intelligences, traits, and abilities that lead to success and fulfillment in life*. University of California, Irvine, 2011.

<sup>66</sup> Karwowski, Maciej. "It doesn't hurt to ask... But sometimes it hurts to believe: Polish students' creative self-efficacy and its predictors." *Psychology of Aesthetics, Creativity, and the Arts* 5, no. 2 (2011): 154.

<sup>67</sup> Haase, Jennifer, Eva V. Hoff, Paul HP Hanel, and Åse Innes-Ker. "A meta-analysis of the relation between creative self-efficacy and different creativity measurements." *Creativity Research Journal* 30, no. 1 (2018): 1-16.

<sup>68</sup> Hong, Eunsook, Yun Peng, and Harold F. O'Neil Jr. "Activities and accomplishments in various domains: Relationships with creative personality and creative motivation in adolescence." *Roeper Review* 36, no. 2 (2014): 92-103.

<sup>69</sup> Richter, Andreas W., Giles Hirst, Daan Van Knippenberg, and Markus Baer. "Creative self-efficacy and individual creativity in team contexts: Cross-level interactions with team informational resources." *Journal of applied psychology* 97, no. 6 (2012): 1282.

<sup>70</sup> Simmons, Aneika L., Stephanie C. Payne, and Matthew M. Pariyothorn. "The role of means efficacy when predicting creative performance." *Creativity Research Journal* 26, no. 1 (2014): 53-61.

<sup>71</sup> Chuang, Chih-Feng, Shih-Ching Shiu, and Chao-Jen Cheng. "The relation of college students' process of study and creativity: The mediating effect of creative self-efficacy." *World Academy of Science, Engineering and Technology* 43, no. 7 (2010): 960-963.

<sup>72</sup> Graham, Jeneen Di Benedetto. *Elements of human effectiveness: Intelligences, traits, and abilities that lead to success and fulfillment in life*. University of California, Irvine, 2011.

<sup>73</sup> Richter, Andreas W., Giles Hirst, Daan Van Knippenberg, and Markus Baer. "Creative self-efficacy and individual creativity in team contexts: Cross-level interactions with team informational resources." *Journal of applied psychology* 97, no. 6 (2012): 1282.

<sup>74</sup> Simmons, Aneika L., Stephanie C. Payne, and Matthew M. Pariyothorn. "The role of means efficacy when predicting creative performance." *Creativity Research Journal* 26, no. 1 (2014): 53-61.

<sup>75</sup> Lemons, Gay. "Diverse perspectives of creativity testing: Controversial issues when used for inclusion into gifted programs." *Journal for the Education of the Gifted* 34, no. 5 (2011): 742-772.

A review of the literature revealed that only one study has been conducted to investigate the link between self-efficacy and overexcitability. Hull<sup>76</sup> found a positive relationship between overexcitability and self-efficacy. Furthermore, self-efficacy could be fostered by overexcitability. For example, a student's self-efficacy could be enhanced by the awareness of the ability to interact with the environment and to relieve stress creatively.<sup>77</sup> Therefore, further investigation is needed.

### **Problem Statement and Justification**

The researcher's university teaching experience revealed the presence of behavioral patterns that indicated a decrease in some features of the creative personality and levels of the five forms of overexcitability in Islamic Studies students (ISSs). This was manifested in the decrease in their performance on individual and group assignments, their internal and external motivation for learning, and their emotional and social balance. This has led to low levels of cognitive, behavioral, emotional, and social performance. Thus, there has been increasing interest in determining the patterns of overexcitability that are indicators of talent. Overexcitability has been found to play an important role in the creative personality. There is a need to integrate the students' cognitive, behavioral, emotional, and social development to achieve the vision and goals of Princess Noura University. Therefore, this study sought to identify the patterns of overexcitability and their relationship to the creative personality. The sample comprised undergraduate female students. The results of the study would facilitate the design of preventive and corrective measures to develop the students' overexcitability patterns and creative personalities.

To meet the challenges of the 21<sup>st</sup> century, especially the post-oil era, the KSA has endeavored to develop the creative personalities of individuals in all state institutions, especially educational institutions. In any society, innovators are considered national treasures and the driving force behind civilization and prosperity. Their inventions and innovations are the source of social wealth.<sup>78</sup> Accordingly, discovering innovators and designing educational programs to develop their personal characteristics and innovative capabilities is important.

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<sup>76</sup> Hull, Debra F. "Relationship of Self-efficacy and Dabrowski Overexcitabilities." PhD diss., Oklahoma State University, 1996.

<sup>77</sup> Ibid.

<sup>78</sup> Piechowski, Michael M. "Mellow out, they say. If only I could." *Intensities and sensitivities of the young and bright* (2006).

Tieso<sup>79</sup> emphasized the role of individual psychological personal characteristics in facilitating the discovery of talented and creative people and their advanced capabilities. The criteria for the academic ranking of universities include the students' biological, psychological, and social development. Thus, Princess Noura bint Abdulrahman University has always supported research on the students' needs and the related influential factors in order to provide relevant educational programs to meet the challenges and developments of the 21<sup>st</sup> century.

The factors surrounding the development of creativity in higher education have received very little attention. Higher education is complex. Sometimes, there is resistance from teachers and students. Structural and cultural factors, time and resources, and governmental policies can inhibit the development of creativity.<sup>80</sup> Deng et al.,<sup>81</sup> identified cultural differences as an environmental influence on creativity. Thus, there is a need to explore the effects of the creative environment on the Islamic creative personality in the KSA.

### Research Purpose

The purpose of this study was to explore the factors affecting the creative personality. Specifically, imaginal, intellectual, emotional, sensual, and psychomotor overexcitability; environmental creativity; self-efficacy; and the Islamic creative personality were examined.

### Research Objectives

To achieve the goal of the present study, the following objectives were developed:

1. To examine the effects of overexcitability (imaginal, intellectual, and emotional), the creative environment, and self-efficacy on the Islamic creative personality.
2. To examine the possible mediating role of a creative environment in the relationship between overexcitability (imagina-

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<sup>79</sup> Tieso, Carol L. "Patterns of overexcitabilities in identified gifted students and their parents: A hierarchical model." *Gifted child quarterly* 51, no. 1 (2007): 11-22.

<sup>80</sup> Alencar, Eunice ML, Denise de Souza Fleith, and Nielsen Pereira. "Creativity in higher education: Challenges and facilitating factors." *Temas em Psicologia* 25, no. 2 (2017): 553-561.

<sup>81</sup> Deng, Lifang, Lijuan Wang, and Yanyun Zhao. "How creativity was affected by environmental factors and individual characteristics: A cross-cultural comparison perspective." *Creativity Research Journal* 28, no. 3 (2016): 357-366.

tional, intellectual, and emotional) and the Islamic creative personality.

3. To examine the possible role of self-efficacy in the relationship between overexcitability (imaginational, intellectual, and emotional) and the Islamic creative personality.

### Research Questions

From the Dabrowskian perspective, which posits that overexcitability contributes to creativity, the following research questions were posed:

1. Do overexcitability (imaginational, intellectual, and emotional), a creative environment, and self-efficacy have direct effects on the Islamic creative personality?
2. Does a creative environment play a mediating role in the relationship between overexcitability (imaginational, intellectual, and emotional) and the Islamic creative personality?
3. Does self-efficacy play a mediating role in the relationship between overexcitability (imaginational, intellectual, and emotional) and the Islamic creative personality?

### Research Hypotheses

This study was designed to test the following hypotheses:

1. Overexcitability (imaginational, intellectual, and emotional), a creative environment, and self-efficacy would have direct effects on the Islamic creative personality.

To evaluate this first hypothesis, the following five sub-hypotheses were posited:

H<sub>1</sub>: Imaginational overexcitability would have a direct effect on the Islamic creative personality.

H<sub>2</sub>: Intellectual overexcitability would have a direct effect on the Islamic creative personality.

H<sub>3</sub>: Emotional overexcitability would have a direct effect on the Islamic creative personality.

H<sub>4</sub>: A creative environment would have a direct effect on the Islamic creative personality.

H<sub>5</sub>: Self-efficacy would have a direct effect on the creative personality.

2. Overexcitability (imaginational, intellectual, and emotional) would have indirect effects on the Islamic creative personality via a creative environment.



To evaluate the second hypothesis, the following five sub-hypotheses were developed:

H<sub>6</sub>: Imaginational overexcitability would have an indirect effect on the Islamic creative personality via a creative environment.

H<sub>7</sub>: Intellectual overexcitability would have an indirect effect on the Islamic creative personality via a creative environment.

H<sub>8</sub>: Emotional overexcitability would have an indirect effect on the Islamic creative personality via a creative environment.

3. Overexcitability (imaginational, intellectual, and emotional) would have indirect effects on the Islamic creative personality via self-efficacy.

To evaluate the third hypothesis, the following five sub-hypotheses were developed:

H<sub>9</sub>: Imaginational overexcitability would have an indirect effect on the Islamic creative personality via self-efficacy.

H<sub>10</sub>: Intellectual overexcitability would have an indirect effect on the Islamic creative personality via self-efficacy.

H<sub>11</sub>: Emotional overexcitability would have an indirect effect on the Islamic creative personality via self-efficacy.

## **Methodology**

### **Research Design**

This study examined the role of overexcitability, environmental creativity, and general self-efficacy on the Islamic creative personalities of ISSs. A correlational study was performed. A correlational design describes and measures the relationship between two or more variables. Creswell<sup>82</sup> delineated the steps to be followed in the surveys used in such studies: design of the data collection instruments, determination of the sample size and composition, and collection of the questionnaire data. The sampling, instrument development, and research procedures are discussed in the succeeding sections. The hypothesized model comprised three exogenous variables (imaginational, intellectual, and emotional overexcitability) and three endogenous variables (self-efficacy, environmental creativity, and the Islamic creative personality).

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<sup>82</sup> Creswell, John W. "Collecting qualitative data." *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Fourth ed. Boston: Pearson (2012): 204-35.

### Sample

A 64-item digital survey was emailed to all ISSs in private and public universities in the KSA. The overall response rate was 58%. The sample consisted of 396 ISSs (51% female and 49% male) from 13 universities in the 13 districts in the KSA. One hundred thirty (130) were first-year students, 95 were second-year, 71 were third-year, and 70 were fourth-year students. The mean age was 21.35 years. Given the sample properties (i.e., location, gender, and study year), it was assumed that the sample was representative of the ISSs.

### Measurement

The questionnaire consisted of six sections, which were adapted from the following internationally validated instruments: the Imaginational (IM-OV), Intellectual (IN-OV), and Emotional (EM-OV) subscales in the Overexcitability Questionnaire-Two ([OEQ-II] Falk et al., 1999); the Creative Environment Scale ([CR-IN]<sup>83</sup>); the Islamic Creative Personality Scale ([CR-PER]<sup>84</sup>); and the Generalized Self-efficacy Scale ([GS-EF]<sup>85</sup>). All the included measures were scored on a 5-point Likert scale: (a) Imaginational Overexcitability (sample item: I like to day-dream); (b) Intellectual Overexcitability (sample item: I am an independent thinker); (c) Emotional Overexcitability (sample item: I feel other people's feelings); (d) Creative Environment (sample item: There is cultural diversity in my environment); (e) Islamic Creative Personality (sample item: I have a strong desire to attain my Islamic goals.); and (f) Generalized Self-Efficacy (It is easy for me to stick to my aims to accomplish my goals).

CFA was performed to confirm the appropriateness of the one-factor model for the Imaginational, Intellectual, and Emotional Overexcitability subscales; Creative Environmental Scale; Self-Efficacy Scale; and Creative Islamic Personality Scale. The results for the Imaginational Overexcitability subscale revealed that the one-factor model was correct-

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<sup>83</sup> Sen, Sedat, Selcuk Acar, and Caglar Cetinkaya. "Development of the Person-Environment Fit Scale (PEFSC): A new measure of creativity." *Psychology of Aesthetics, Creativity, and the Arts* 8, no. 4 (2014): 433.

<sup>84</sup> Sen, Sedat, Selcuk Acar, and Caglar Cetinkaya. "Development of the Person-Environment Fit Scale (PEFSC): A new measure of creativity." *Psychology of Aesthetics, Creativity, and the Arts* 8, no. 4 (2014): 433.

<sup>85</sup> Schwarzer, Ralf, and Matthias Jerusalem. "Optimistic self-beliefs as a resource factor in coping with stress." In *Extreme stress and communities: Impact and intervention*, pp. 159-177. Springer, Dordrecht, 1995.

ly adjusted to the data [i.e.,  $CMIN/df = 2.33$ ,  $p = .323$ ; comparative fit index (CFI) = .952; adjusted goodness of fit (AGFI) = .951, goodness of fit index (GFI) = .951; normed fit index (NFI) = .964, root mean square error of approximation (RMSEA) = .046]. The CFA results revealed that the measurement model for the one-factor model of the Imaginational Overexcitability subscale had a good fit.

The results for the Intellectual Overexcitability subscale revealed that the one-factor model was correctly adjusted to the data [i.e.,  $CMIN/df = 3.33$ ,  $p = .123$ ; CFI = .942; AGFI = .962, GFI = .961; NFI = .953, RMSEA = .039]. The CFA results revealed that the measurement model for the one-factor model of the Intellectual Overexcitability subscale had a good fit.

The results for the Emotional Overexcitability subscale revealed that the one-factor model was correctly adjusted to the data [i.e.,  $CMIN/df = 3.41$ ,  $p = .153$ ; CFI = .952; AGFI = .957, GFI = .973; NFI = .943, RMSEA = .036]. The CFA results revealed that the measurement model for the one-factor model of the Intellectual Overexcitability subscale had a good fit.

The results for the Creative Environmental Scale revealed that the one-factor model was correctly adjusted to the data [i.e.,  $CMIN/df = 2.71$ ,  $p = .183$ ; CFI = .932; AGFI = .947, GFI = .951; NFI = .952, RMSEA = .047]. The CFA results revealed that the measurement model for the one-factor model of the Creative Environmental Scale has a good fit.

The results for the Self-Efficacy Scale revealed that the one-factor model was correctly adjusted to the data [i.e.,  $CMIN/df = 3.91$ ,  $p = .283$ ; CFI = .944; AGFI = .955, GFI = .957; NFI = .925, RMSEA = .037]. The CFA results revealed that the measurement model for the one-factor model of the Self-Efficacy Scale had a good fit.

The results for the Islamic Creative Personality Scale revealed that the one-factor model was correctly adjusted to the data [i.e.,  $CMIN/df = 1.91$ ,  $p = .296$ ; CFI = .933; AGFI = .945, GFI = .957; NFI = .945, RMSEA = .041]. The CFA results revealed that the measurement model for the one-factor model of the Creative Personality Scale had a good fit.

### **Analysis**

Preliminary descriptive statistics, skewness, and kurtosis statistics were performed in IBM SPSS, version 22. The item scores for all the variables were normally distributed (see Table 1). To study the construct validity of the research measures, exploratory factor analysis (EFA) and

confirmatory factor analysis (CFA) were conducted. The results revealed that all the items had acceptable psychometric properties. The latent variables were used for testing the hypothesized models by means of AMOS in SPSS. The assessments of the structural models were based on the  $p$ -values for the  $\chi^2$  statistic, CFI, AGFI, GFI, Tucker–Lewis index (TLI), and RMSEA, SRMR). The standard criteria ( $p > 0.05$ ; CFI  $> 0.90$ , AGFI  $> 0.90$ , GFI  $> 0.90$ ,  $TLI > 0.90$ , and RMSEA  $< 0.06$ ) were used for goodness of fit (Brown, 2006; Kline, 2005).

### Results

Table 2 illustrates Pearson correlation coefficients among the six variables included in the model. The results of the correlation assessment indicated significant positive relationships among imaginal, intellectual, and emotional overexcitability; creative environment; self-efficacy; and creative personality ( $p < 0.01$  for the six variables). Therefore, significant positive relationships between Islamic creative personality and the other variables (i.e., IM-OV, IN-OV, EM-OV, CR-IN, and GS-EFF) were found. Consequently, increases in the five attitudinal variables led to the enhancement of the Islamic creative personality. The students exhibited high levels of imaginal, intellectual, and emotional overexcitability; creative environment; self-efficacy; and the Islamic creative personality (Table 1).

Table 1

| Variable | Mean  | Std. Deviation | Skewness | Std. Error | Kurtosis | Std. Error |
|----------|-------|----------------|----------|------------|----------|------------|
| IM-OV    | 3.422 | .983           | -.290    | .169       | .513     | .337       |
| IN-OV    | 3.233 | .137           | -.256    | .169       | -.444    | .337       |
| EM-OV    | 3.808 | .231           | -.367    | .169       | -.427    | .337       |
| CR-IN    | 3.894 | .963           | -.126    | .169       | .323     | .337       |
| GS-EFF   | 3.582 | .222           | -.172    | .169       | -.125    | .337       |
| CR-PER   | 3.993 | .970           | -.375    | .169       | .546     | .337       |

*Descriptive Statistics for The Six Latent Variables*

Table 2  
*Inter-Correlations and Reliability Coefficients for the Latent Variables*

| Variable | 1      | 2      | 3      | 4      | 5      |
|----------|--------|--------|--------|--------|--------|
| IM-OV    | 1      |        |        |        |        |
| IN-OV    | .639** | 1      |        |        |        |
| EM-OV    | .432** | .583** | 1      |        |        |
| CR-IN    | .490** | .569** | .475** | 1      |        |
| GS-EFF   | .709** | .495** | .332** | .481** | 1      |
| CR-PER   | .576** | .574** | .587** | .416** | .590** |

The measurement model included the exogenous variables (i.e., imaginal, intellectual, and emotional overexcitability) and endogenous variables (i.e., creative environment, self-efficacy, and Islamic creative personality). The model has acceptable fit indices,  $CMIN/df = 1.760$ , which was below the threshold value (3.0;  $p > 0.05$ ; Kline, 2005). The other fit indices (CFI = .975, AGFI = .958, GFI = .963, TLI = .971) were above the threshold value of .95. Furthermore, the RMSEA of .042 was lower than the threshold value (.06). These findings indicated that the data were a good fit for the structural model. Figure 1 presents the final structure model.

To test the structural estimates,  $t$ -values were used to assess the significance of the path coefficient (Beta) values. As shown in Table 3 and Figure 1, the students' perceptions of imaginal overexcitability had direct significant positive effects on the creative environment ( $\beta = .330$ ,  $t = 4.129$ ,  $p < 0.01$ ) and general self-efficacy ( $\beta = .164$ ,  $t = 2.256$ ,  $p < 0.05$ ). The students' perceptions of intellectual overexcitability had direct significant positive effects on the creative environment ( $\beta = .193$ ,  $t = 2.678$ ,  $p < 0.01$ ), general self-efficacy ( $\beta = .318$ ,  $t = 4.861$ ,  $p < 0.01$ ), and the Islamic creative personality ( $\beta = .510$ ,  $t = 8.661$ ,  $p < 0.01$ ). The students' perceptions of emotional overexcitability had direct significant positive effects on the creative environment ( $\beta = .199$ ,  $t = 2.913$ ,  $p < 0.01$ ) and general self-efficacy ( $\beta = .354$ ,  $t = 5.702$ ,  $p < 0.01$ ). However, the students' perceptions of emotional overexcitability had direct significant negative effects on the Islamic creative personality ( $\beta = -.156$ ,  $t = 2.651$ ,  $p < 0.01$ ). Their perceptions of general self-efficacy were found to have direct significant positive effects on the Islamic creative personality ( $\beta = .315$ ,  $t = 5.049$ ,  $p < 0.01$ ). Last, the students' perceptions of the creative environment had direct significant positive effects on the Islamic

creative personality ( $\beta = .175, t = 3.168, p < 0.01$ ). Therefore, H<sub>2</sub>, H<sub>3</sub>, H<sub>4</sub>, and H<sub>5</sub> were supported, and H<sub>1</sub> was rejected.

The path diagram (Figure 2) indicates that the exogenous variables accounted for 38% (moderate effect) of the creative environment variance and 29% (moderate effect) of the general self-efficacy variance. The intellectual, emotional, and creative environment and general self-efficacy accounted for 58% (moderate effect) of the Islamic creative personality variance.

Table 3.  
Summary of Path Analysis Results

| Path          | Estimate | S.E. | Beta | t-values | P    |
|---------------|----------|------|------|----------|------|
| IM-OV → EN-OV | .306     | .074 | .330 | 4.129    | ***  |
| IM-OV → GS-EF | .192     | .085 | .164 | 2.256    | .024 |
| IN-OV → EN-OV | .189     | .071 | .193 | 2.678    | .007 |
| IN-OV → GS-EF | .393     | .081 | .318 | 4.861    | ***  |
| EM-OV → CR-IN | .186     | .064 | .199 | 2.913    | .004 |
| EM-OV → GS-EF | .416     | .073 | .354 | 5.702    | ***  |
| IN-OV → CR-PR | .503     | .045 | .510 | 8.661    | ***  |
| EM-OV → CR-PR | .147     | .055 | .156 | 2.651    | .008 |
| GS-EF → CR-PR | .252     | .050 | .315 | 5.049    | ***  |
| CR-IN → CR-PR | .176     | .056 | .175 | 3.168    | .002 |

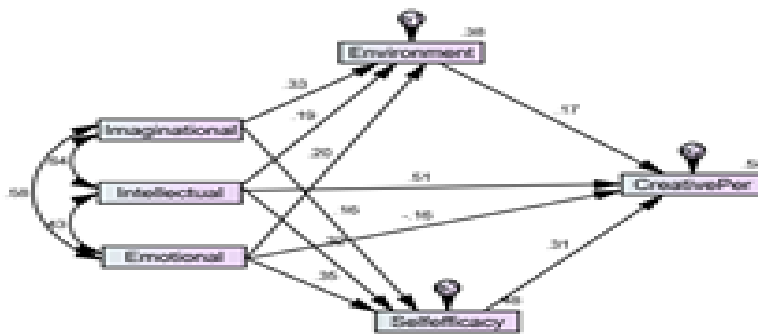


Figure 1 The Final Structure Model

To study the indirect (mediating) effects of overexcitability on the Islamic creative personality via the creative environment, corrected bootstrapping and corrected error method analysis was performed.<sup>86</sup> The results revealed that the creative environment had a partial mediating effect

<sup>86</sup> Preacher, Kristopher J., and Andrew F. Hayes. "Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models." *Behavior research methods* 40, no. 3 (2008): 879-891.

on the relationship between intellectual overexcitability and the Islamic creative personality ( $\beta = .090, t = 2.205, p < 0.05$ ). Furthermore, environmental creativity had a complete mediating effect on the relationship between emotional overexcitability and the Islamic creative personality ( $\beta = .202, t = 3.109, p < 0.01$ ). Therefore,  $H_7$  and  $H_8$  were supported, and  $H_6$  was rejected.

Table 4  
*Effects of Overexcitability on Creative Personality Via the Creative Environment*

| Path                          | Indirect effect | S.E. | t-value | Bootstrapping |        | Decision                  |
|-------------------------------|-----------------|------|---------|---------------|--------|---------------------------|
|                               |                 |      |         | 95% LL        | 95% UL |                           |
| IN-OV $\longrightarrow$ CR-PR | .090            | .040 | 2.205   | .010          | .167   | Partial Mediation effect  |
| EM-OV $\longrightarrow$ CR-PR | .202            | .065 | 3.109   | .075          | .329   | Complete Mediation effect |

To study the indirect (mediating) effect of overexcitability on the Islamic creative personality via self-efficacy, corrected bootstrapping and corrected error method analysis were performed.<sup>87</sup> The results revealed that the creative environment had a partial mediating effect on the relationship between intellectual overexcitability and the Islamic creative personality ( $\beta = .155, t = 2.759, p < 0.05$ ). Furthermore, the creative environment had a complete mediating effect on the relationship between emotional overexcitability and the Islamic creative personality ( $\beta = .333, t = 5.039, p < 0.01$ ; Table 4). Therefore,  $H_{10}$  and  $H_{11}$  were supported, and  $H_7$  was rejected.

Table 5  
*Effects of Overexcitability on The Creative Personality Via Self-Efficacy*

| Path                          | Indirect effect | S.E. | t-value | Bootstrapping |        | Decision                  |
|-------------------------------|-----------------|------|---------|---------------|--------|---------------------------|
|                               |                 |      |         | 95% LL        | 95% UL |                           |
| IN-OV $\longrightarrow$ CR-PR | .155            | .056 | 2.759   | .045          | .264   | Partial Mediation effect  |
| EM-OV $\longrightarrow$ CR=PR | .333            | .066 | 5.039   | .213          | .462   | Complete Mediation effect |

### Discussion

The present study had three main research objectives. The first was to investigate the possible direct effects of overexcitability (imaginational, intellectual, and emotional), creative environment, and self-

<sup>87</sup> Ibid.

efficacy on the Islamic creative personality. The second objective was to investigate the possible indirect effects of overexcitability on the Islamic creative personality via the creative environment. The third objective was to investigate the indirect effects of overexcitability on the Islamic creative personality via self-efficacy. To test the predictive ability of the hypothesized model of the creative personality, the three main hypotheses were evaluated with SEM. Eight of the 11 hypotheses were supported.

The SEM results indicated that overexcitability (intellectual and emotional) had direct effects on the Islamic creative personality. Thus, increases in the two attitudinal variables led to the enhancement of the Islamic creative personality. The empirical evidence showed that emotional, intellectual, and imaginative overexcitability were predictors of personality development. Thus, gifted and creative individuals could be identified on the basis of these three forms of overexcitation.<sup>88,89,90,91</sup> For example, He et al.<sup>92</sup> found a distinctive ability for overexcitability in the identification of a highly creative personality. He et al. examined the effects of overexcitability on creativity from a Dabrowskian perspective, which posits that overexcitability contributes to creativity. They found that imaginational overexcitability was the most significant predictor of creativity, followed by intellectual, emotional, sensual, and psychomotor overexcitability.

Alexandra Vuyk et al.,<sup>93</sup> assessed the similarity between overexcitability OEs to corresponding openness to experience facets in a sample of 461 creative adolescents and adults. The main results of SEM revealed

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<sup>88</sup> Falk, R Frank, and Nancy B Miller. 2009. "Building Firm Foundations: Research and Assessments." *Living with Intensity*, 239–59.

<sup>89</sup> He, Wu-jing, Wan-chi Wong, and Mei-ki Chan. 2017. "Overexcitabilities as Important Psychological Attributes of Creativity: A Dabrowskian Perspective." *Thinking Skills and Creativity* 25: 27–35.

<sup>90</sup> Limont, Wiesława, Joanna Dreszer-Drogorób, Sylwia Bedyńska, Katarzyna Śliwińska, and Dominika Jastrzębska. "'Old wine in new bottles'? Relationships between overexcitabilities, the Big Five personality traits and giftedness in adolescents." *Personality and Individual Differences* 69 (2014): 199-204.

<sup>91</sup> Vuyk, M. Alexandra, Thomas S. Krieshok, and Barbara A. Kerr. "Openness to experience rather than overexcitabilities: Call it like it is." *Gifted Child Quarterly* 60, no. 3 (2016): 192-211.

<sup>92</sup> He, Wu-jing, Wan-chi Wong, and Mei-ki Chan. "Overexcitabilities as important psychological attributes of creativity: A Dabrowskian perspective." *Thinking Skills and Creativity* 25 (2017): 27-35.

<sup>93</sup> Vuyk, M Alexandra, Thomas S Krieshok, and Barbara A Kerr. 2016. "Openness to Experience Rather than Overexcitabilities: Call It like It Is." *Gifted Child Quarterly* 60 (3): 192–211.



that openness seems to encompass overexcitabilities. Gallagher<sup>94</sup> found strong similarities among the four types of overexcitabilities (imaginative, mental, emotional, and sensory) and aspects of openness to experience.

The SEM results revealed that the creative environment had a direct positive effect on the creative personality. Thus, the primary source of the creative personality was the environment.<sup>95</sup> These results can be attributed to the Saudi universities' focus on providing the resources and moral support to foster a creative educational environment for the academic and administrative staff and students. These results support the environmental theories that emphasize the critical role of a supportive environment in the development of individual attributes. Thus, environmental factors contribute to the development of the creative personality.<sup>96</sup> Environmental theories in creativity research prioritize creativity and its enhancement.<sup>97</sup> Rhodes<sup>98</sup> asserted that creativity is a process in which an individual develops new products through implicit cognitive thinking in a supportive environment. In a recent study, Burksaitienė<sup>99</sup> emphasized the contribution of the higher educational environment to creativity.

The results revealed that self-efficacy had a direct positive effect on the creative personality. It is possible that individuals are more likely to engage in tasks if they assume that they have the capabilities to accomplish them; thus, their motivation for achievement would increase. It is also likely that the ISSs' personal characteristics contributed to their self-confidence and initiative. In addition, the religious standards that in-

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<sup>94</sup> Gallagher, S. A. "Building bridges: Research on gifted children's personalities from three psychological theories." *Off the charts: Asynchrony and the gifted child* (2013): 48-98.

<sup>95</sup> Kandler, Christian, Rainer Riemann, Alois Angleitner, Frank M. Spinath, Peter Borkenau, and Lars Penke. "The nature of creativity: The roles of genetic factors, personality traits, cognitive abilities, and environmental sources." *Journal of personality and social psychology* 111, no. 2 (2016): 230.

<sup>96</sup> Mathisen, Gro Ellen, and Stale Einarsen. "A review of instruments assessing creative and innovative environments within organizations." *Creativity Research Journal* 16, no. 1 (2004): 119-140.

<sup>97</sup> Runco, Mark A. "Products depend on creative potential: a comment on the productivity industrial model of knowledge production." *Gifted and Talented International* 25, no. 1 (2010): 81-87.

<sup>98</sup> Rhodes, Mel. "An analysis of creativity." *The Phi Delta Kappan* 42, no. 7 (1961): 305-310.

<sup>99</sup> Burksaitienė, Nijolė. "How can university learning environment contribute to students' creativity? Lithuanian students' perspective." *Creativity studies* 11, no. 1 (2018): 162-171.

fluence Saudi students' personalities as human beings connected to God would contribute to their ability to adapt and to solve life's problems. The cognitive and digital explosion has also played an important role in enhancing the students' self-efficacy. Vision 2030, which focuses on personal development (physical, emotional, and mental), has contributed to the development of the creative personality. In addition, the university provides psychological and academic counselling services to all students. Thus, it has the resources to foster study and success. It promotes the creativity and academic development of the students. These findings are consistent with those of previous studies.<sup>100,101,102,103,104,105,106</sup> Self-efficacy has been found to have a positive influence on the creative personality.

With respect to the mediating role (indirect effect) of the creative environment on the relationship between overexcitability (intellectual and emotional) and the creative personality, the results revealed that overexcitability (intellectual and emotional) had indirect effects on the creative personality via the creative environment. Thus, the creative environment would enhance or inhibit creativity. This confirms the close relationship between the environmental and personality, potential devel-

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<sup>100</sup> Chuang, Chih-Feng, Shih-Ching Shiu, and Chao-Jen Cheng. "The relation of college students' process of study and creativity: The mediating effect of creative self-efficacy." *World Academy of Science, Engineering and Technology* 43, no. 7 (2010): 960-963.

<sup>101</sup> Karwowski, Maciej. "It doesn't hurt to ask... But sometimes it hurts to believe: Polish students' creative self-efficacy and its predictors." *Psychology of Aesthetics, Creativity, and the Arts* 5, no. 2 (2011): 154.

<sup>102</sup> Hong, Eunsook, Yun Peng, and Harold F. O'Neil Jr. "Activities and accomplishments in various domains: Relationships with creative personality and creative motivation in adolescence." *Roeper Review* 36, no. 2 (2014): 92-103.

<sup>103</sup> Graham, Jeneen Di Benedetto. *Elements of human effectiveness: Intelligences, traits, and abilities that lead to success and fulfillment in life*. University of California, Irvine, 2011.

<sup>104</sup> Richter, Andreas W., Giles Hirst, Daan Van Knippenberg, and Markus Baer. "Creative self-efficacy and individual creativity in team contexts: Cross-level interactions with team informational resources." *Journal of applied psychology* 97, no. 6 (2012): 1282.

<sup>105</sup> Haase, Jennifer, Eva V. Hoff, Paul HP Hanel, and Åse Innes-Ker. "A meta-analysis of the relation between creative self-efficacy and different creativity measurements." *Creativity Research Journal* 30, no. 1 (2018): 1-16.

<sup>106</sup> Simmons, Aneika L., Stephanie C. Payne, and Matthew M. Pariyothorn. "The role of means efficacy when predicting creative performance." *Creativity Research Journal* 26, no. 1 (2014): 53-61.

opment, and mental abilities<sup>107</sup>. Theories on the compatibility of the individual and their environment (person–environment fit) assume that creative behavior is not fully explained by personal characteristics and environmental influences. Therefore, it is possible their interactions could explain the creative personality.<sup>108</sup>

Finally, the results revealed that overexcitability (intellectual and emotional) had indirect effects on the creative personality via self-efficacy. Overexcitability was found to be related to self-efficacy beliefs, which were related to the creative personality. Overall, it could be concluded that students who were more perceptive about their self-efficacy and overexcitability were more aware of their creative personalities. A review of the literature indicated that the mediating role of self-efficacy and the creative environment in the relationship between overexcitability (intellectual and emotional) and the creative personality had not been previously examined. Therefore, these findings on the mediating role of self-efficacy and creative personality in the relationship between overexcitability (intellectual and emotional) and the creative personality are novel.

### Conclusion

This study of ISSs in the KSA aimed to provide quantitative evidence of the statistically significant predictive effects of overexcitability (imaginational, intellectual, and emotional) on the creative personality. The results of this quantitative correlational study have provided evidence for the significant direct effects of intellectual and emotional overexcitability on the creative personality. Imaginational overexcitability was observed to have a direct but insignificant effect on the creative personality. Last, intellectual and emotional overexcitability had significant indirect effects on the creative personality through self-efficacy and the creative environment. This study makes several important theoretical contributions to the understanding of the contribution of overexcitability to the creative personality. The findings support those of previous studies regarding the contribution of overexcitability to the creative personality. Imaginational overexcitability was not found to have a direct effect on

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<sup>107</sup> Runco, Mark A. "Products depend on creative potential: a comment on the productivist industrial model of knowledge production." *Gifted and Talented International* 25, no. 1 (2010): 81-87.

<sup>108</sup> Sen, Sedat, Selcuk Acar, and Caglar Cetinkaya. "Development of the Person–Environment Fit Scale (PEFSC): A new measure of creativity." *Psychology of Aesthetics, Creativity, and the Arts* 8, no. 4 (2014): 433.

the creative personality. Thus, further studies are needed to increase the understanding of the influence of imaginal over-excitability on the creative personality.

### BIBLIOGRAPHY

Alencar, Eunice ML, Denise de Souza Fleith, and Nielsen Pereira. "Creativity in higher education: Challenges and facilitating factors." *Temas em Psicologia* 25, no. 2 (2017): 553-561.

Amabile, T. M. "Creativity in Context. Update To the Social Psychology of Creativity/Teresa M. Amabile." *Boulder, Colorado: Westview Press.*— 336 p (1996).

Baer, John. "Why teachers should assume creativity is very domain specific." *The International Journal of Creativity & Problem Solving* (2011).

Bandura, Albert, W. H. Freeman, and Richard Lightsey. "Self-efficacy: The exercise of control." (1999): 158-166.

Batey, Mark, and Adrian Furnham. "Creativity, intelligence, and personality: A critical review of the scattered literature." *Genetic, social, and general psychology monographs* 132, no. 4 (2006): 355-429.

Beghetto, Ronald A., and Juliet A. Baxter. "Exploring student beliefs and understanding in elementary science and mathematics." *Journal of Research in Science Teaching* 49, no. 7 (2012): 942-960.

Beghetto, Ronald A., James C. Kaufman, and Juliet Baxter. "Answering the unexpected questions: Exploring the relationship between students' creative self-efficacy and teacher ratings of creativity." *Psychology of Aesthetics, Creativity, and the Arts* 5, no. 4 (2011): 342.

Burkšaitienė, Nijolė. "How can university learning environment contribute to students' creativity? Lithuanian students' perspective." *Creativity studies* 11, no. 1 (2018): 162-171.

Chuang, Chih-Feng, Shih-Ching Shiu, and Chao-Jen Cheng. "The relation of college students' process of study and creativity: The mediating

effect of creative self-efficacy." *World Academy of Science, Engineering and Technology* 43, no. 7 (2010): 960-963.

Creswell, John W. "Collecting qualitative data." *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. Fourth ed.* Boston: Pearson (2012): 204-35.

Dąbrowski, Kazimierz, and Michael Marian Piechowski. *Theory of levels of emotional development*. Vol. 2. Oceanside, NY: Dabor Science Publications, 1977.

Dąbrowski, Kazimierz, Michael Marian Peichowski, Dexter R. Amend, and Marlene King. *Multilevelness of emotional and instinctive functions*. Towarzystwo Naukowe, Katolickiego Uniwersytetu Lubelskiego, 1996.

Dąbrowski, Kazimierz. *Psychoneurosis is not an illness: Neuroses and psychoneuroses from the perspective of positive disintegration*. London: Gryf Publications, 1972.

Daniels, Susan, and Michael Marian Piechowski. *Living with intensity: Understanding the sensitivity, excitability, and emotional development of gifted children, adolescents, and adults*. Great Potential Press, Inc., 2009.

Deng, Lifang, Lijuan Wang, and Yanyun Zhao. "How creativity was affected by environmental factors and individual characteristics: A cross-cultural comparison perspective." *Creativity Research Journal* 28, no. 3 (2016): 357-366.

Falk, R. Frank, and Nancy B. Miller. "Building firm foundations: Research and assessments." *Living with intensity* (2009): 239-259.

Feist, Gregory J. "A meta-analysis of personality in scientific and artistic creativity." *Personality and social psychology review* 2, no. 4 (1998): 290-309.

Ferrari, Anusca, Romina Cachia, and Yves Punie. "Innovation and creativity in education and training in the EU member states: Fostering creative learning and supporting innovative teaching." *JRC Technical Note* 52374 (2009): 64.

Gallagher, S. A. "Building bridges: Research on gifted children's personalities from three psychological theories." *Off the charts: Asynchrony and the gifted child* (2013): 48-98.

Garcês, Soraia, Margarida Pocinho, Saul Neves de Jesus, and João Viseu. "The impact of the creative environment on the creative person, process, and product." *Avaliação Psicológica* 15, no. 2 (2016): 169-176.

Graham, Jeneen Di Benedetto. *Elements of human effectiveness: Intelligences, traits, and abilities that lead to success and fulfillment in life*. University of California, Irvine, 2011.

Haase, Jennifer, Eva V. Hoff, Paul HP Hanel, and Åse Innes-Ker. "A meta-analysis of the relation between creative self-efficacy and different creativity measurements." *Creativity Research Journal* 30, no. 1 (2018): 1-16.

Haque, Amber. "Psychology from Islamic perspective: Contributions of early Muslim scholars and challenges to contemporary Muslim psychologists." *Journal of religion and health* 43, no. 4 (2004): 357-377.

He, Wu-jing, Wan-chi Wong, and Mei-ki Chan. "Overexcitabilities as important psychological attributes of creativity: A Dabrowskian perspective." *Thinking Skills and Creativity* 25 (2017): 27-35.

Hong, Eunsook, Yun Peng, and Harold F. O'Neil Jr. "Activities and accomplishments in various domains: Relationships with creative personality and creative motivation in adolescence." *Roeper Review* 36, no. 2 (2014): 92-103.

Hull, Debra F. "Relationship of Self-efficacy and Dabrowski Overexcitabilities." PhD diss., Oklahoma State University, 1996.

Isaksen, Scott G., Kenneth J. Lauer, Goran Ekvall, and Alexander Britz. "Perceptions of the best and worst climates for creativity: Preliminary validation evidence for the situational outlook questionnaire." *Creativity research journal* 13, no. 2 (2001): 171-184.

Ismail, Nik Ahmad Hisham, and Mustafa Tekke. "Development and initial validation of integrative Islamic personality inventory." *Advances in Environmental Biology* 9, no. 18 (2015): 163-171.

Jordanous, Anna. "Four PPP Perspectives on computational creativity in theory and in practice." *Connection Science* 28, no. 2 (2016): 194-216.

Kandler, Christian, Rainer Riemann, Alois Angleitner, Frank M. Spinath, Peter Borkenau, and Lars Penke. "The nature of creativity: The roles of genetic factors, personality traits, cognitive abilities, and environmental sources." *Journal of personality and social psychology* 111, no. 2 (2016): 230.

Karwowski, Maciej. "It doesn't hurt to ask... But sometimes it hurts to believe: Polish students' creative self-efficacy and its predictors." *Psychology of Aesthetics, Creativity, and the Arts* 5, no. 2 (2011): 154.

———. "Did curiosity kill the cat? Relationship between trait curiosity, creative self-efficacy and creative personal identity." *Europe's Journal of Psychology* 8, no. 4 (2012): 547-558.

Keller-Mathers, Susan. "1. Building Passion and Potential for Creative Learning in Higher Education." *Collected essays on learning and teaching* 4 (2011): 1-6.

Lemons, Gay. "Diverse perspectives of creativity testing: Controversial issues when used for inclusion into gifted programs." *Journal for the Education of the Gifted* 34, no. 5 (2011): 742-772.

Limont, Wiesława, Joanna Dreszer-Drogorób, Sylwia Bedyńska, Katarzyna Śliwińska, and Dominika Jastrzębska. "'Old wine in new bottles'? Relationships between overexcitabilities, the Big Five personality traits and giftedness in adolescents." *Personality and Individual Differences* 69 (2014): 199-204. <https://doi.org/10.1016/j.paid.2014.06.003>.

Mathisen, Gro Ellen, and Stale Einarsen. "A review of instruments assessing creative and innovative environments within organizations." *Creativity Research Journal* 16, no. 1 (2004): 119-140.

Mendaglio, Sal, and William Tillier. "Dabrowski's theory of positive disintegration and giftedness: Overexcitability research findings." *Journal for the Education of the Gifted* 30, no. 1 (2006): 68-87. <https://doi.org/10.1177/016235320603000104>.

Mendaglio, Sal, ed. *Dabrowski's theory of positive disintegration*. Great Potential Press, Inc., 2008.

Meneely, Jason, and Margaret Portillo. "The adaptable mind in design: Relating personality, cognitive style, and creative performance." *Creativity Research Journal* 17, no. 2-3 (2005): 155-166. <https://doi.org/10.1080/10400419.2005.9651476>.

Mika, Elizabeth. "Dabrowski's theory of positive disintegration." Retrieved [online] from: <http://talentdevelop.com/articles/DTOPD.html> (2002).

Piechowski, Michael M. "Emotional development and emotional giftedness." *Handbook of gifted education 2* (1991): 366-381.

Piechowski, Michael M. "Mellow out, they say. If only I could." *Intensities and sensitivities of the young and bright* (2006).

Piechowski, Michael M., and Nicholas Colangelo. "Developmental potential of the gifted." *Gifted Child Quarterly* 28, no. 2 (1984): 80-88.

Preacher, Kristopher J., and Andrew F. Hayes. "Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models." *Behavior research methods* 40, no. 3 (2008): 879-891.

Pretz, Jean E., and Victoria A. McCollum. "Self-perceptions of creativity do not always reflect actual creative performance." *Psychology of Aesthetics, Creativity, and the Arts* 8, no. 2 (2014): 227.

Rhodes, Mel. "An analysis of creativity." *The Phi Delta Kappan* 42, no. 7 (1961): 305-310.

Richter, Andreas W., Giles Hirst, Daan Van Knippenberg, and Markus Baer. "Creative self-efficacy and individual creativity in team contexts: Cross-level interactions with team informational resources." *Journal of applied psychology* 97, no. 6 (2012): 1282. <https://doi.org/10.1037/a0029359>.

Runco, Mark A. "Products depend on creative potential: a comment on the productivist industrial model of knowledge production." *Gifted and*



*Talented International* 25, no. 1 (2010): 81-87.  
<https://doi.org/10.1080/15332276.2010.11673554>.

Schwarzer, Ralf, and Matthias Jerusalem. "Optimistic self-beliefs as a resource factor in coping with stress." In *Extreme stress and communities: Impact and intervention*, pp. 159-177. Springer, Dordrecht, 1995.

Scratchfield, M. L. "The creative person, product." *Process and Press: The 4P's*. Retrieved January 15 (1999): 2003.

Sen, Sedat, Selcuk Acar, and Caglar Cetinkaya. "Development of the Person–Environment Fit Scale (PEFSC): A new measure of creativity." *Psychology of Aesthetics, Creativity, and the Arts* 8, no. 4 (2014): 433. <https://doi.org/10.1037/a0037724>.

Simmons, Aneika L., Stephanie C. Payne, and Matthew M. Pariyothorn. "The role of means efficacy when predicting creative performance." *Creativity Research Journal* 26, no. 1 (2014): 53-61. <https://doi.org/10.1080/10400419.2014.873667>.

Smith, Chris MM, ed. *Including the gifted and talented: Making inclusion work for more gifted and able learners*. Taylor & Francis, 2006.

Tamannaefifar, Mohammad Reza, and Mahshad Motaghedifard. "Subjective well-being and its sub-scales among students: The study of role of creativity and self-efficacy." *Thinking Skills and Creativity* 12 (2014): 37-42.

Tierney, Pamela, and Steven M. Farmer. "Creative self-efficacy: Its potential antecedents and relationship to creative performance." *Academy of Management journal* 45, no. 6 (2002): 1137-1148. <https://doi.org/10.2307/3069429>.

———. "Creative self-efficacy development and creative performance over time." *Journal of applied psychology* 96, no. 2 (2011): 277. <https://doi.org/10.1037/a0020952>.

Tieso, Carol L. "Patterns of overexcitabilities in identified gifted students and their parents: A hierarchical model." *Gifted child quarterly* 51, no. 1 (2007): 11-22. <https://doi.org/10.1177/0016986206296657>.

Tillier, William. "Dabrowski without the theory of positive disintegration just isn't Dabrowski." *Roeper Review* 31, no. 2 (2009): 123-126. <https://doi.org/10.1080/02783190902737699>.

Tsai, Kuan Chen. "Taiwanese elementary students' creativity, creative personality, and learning styles: An exploratory study." *Alberta Journal of Educational Research* 60, no. 3 (2014): 464-473.

Vuyk, M. Alexandra, Thomas S. Krieshok, and Barbara A. Kerr. "Openness to experience rather than overexcitabilities: Call it like it is." *Gifted Child Quarterly* 60, no. 3 (2016): 192-211.

Williams, Frank. *TCD. Test della creatività<sup>azza</sup> e del pensiero divergente*. Edizioni Erickson, 1994.