



Contents lists available at Jurnal IICET

Jurnal Konseling dan Pendidikan

ISSN: 2337-6740 (Print) ISSN: 2337-6880 (Electronic)

Journal homepage: <http://jurnal.konselingindonesia.com>



Correlation between creativity and career choice for senior and vocational high school students in the new normal era

Renatha Ernawati^{*)}, Evi Deliviana, Eustalia Wigunawati

Universitas Kristen Indonesia, Jakarta, Indonesia

Article Info

Article history:

Received Feb 24th, 2022

Revised Apr 19th, 2022

Accepted Jun 12th, 2022

Keyword:

Student creativity
Career choice
Students building
New normal era

ABSTRACT

The Demographic Institute of the University of Indonesia conducted a survey in 2015 and noted the difference between education and employment was 53.33%, the difference between occupational qualifications and educational background was 60.52%. Another fact in the study, 63% of Indonesians work not in accordance with their field of science. This study aims to determine the relationship between creativity and students' career choices. Quantitative research method with final correlation design. The object is high school and vocational high school and the subject is 453 students in Jakarta, Depok, Tangerang, and consists of 278 girls and 175 boys. Data collection techniques using instruments. Data analysis using JASP statistical method version 0.16. The results showed that the career choice variables were mostly in the medium category, namely women (60, 80%) and men (57, 71%). Likewise for the creativity variable, mostly in the medium category, namely women (56, 11%) and men (51, 42%). The results also showed that career choice and creativity were highly correlated ($p < 0.001$). It is also known that the Creativity variable can explain the variation in the Career Choice variable by 11.56%. Vice versa, the Career Choice variable can explain variations in Creativity. Based on this value, it can also be explained that the Creativity variable contributes 11.56% to the Career Choice variable.



© 2022 The Authors. Published by Indonesian Institute for Counseling, Education and Therapy (IICET). This is an open access article under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>)

Corresponding Author:

Renatha Ernawati
Universitas Kristen Indonesia
Email: renatha_silitonga@yahoo.co.id

Introduction

Before the Covid 19 pandemic occurred, the Demographic Institute of the University of Indonesia in 2015 conducted a survey of 12,396,429 sample people who had an age range of 18-64 years, the sample surveyed had a Diploma 1 educational background. The survey results showed a mismatch between education and work. The incompatibility of the work obtained with the field is 53, 33%. In addition to the discrepancy between work and education, there is also a gap between job qualifications and educational background of around 60.52% (Setiawan et al., 2018). Another word expressed by the Minister of Manpower, Karim & Hariyono, (2018) data shows that 63% of Indonesians have jobs that are not in accordance with their educational background. This was further exacerbated by the arrival of an epidemic of infectious disease covid 19. In November 2020 the Central Statistics Agency (BPS) conducted a National Labor Force survey showing a number of interesting findings regarding the Pre-employment Card program which continues to increase in recipients. Pre-employment Card recipients are the majority of men (58%), living in urban areas (76%), young age, high school education and above (91%). As many as 45% unemployed in August 2020 due to Covid. As many as 88.9% of the Pre-employment Card recipients who completed the training said the Pre-employment Card program improved their work skills outside of the education field that they had mastered so far (Cooper, 2020). This has an impact on each individual and the workplace where one works. Many factors influence one's career decision-making. According to De Beurs et al., (2019) This consists of internal and external factors. Internal factors can be in the form of life values that guide a person's life and are reflected in lifestyle, the level of intelligence as a person's ability to think to

achieve achievements; and special talent in a particular field to perform the chosen field of work, such as artistic and language skills.

The education provided by the school teaches the values and outlook on life to succeed in a career. This includes peer groups, which are friends to share their views on the future. The expected competence is the potential a person needs to have when taking a study program or receiving specific training and positions (Guetzkow, 2020). According to Kulcsár et al., (2020) one's career decision-making has factors including self-concept, self-efficacy, and tax value. Furthermore, gender factors can also influence career decisions (Kassam et al., 2020). That a person's creativity is closely related when there are diverse career choices in him. If someone can choose the right career, then he will be able to develop his creativity in an independent way (Lassig, 2020) . In 2020, the world was hit by the Covid-19 epidemic, which also had an impact on Indonesia. This shift is analogous to studying and working remotely. Therefore these conditions give rise to various new types of work. According to the Minister of Manpower, Ida Fauziyyah, in the era of the new normal, several jobs are needed, such as in the fields of information technology, telecommunications, and retail, for daily lifestyle (Anderson et al., 2021) .

Based on the fields of work mentioned, the Minister of Manpower also conveyed job projections that will experience ups and downs until the next 2030. Considering these conditions, high school and vocational students need to explore careers tailored to their interests and developments in the new normal era. Furthermore, guidance from Counselling teachers is also needed through career guidance services that can prepare their students to have the life skills needed. The World Economic Forum (WEF) in Rahman & Bhakti, (2020) stated that 10 life skills need to be mastered, namely solving complex problems, critical thinking, creativity, managing people, coordination with others, emotional intelligence, and decision-making, service orientation, negotiation, and cognitive flexibility. From these life skills, creativity is undergoing a significant shift. Previously in 2015, WEF ranked creativity at number ten, but in 2020, it will become the third most important life skill for individuals to succeed in the new normal era.

According to Iivari et al., (2020) creativity can be the main key for a person to complete various tasks, including everyday challenges such as life choices and developmental tasks. Creativity is the ability to produce new and useful work or results. It is also important to distinguish individuals at their social level when completing a task (Matlin et al., 2020). Patel et al., (2020) defined creativity as a cognitive activity or thought process to generate new and useful ideas, and according to some experts, the main component is a novelty. It is intended as originality and a completely new idea, an amalgamation of two or more thoughts. According to Behnamnia et al., (2020) creativity is seen in the product made and in the form of the process undertaken. The results in the form of products should be useful data. Meanwhile, creativity should be seen as a tool to solve problems. Based on some of these understandings, it is a person's cognitive process to find solutions or solve original problems. However, solving this problem can come from existing information or facts. One way to be creative is to think openly and desire to learn new things by looking for new information (Lee et al., 2020). Creativity means the courage to take risks and have high self-confidence. Therefore, for someone to be creative, it is necessary to have an open mind, cooperate with other people in a team with different backgrounds, and be diligent in learning new things by reading and discussing (Arslan et al., 2022).

The aspects are fluency, flexibility, elaboration, originality, complexity, and risk-taking. Fluency is the ability to generalise ideas, enabling creative problem-solving (Zhang et al., 2020). Flexibility is the capability to produce different perceptions by generating several ideas to solve a similar problem. Meanwhile, elaboration is the ability to add, package, or create an idea or innovative product (Uyarra et al., 2020). Originality is the aptitude to create ideas or products that are new, unique, unusual, fresh, or completely different. Complexity is the capacity to conceptualise ideas or products that are difficult or complex, while risk-taking is the desire to try new things (Mrayyan, 2016). Four creative process stages are preparation, incubation, insight, and verification (Daikoku et al., 2021). Although everything happens below the threshold of awareness during incubation, the mind plays a crucial role in the process. Hence a certain combination of understanding occurs in the area of human consciousness. Unlike the human mind, which tends to dwell on only one subject at a time, this space can be an incubator for various ideas. At this stage, the process of association and cross-fertilization also occurs.

The association process is a new combination of elements already existing in the mind. Meanwhile, the process of cross-fertilization is an opportunity for creativity (Páez-Avilés et al., 2018). This opportunity will be even greater when someone has a diverse or multidisciplinary understanding. The next stage is insight, which results from combining complex mental structures in the area of consciousness. Insight appears in the creator's area of consciousness after he has experienced an "aha" or "eureka" moment. The last stage is

verification, where a creator evaluates the insight or inspiration in the area of consciousness. There are several factors influencing a person's creativity, including incubation and social factors. Incubation is when the solution to the problem is not successful, taking a break from thinking about the problem rather than constantly thinking about the solution without stopping. Sometimes, when confronted with a complicated situation, the mind may not immediately generate a solution. However, when the mind is given a break from the problem, the right solution can emerge (Mckeown et al., 2020). The environment influences one's creativity. Based on the research, a group tends to be less creative when it knows that performance is being evaluated (Lassig, 2020). Furthermore, when students are given assignments, some are informed that they will be graded and given directions, while others are left alone. Results indicate that students who are left alone and not given instructions develop creative work. Creativity is associated with career choice, as in the research conducted by Fusco, Lum, (2020) on 338 Senior High School students in Italy. The results showed that positive creativity is important in designing a future life or career. Based on the results, there are differences in the level of creativity between females and males. It showed that females had higher scores than males regarding positive creativity. In addition, creativity is related to gender and the process of building a career. It can be concluded that the positive impact of creativity on career adaptation is higher for females.

This attitude, such as career choice, is also needed for the Indonesian people. This can be shown from the results by Hidayah et al., (2019) for class Mathematics and Natural Science, Social Science, Culture and Language, and students at the Senior High School Laboratory, State University of Malang. The results showed increased student career decision-making after training in creative thinking skills. Individual creativity can bring up good career choices, therefore, this exploration is also good. The Covid-19 pandemic has affected many people, especially in careers. In a survey conducted by Job Street Indonesia on workers, about 35% and 19% were affected by permanent and temporary laid-off. The productive age group was most affected in the range of 18-24 years, with a percentage of 67% (Putri, 2020). Where 17.8% and 25.6% of companies permanently and temporarily laid off workers (Pingree et al., 2021). Based on the description above, it can be concluded that the Covid-19 pandemic impacts one's career choices. Exploring the new normal era is needed in harmony with (Kurniasih et al., 2020). This is important because there are changes in the form and variety of work (Iivari et al., 2020). This job inquiry involves ingenuity, and as a result, students can identify the best career option. The role of schools as educational institutions specifically for Guidance and Counselling teachers at Senior and Vocational High Schools can increase creativity and career choices through exploration (Wachidi et al., 2020), and provide training to improve creative thinking skills, and career guidance services that will increase students' creativity. This underlies the team's interest in researching creativity that plays a role in students' career choices in the new normal era.

Method

This research method is quantitative using a final correlation design (Patel, 2019). The quantitative approach contains data in the form of numbers or data that can be quantified and processed using statistical techniques. The final correlation design is to test the extent to which the variation of one variable is related (Gottardi & Tonni, 2022). This study aims to determine the relationship between the creativity variable and career choice. This study involved 453 people, with 128 students from Depok State High School (SMA), 136 people from Tangerang State High School (SMA), 98 people from Jakarta State Vocational High School (SMK), and 91 people from Vocational High School. PGRI Jakarta. The number of objects from the 4 schools is unknown. This study uses a non-probability design with convenience or opportunity sampling techniques. Determination of the number of samples with an unknown population and certainty using the Cochran formula. In this study the sample consisted of 453 students divided into 278 girls and 175 boys. Data collection techniques in this study by using the instrument. The distributed instruments will be arranged based on creativity indicators and career choice indicators. Furthermore, the instrument was validated and tested for reliability.

The instruments were arranged using a Likert Scale model in the form of statements to respondents (Ahmad et al., 2018). With the results of the validation and reliability test, Career Choice shows reliability with the value of the resting correlation item ranging from 0.245-0.464. Referring to this value, all career choice items are declared valid and reliable and feasible to be used to obtain information from sources. Each respondent was asked to read and choose a score that corresponds to what the source experienced. In the instrument distributed, it has a score of 4 for the Strongly Agree (SS) category, a score of 3 for the Agree (S) category, a score of 2 for Disagree (TS), and a score of 1 for the Strongly Disagree (STS) category. The Career Choice Scale shows reliability with the value of the resting correlation item ranging from 0.245-0.464.

Referring to this value, all career choice items are declared valid. The data analysis technique in this study uses the statistical data processing application method of JASP version 0.16. This application is one of the most accurate applications in statistical science to see the correlation of two or more indicators (Fors et al., 2020). Referring to the reliability value with correlation item values ranging from 0.245 to 0.644., the career choice scale is considered reliable. The creativity scale is known to have a correlation item value ranging from 0.348-0.570, meaning that all items on the innovation scale are valid. Based on the Cronbach Alpha data, the point estimate value is 0.698, which indicates that the data on the creativity scale is reliable. So that the data obtained from the source through the instrument can be accounted for and analyzed by means of the JASP method version 0.16 (Platforms & Clients, 2021).

Results and Discussion

The results of the statistical data analysis of the descriptive value of the Career Choice variable obtained the mean and standard deviation of 35.232 and 3,846. The mean and standard deviation of the Creativity variable are 24.74 and 4.091. As explained in theory, career is work as a calling in life and represents thoughts, feelings, and influencing lifestyles (Sun et al., 2020). Determining a person's choice can be seen from various points of view, such as gender. State that gender factors influence career decisions (Levin et al., 2020).

Table 1. Categorization of Career Options by Gender

Gender		Career Choice Category			Total
		Good	Bad	Neutral	
Female	Count	67.000	42.000	169.000	278.000
	% within row	24.101 %	15.108 %	60.791 %	100.000 %
	% within column	56.303 %	65.625 %	62.593 %	61.369 %
	% of total	14.790 %	9.272 %	37.307 %	61.369 %
Male	Count	52.000	22.000	101.000	175.000
	% within row	29.714 %	12.571 %	57.714 %	100.000 %
	% within column	43.697 %	34.375 %	37.407 %	38.631 %
	% of total	11.479 %	4.857 %	22.296 %	38.631 %
Total	Count	119.000	64.000	270.000	453.000
	% within row	26.269 %	14.128 %	59.603 %	100.000 %
	% within column	100.000 %	100.000 %	100.000 %	100.000 %
	% of total	26.269 %	14.128 %	59.603 %	100.000 %

Descriptive analysis of career choice based on gender can be seen in table 1. In the choice variable, out of a total of 278 female respondents, about 67 or 24.10% have a choice in the high category, while 42 or 15.11% are included in the low category. The remaining 169 respondents or 60.80% are in the medium category. In the male gender, data shows that of the 175 respondents, 52 or 29.71% have a career choice in the high category, while 22 or 12.57% are in the low category. Furthermore, the remaining 101 respondents or 57.71% are in the medium category. Based on the data, it can be said that male respondents have greater career choices in the category compared to female respondents. This result is not in line with the research by Emnur et al., (2022) that women have more career aspirations than men. This difference is caused by the values of life that guide a person's life and in his lifestyle (Wang et al., 2020). This indicates that the percentage of career choices for men is higher than for women.

Besides gender, another influencing factor is creativity. It is the ability to produce new and useful work or results. Creativity is also important to distinguish individuals in their social level in completing a task. The level of individual creativity is also influenced by gender. Stated that positive creativity is important in designing future life or career (Iivari et al., 2020). The results also found differences in the level of creativity between females and males. Descriptive analysis based on the gender toward the creativity variable can be seen in table 2 of 278 female respondents, 63 or 22.66% have creativity in the high category, 59 or 21.22% in the low category, and the remaining 156 or 56.11% in the medium category. In the male gender data obtained from 175 male respondents, 47 or 26.85% had creativity in the high category; 38 or 21.71% in the low category, and the remaining 90 or 51.42% in the medium category. Based on the description of the data, it can be concluded that male respondents have a greater percentage of creativity in the high category than female respondents. Vice versa, female respondents have a higher percentage of creativity in the low category than male respondents. Conducted on 338 Senior High School students in Italy and showed differences in

creativity between females and males. The research shows that females score higher than males in terms of positive creativity. The difficulty of carrying out the incubation process is in line with the research of Huang & Zhao, (2020) that females are more anxious than males.

Table 2. Categorization of Creativity by Gender

Gender		Creativity Category			Total
		Good	Bad	Neutral	
Female	Count	63.000	59.000	156.000	278.000
	% within row	22.662 %	21.223 %	56.115 %	100.000 %
	% within column	57.273 %	60.825 %	63.415 %	61.369 %
	% of total	13.907 %	13.024 %	34.437 %	61.369 %
Male	Count	47.000	38.000	90.000	175.000
	% within row	26.857 %	21.714 %	51.429 %	100.000 %
	% within column	42.727 %	39.175 %	36.585 %	38.631 %
	% of total	10.375 %	8.389 %	19.868 %	38.631 %
Total	Count	110.000	97.000	246.000	453.000
	% within row	24.283 %	21.413 %	54.305 %	100.000 %
	% within column	100.000 %	100.000 %	100.000 %	100.000 %
	% of total	24.283 %	21.413 %	54.305 %	100.000 %

Table 3. Categorization of Career Options by Type of School

Type Of School		Career Choice Category			Total
		High	Low	Medium	
Senior High School	Count	100.00	48.00	212.00	360.00
	% within row	27.78 %	13.33 %	58.89 %	100.00 %
Vocational School	Count	19.00	16.00	58.00	93.00
	% within row	20.43 %	17.20 %	62.37 %	100.00 %
Total	Count	119.00	64.00	270.00	453.00
	% within row	26.27 %	14.13 %	59.60 %	100.00 %

Based on table 3 above, it is explained that out of a total of 360 high school students respondents, 100 or 27.78% have career choices that are included in the high category, which means they have good self-understanding, understanding of the world of work, and planning for the future. In comparison, around 48 respondents or 13.33% are in the low category, meaning that they do not understand themselves, understand the world of work, and plan for the future. The remaining 212 respondents or 58.89% have a career choice included in the moderate category, meaning that they have moderate self-understanding, understanding of the world of work, and future planning. Regarding career choices based on the type of school, namely vocational high schools, from 93 respondents 19 people or 20.43% have career choices in the high category which means they have self-understanding, understanding of the world of work, and good planning for the future. In comparison, around 16 respondents or 17.20% are included in the low category, meaning that they do not understand themselves, understand the world of work, and plan for the future. The remaining 58 respondents or 62.37% have a career choice in the medium category, meaning that they have moderate self-understanding, understanding of the world of work, and future planning.

Referring to the percentage in the high category, it is seen that high school students have more career choices than vocational high school students. In the low category, the percentage of career choice categorization is more prevalent in vocational high school students compared to high school students. These results are in line with the findings of Ibáñez et al., (2020) that vocational high schools are educational institutions that prepare students to explore certain fields of science. Therefore, solid career options in science are being explored, but many vocational high school students are less mature in their careers.

Table 4. Categorization of Creativity by Type of School

Type Of School		Creativity Category			
		High	Low	Medium	Total
Senior High School	Count	3.00	267.00	90.00	360.00
	% within row	0.83 %	74.17 %	25.00 %	100.00 %
Vocational High School	Count	0.00	69.00	24.00	93.00
	% within row	0.00 %	74.19 %	25.81 %	100.00 %
Total	Count	3.00	336.00	114.00	453.00
	% within row	0.66 %	74.17 %	25.17 %	100.00 %

Based on table 4 above, it is explained that out of a total of 360 high school student respondents, about 3 or 0.83% have creativity in the high category, meaning that they can generalize various ideas and varied perspectives to try new things. While as many as 267 or 74.17% are included in the low category, which means they are less able to generalize many ideas so that they produce completely different perceptions. The remaining 90 respondents or 25% have creativity in the medium category, meaning that they can generalize several ideas and produce different perceptions. In the categorization there are no respondents or 0% have creativity that is included in the high category, meaning that they are unable to generalize several ideas, generate different perceptions, create ideas, create completely different ideas or products, difficult to conceptualize. Ideas, and have no desire to try new things. While 69 respondents or 74.19% are in the low category, meaning they are less able to generalize ideas, generate different perceptions, create completely different creative ideas, conceptualize difficult ideas, and lack the desire to try new things. The remaining 24 respondents or 25.81% have creativity which is included in the medium category, meaning that they are quite able to generalize several ideas, produce different perceptions, are able to create creative ideas, create completely different ideas or products, quite capable.

Conceptualizing ideas is difficult, and quite willing to try new things. Categorization of career choices of high school and vocational high school students shows that they are less creative. This can also be seen from the results of creativity categorization, where many high school and vocational high school students have creativity in the low category. According to the World Economic Forum (WEF) in Rahman and Bhakti (2020), 10 life skills that need to be mastered are solving complex problems, critical thinking, managing people, coordinating with others, emotional intelligence, decision making, service orientation, negotiation, and cognitive flexibility, and creativity, which have undergone a significant shift. Previously in 2015, WEF ranked creativity at tenth place. However, in 2020 this will be the third most important life skill for individuals to succeed in the new normal era.

Table 5. Spearman's Correlations

Variable		Total Creativity Score	Total Career Choice Score
Total Creativity Score	Spearman's rho	—	
	p-value	—	
Total Career Choice Score	Spearman's rho	0.340	***
	p-value	< .001	—
coefficient of determination is 0.1156			11,56%
* p < .05, ** p < .01, *** p < .001			

Skewness data can be obtained through a normality test. The data is said to be normal when the distribution of the skewness score with the STD. The error of skewness is in the range of -1.96 to 1.96. The total score for creativity and career choice is 0.58 and 0.043; hence it is said to be normal. Based on Kurtosis, it is said to be normal when the Kurtosis score's division by std. Kurtosis's error is in the range of -1.96 to 1.96. Therefore, the total creativity score is 0.96, which is normal. A full career choice score of 2,646 is considered abnormal. Since the total score on one of the variables is not normally distributed, the correlation analysis uses non-parametric analysis with the Spearman Rank technique. The data for equalising two variables were obtained from different sources. The correlated data is ordinal and do not form a normal distribution. Therefore, the Spearman Rank correlation is freely distributed and works with ordinal, tiered, or

ranking data (Kinney-Lang et al., 2019). Spearman Correlations analysis was used, as shown in table 5. Based on the correlation coefficient value of 0.340 with $p < 0.001$, the correlation between career choice and creativity is very significant. For the value of $r = 0.340$, the coefficient of determination is 0.1156. These results show that the variation in the creativity variable can explain the career choice variable by 11.56%. Based on this value, it can also be explained that the creativity variable contributes 11.56% to the career choice variable. This means that when the individual can generalise some ideas, it is possible to create problem-solving to produce different perceptions by generating several ideas to add, package, or create an idea.

These results support Fusco, Fusco et al., (2022) research on 338 Senior High School students in Italy that creativity is important in building careers and future orientation. It is used in counselling interventions to assist students in designing their future. A major role in career counselling allows them to see life situations from multiple perspectives. In the digital era, career practitioners, including Guidance and Counselling teachers, can use creative methods to facilitate the process that involves the connection between creativity and technology. Moreover, technology-based creativity can be implemented in the context of education. For class XII students of Mathematics and Natural Science, Social Science, Culture and Language, and ICP at the Senior High School Laboratory of the State University of Malang. The results show that creative thinking skills training can improve students' career decision-making abilities. Individual creativity can bring up good career choices, therefore, exploration is also good. According to (Nihlatin Nisa et al., 2021), positive, creative thinking patterns contribute positively to one's work readiness. Individuals with good creativity are assumed to have work readiness. They can anticipate the new normal era with the development of information technology and the fast-paced digitalization process that creates new jobs in the fields of information technology, telecommunications, retail of daily necessities and lifestyle. This is in line with the theory that the use of technology can improve careers and the use of technology can develop a person's activity for the better (Chick et al., 2020).

Conclusion

Based on the results and discussion, there are several conclusions. The first is that male respondents have a higher percentage of career choice and creativity in the high category than females. On the other hand, female respondents have a higher percentage of career choices in the low category than males. The second is that creativity is positively correlated with career choice. The variation in the career choice will also increase with creativity. The variation in the creativity variable can explain the variation in the career choice variable by 11.56%. Based on this value, it can also be demonstrated that the creativity variable contributes 11.56% to the career choice variable. Based on the conclusions, several recommendations are given from this research. First, there is a need to balance the number of Senior and Vocational High School respondents. Second, future research needs to examine the students' career choices and creative differences. This is because the learning methods in the two schools are different, where the Senior High School contains more theory than practice. They view career choices in general and focus on training that improves specific skills. Third, future research should explore why female and male students differ in the percentage of creativity and career choice. Fourth, it is necessary to increase the contribution of Guidance and Counselling teachers in providing career services. Fifth, the role of every teacher in schools is needed in making learning designs that provide room for increasing student creativity. The results showed many students with creativity in the low category. This is necessary because it is an important life skill in the new normal era. Sixth, further research related to career choice can be related to other variables that can increase students' career choices.

Acknowledgment

We thank all those who have helped us in this research. We hope that the publication of articles from the results of this study will have a positive impact and become a future reference for the wider community. We are also grateful to the Indonesian Christian University for being willing to fund this research to completion.

References

- Ahmad, S., Prahmana, R. C. I., Kenedi, A. K., Helsa, Y., Arianil, Y., & Zainil, M. (2018). The instruments of higher order thinking skills. *Journal of Physics: Conference Series*, 943(1). <https://doi.org/10.1088/1742-6596/943/1/012053>
- Anderson, J., Rainie, L., & Vogels, E. A. (2021). New-Normal-2025_Anderson Rainie Vogels.
- Arslan, A., Ahokangas, P., Haapanen, L., Golgeci, I., Tarba, S. Y., & Bazel-Shoham, O. (2022). Generational differences in organizational leaders: an interpretive phenomenological analysis of work meaningfulness in the Nordic high-tech organizations. *Technological Forecasting and Social Change*, 180(April), 121717. <https://doi.org/10.1016/j.techfore.2022.121717>
- Behnamnia, N., Kamsin, A., Ismail, M. A. B., & Hayati, A. (2020). The effective components of creativity in digital game-based learning among young children: A case study. *Children and Youth Services Review*, 116(March), 105227. <https://doi.org/10.1016/j.childyouth.2020.105227>
- Chick, R. C., Clifton, G. T., Peace, K. M., Propper, B. W., Hale, D. F., Alseidi, A. A., & Vreeland, T. J. (2020). Using Technology to Maintain the Education of Residents During the COVID-19 Pandemic. *Journal of Surgical Education*, 77(4), 729–732. <https://doi.org/10.1016/j.jsurg.2020.03.018>
- Cooper, K. M. (2020). ThinkIR : The University of Louisville ' s Institutional Repository Job satisfaction for individuals with disabilities : youth one year out . <https://doi.org/https://doi.org/10.18297/etd/3572>
- Daikoku, T., Fang, Q., Hamada, T., Handa, Y., & Nagai, Y. (2021). Importance of environmental settings for the temporal dynamics of creativity. *Thinking Skills and Creativity*, 41(May), 100911. <https://doi.org/10.1016/j.tsc.2021.100911>
- De Beurs, D., Fried, E. I., Wetherall, K., Cleare, S., O' Connor, D. B., Ferguson, E., O'Carroll, R. E., & O' Connor, R. C. (2019). Exploring the psychology of suicidal ideation: A theory driven network analysis. *Behaviour Research and Therapy*, 120(May 2018), 103419. <https://doi.org/10.1016/j.brat.2019.103419>
- Emnur, M., Putra, D. P., & Wae, R. (2022). Human : Journal of Community and Public Service Published by HAQI Publishing Service Human : Journal of Community and Public Service Published by HAQI Publishing Service. 1(1), 25–32.
- Fors, V., Pink, S., Berg, M., & O'Dell, T. (2020). Imagining Personal Data. In *Imagining Personal Data*. <https://doi.org/10.5040/9781350051416>
- Fusco, L., Sica, L. S., Parola, A., & Aleni Sestito, L. (2022). Vocational identity flexibility and psychosocial functioning in Italian high school students. *International Journal of School and Educational Psychology*, 10(1), 144–154. <https://doi.org/10.1080/21683603.2020.1841050>
- Gottardi, G., & Tonni, L. (2022). Cone Penetration Testing 2022; First Edition. In *5th International Symposium on Cone Penetration Testing (CPT'22)*.
- Guetzkow, J. (2020). Common Cause? Policymaking Discourse and the Prison/Welfare Trade-Off*. *Politics and Society*, 48(3), 321–356. <https://doi.org/10.1177/0032329220942080>
- Hidayah, N., Ramli, M., & Fauzan, L. (2019). Kemanjuran Strategi Mind-Mapping untuk Meningkatkan Keterampilan Berpikir Kreatif dalam Pengambilan Keputusan Karier Siswa. *Indonesian Journal of Educational Counseling*, 3(3), 273–282. <https://doi.org/10.30653/001.201933.109>
- Huang, Y., & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. *Psychiatry Research*, 288(April), 112954. <https://doi.org/10.1016/j.psychres.2020.112954>
- Ibáñez, M. B., Uriarte Portillo, A., Zatarain Cabada, R., & Barrón, M. L. (2020). Impact of augmented reality technology on academic achievement and motivation of students from public and private Mexican schools. A case study in a middle-school geometry course. *Computers and Education*, 145, 103734. <https://doi.org/10.1016/j.compedu.2019.103734>
- Iivari, N., Sharma, S., & Ventä-Olkkonen, L. (2020). Digital transformation of everyday life – How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care? *International Journal of Information Management*, 55(June), 102183. <https://doi.org/10.1016/j.ijinfomgt.2020.102183>
- Karim, M. A., & Hariyono, W. (2018). Implementation of Occupational Safety and Health (Osh) At Universitas Gadjah Mada Indonesia. *IJAEDU- International E-Journal of Advances in Education*, IV(10), 93–99. <https://doi.org/10.18768/ijaedu.415412>
- Kassam, A. F., Cortez, A. R., Winer, L. K., Kuethe, J. W., Athota, K. P., & Quillin, R. C. (2020). The impact of medical student interest in surgery on clerkship performance and career choice. *American Journal of Surgery*, 219(2), 359–365. <https://doi.org/10.1016/j.amjsurg.2019.09.040>
- Kinney-Lang, E., Yoong, M., Hunter, M., Kamath Tallur, K., Shetty, J., McLellan, A., FM Chin, R., & Escudero, J. (2019). Analysis of EEG networks and their correlation with cognitive impairment in

- preschool children with epilepsy. *Epilepsy and Behavior*, 90, 45–56. <https://doi.org/10.1016/j.yebeh.2018.11.011>
- Kulcsár, V., Dobrea, A., & Gati, I. (2020). Challenges and difficulties in career decision making: Their causes, and their effects on the process and the decision. In *Journal of Vocational Behavior* (Vol. 116). Elsevier Inc. <https://doi.org/10.1016/j.jvb.2019.103346>
- Kurniasih, C., Zukeyka, A., Sari, Y. N., Ghiffari, M. A. N., & Bhakti, C. P. (2020). Analisis Kebutuhan Career Exploration di Era New Normal. *Seminar Nasional Daring IIBKIN 2020*, 61–66. <http://conference.um.ac.id/index.php/bk3/article/view/309/279>
- Lassig, C. (2020). A typology of student creativity: creative personal expression, boundary pushing and task achievement. *Thinking Skills and Creativity*, 36(May 2018), 100654. <https://doi.org/10.1016/j.tsc.2020.100654>
- Lee, J. W., Daly, S. R., Huang-Saad, A., Rodriguez, G., & Seifert, C. M. (2020). Cognitive strategies in solution mapping: How engineering designers identify problems for technological solutions. *Design Studies*, 71, 100967. <https://doi.org/10.1016/j.destud.2020.100967>
- Levin, N., Braunstein-Bercovitz, H., Lipshits-Brazilier, Y., Gati, I., & Rossier, J. (2020). Testing the structure of the Career Decision-Making Difficulties Questionnaire across country, gender, age, and decision status. *Journal of Vocational Behavior*, 116(July), 103365. <https://doi.org/10.1016/j.jvb.2019.103365>
- Lum, K. (2020). Career story. *Significance*, 17(6), 40–40. <https://doi.org/10.1111/1740-9713.01471>
- Matlin, S. A., Mehta, G., Hopf, H., Krief, A., Keßler, L., & Kümmerer, K. (2020). Material circularity and the role of the chemical sciences as a key enabler of a sustainable post-trash age. *Sustainable Chemistry and Pharmacy*, 17. <https://doi.org/10.1016/j.scp.2020.100312>
- Mckeown, B., Strawson, W. H., Wang, H. T., Karapanagiotidis, T., Vos de Wael, R., Benkarim, O., Turnbull, A., Margulies, D., Jefferies, E., McCall, C., Bernhardt, B., & Smallwood, J. (2020). The relationship between individual variation in macroscale functional gradients and distinct aspects of ongoing thought. *NeuroImage*, 220(June). <https://doi.org/10.1016/j.neuroimage.2020.117072>
- Mrayyan, S. (2016). Investigating Mathematics Teachers' Role to Improve Students' Creative Thinking. *American Journal of Educational Research*, 4(1), 82–90. <https://doi.org/10.12691/education-4-1-13>
- Nihlatin Nisa, A., Puji Sugiharto, D. Y., & Awalya, A. (2021). The Relationship between Creative Thinking, Problem Solving Skills, and Self Efficacy with Work Readiness. *Jurnal Bimbingan Konseling*, 10(1), 8–13. <https://doi.org/10.15294/jubk.v9i1.45230>
- Páez-Avilés, C., Juanola-Feliu, E., & Samitier, J. (2018). Cross-fertilization of Key Enabling Technologies: An empirical study of nanotechnology-related projects based on innovation management strategies. *Journal of Engineering and Technology Management - JET-M*, 49(May 2018), 22–45. <https://doi.org/10.1016/j.jengtecman.2018.05.001>
- Patel. (2019). *Queer Methods and Methodologies*. <https://www.taylorfrancis.com/books/oa-edit/10.4324/9781315603223/queer-methods-methodologies-catherine-nash-kath-browne?context=ubx&refId=7d72c6ef-e0b6-4b56-add4-5a2181946d4e>
- Patel, M. S., Halpern, J. A., Desai, A. S., Keeter, M. K., Bennett, N. E., & Brannigan, R. E. (2020). Success of Prostate and Testicular Cancer Awareness Campaigns Compared to Breast Cancer Awareness Month According to Internet Search Volumes: A Google Trends Analysis. *Urology*, 139, 64–70. <https://doi.org/10.1016/j.urology.2019.11.062>
- Pingree, R. J., Santia, M., Bryanov, K., & Watson, B. K. (2021). Restoring trust in truth-seekers: Effects of op/eds defending journalism and justice. *PLoS ONE*, 16(5 May), 1–15. <https://doi.org/10.1371/journal.pone.0251284>
- Platforms, E., & Clients, C. (2021). *Digital Disruption in CIB*.
- Putri, R. N. (2020). Indonesia dalam Menghadapi Pandemi Covid-19. *Jurnal Ilmiah Universitas Batanghari Jambi*, 20(2), 705. <https://doi.org/10.33087/jjubj.v20i2.1010>
- Rahman, F. A., & Bhakti, C. P. (2020). Implementasi Eksplorasi Karier Siswa di Era New Normal. *Prosiding Seminar Bimbingan Dan Konseling*, 36–42.
- Setiawan, E., Machmud, R., & Masrul, M. (2018). Faktor-Faktor yang Berhubungan dengan Kejadian Stunting pada Anak Usia 24-59 Bulan di Wilayah Kerja Puskesmas Andalas Kecamatan Padang Timur Kota Padang Tahun 2018. *Jurnal Kesehatan Andalas*, 7(2), 275. <https://doi.org/10.25077/jka.v7i2.813>
- Sun, X., Xu, H., Köseoglu, M. A., & Okumus, F. (2020). How do lifestyle hospitality and tourism entrepreneurs manage their work-life balance? *International Journal of Hospitality Management*, 85(February), 102359. <https://doi.org/10.1016/j.ijhm.2019.102359>
- Uyerra, E., Zabala-Iturriagoitia, J. M., Flanagan, K., & Magro, E. (2020). Public procurement, innovation and industrial policy: Rationales, roles, capabilities and implementation. *Research Policy*, 49(1), 103844. <https://doi.org/10.1016/j.respol.2019.103844>

-
- Wachidi, W., Rodgers, A., & Tumanov, D. Y. (2020). Professional Competence Understanding Level of Elementary School in Implementing Curriculum 2013. *International Journal of Educational Review*, 2(1), 99–105. <https://doi.org/10.33369/ijer.v2i1.10642>
- Wang, Z., Xu, N., Wei, W., & Zhao, N. (2020). Social inequality among elderly individuals caused by climate change: Evidence from the migratory elderly of mainland China. *Journal of Environmental Management*, 272(June), 111079. <https://doi.org/10.1016/j.jenvman.2020.111079>
- Zhang, W., Sjoerds, Z., & Hommel, B. (2020). Metacontrol of human creativity: The neurocognitive mechanisms of convergent and divergent thinking. *NeuroImage*, 210(August 2019), 116572. <https://doi.org/10.1016/j.neuroimage.2020.116572>