

## Implementation of creative self-efficacy as moderation: extrinsic and intrinsic motivation to creative behaviour in the women entrepreneur context

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### Abstract

The aim of this research is to examine and analyse the moderation role of creative self-efficacy on the influence of extrinsic and intrinsic motivation on creative behaviour in the context of creative industries i.e., Madurese batik. Madurese batik is a heritage and has its own uniqueness because Madurese batik is a form of history that must be maintained for its sustainability. This research used a quantitative approach to test and analyse the influence of motivation on creative behaviour, with creative self-efficacy as a moderator. This study tests the conceptual model that has been formed based on the behavioural theory, which is the grand theory for the formation of the research model. The data collected from 310 women who make typical batik were then tested using (SEM-PLS). The results show that all hypotheses are proven. Extrinsic and intrinsic motivation indirectly influence creative behaviour; creative self-efficacy is able to be a moderator in the influence of motivation (extrinsic and intrinsic) on creative behaviour. The results indicate that the success of creative behaviour is due to strong motivation, so this becomes an important part of women's creative activities. The novelty of this study is the ability of creative self-efficacy to moderate the relationship of motivation toward creative behaviour. Self-efficacy has an important role in carrying out certain behaviours.

**Keywords:** creative behaviour; creative industries; creative self-efficacy; motivation; women entrepreneurs.

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## Introduction

Culture is a hereditary heritage that must be preserved through various ways and methods, both traditionally and modern. Fashion industry in Indonesia has a vigorous relationship with Indonesian culture which is Batik. Batik can be easily found in various places in Indonesia. Every area has a special Batik motive based on the characteristic of geographical landscape, nature, people, and culture. Batik is an art that has its own meaning because it contains historical value. Making Batik is challenges because Batik is an art that requires unique and interesting creativity. Batik also provides its own bargaining value, apart from providing benefits for users, as well as maintaining a culture. Creating Batik involves a lot of micro and small enterprises, including woman entrepreneurs who gain economic benefits through making Batik (Kamanga, 2022; Javed et al., 2019). To generate favourable economic benefits, various efforts are made to add value in a product which is also related with innovative work behaviour (Alessa & Durugbo, 2021; Salam, 2022; Hachicka & Mezghani, 2018). The added value which in this case is produced by women entrepreneurs in the form of products that have creative arts so that they can help the sustainability of factors (Thurlings et al., 2014). As an entrepreneur, these women act not only to channel creativity or make a product as a hobby, but also to earn money because they fulfil market demands in the Batik industries (Akrouit & Damak Ayadi, 2022; Chang et al., 2020). The robust intention to create Batik has a strong positive impact on creative behaviour (Lang et al., 2021; Tiwari et al., 2017)

Creative behaviour is the ability and understanding of an individual's knowledge to create products using certain techniques which aim to create different products that have their own characteristics (Devloo et al., 2015; Saether, 2019). According to Venketsamy & Law (2022), creative behaviour is a behaviour which is supported by a strong desire to produce a product that has unique characteristics; this new product is an idea because there is a good understanding of knowledge, skills, and experience (Javed et al., 2019; Solhi & Rahmanian K, 2016). Creative behaviours carried out by females in Madura are in the form of uniqueness, which is realised in making products made by business people.

Three factors support the formation of creative behaviour: creative self-efficacy and extrinsic and intrinsic motivation (Khan et al., 2020; Solhi & Rahmanian Koshkaki, 2016; Thurlings et al., 2014). The main points that can make a business survive in achieving its vision and mission are in the form of behaviour carried out by people who were deliberately created; creative self-efficacy is knowledge, insight, and experience by someone who is able to provide a good solution (Belay et al., 2023; Corney, 2015; Thurlings et al., 2014). While numerous studies have explored creative behaviour in relation

to general behavioural patterns, limited attention has been given to creative self-efficacy, especially with women as the research context.

Creative behaviour can also arise due to intrinsic factors, in this case, a factor that exists within oneself without any influence from external parties related to the inspiration that makes individuals fascinated by a task for its own sake. However, extrinsic motivation factors grow as other individual certain goal (Siyal et al., 2021; Deci & Ryan, 1985). This study aims to examine and analyse the critical role of creative self-efficacy in mediating the influence of motivation on creative behaviour among women entrepreneurs in the Batik industry.

## **Literature review**

### ***Women entrepreneurs***

Women entrepreneurship has been growing and contributing significantly to economic activities, and it may also reduce unemployment, especially in developing countries. Many women entrepreneurs have begun to experience problems, including within their socio-cultural environment, in the beginning, or when they run their businesses. Among those developing countries, Indonesia has been recognised as having diverse ethnic groups, traditions, religions and languages (Anggadwita et al., 2017). Indonesian women entrepreneurs are a significant force in the country's economy, leading many MSMEs and demonstrating remarkable resourcefulness and innovation (Tobing & Shihab, 2024). Previous research shows that women entrepreneur are more directed at the process of creating something that can produce value, where in carrying out this process, it is necessary to have a unique resource that can be taken as an opportunity (Abd-Hamid, Azizan, & Sorooshian, 2015). The involvement of many women in entrepreneurial activities beyond their traditional roles as housewives can be attributed to various factors such as demographic backgrounds, psychological characteristics, personal motivations, and start-up initiatives (Henry & Foss, 2015). Women entrepreneurs in Indonesia are driven by various factors, including the desire to support their families, earn additional income, and contribute to their communities (Darmanto & Yuliari, 2016; Azmi & Basir, 2016).

### ***Creative behaviour, extrinsic motivation, and creative self-efficacy***

Creative behaviour is a process undertaken by individuals that involves a series of interconnected stages, including planning, creating, promoting, and implementing ideas to produce a product with distinct characteristics and meaningful value for its users (Gupta, 2019; Liu et al., 2021). Creative behaviour is closely related to work performance, so this behaviour is more easily accepted in an external environment. Individuals who engage in business activities are often driven by extrinsic motivation, which refers to

external rewards for their work efforts. These rewards may include financial incentives such as salaries, bonuses, and promotions, as well as non-financial benefits like holidays, especially those enjoyed with family. Moreover, extrinsic motivation may also arise from social encouragement, including support from friends, colleagues, and relatives, as well as the influence of experienced and successful individuals. Several previous studies have provided evidence of a relationship between extrinsic motivation and an individual's creative behaviour, indicating that creative self-efficacy can serve as a successful moderating factor in this relationship (Putra et al., 2015; Vasil, 2015; Weaver, 2015). In the business world, an individual's ability to create a product or service that attracts users is necessary. This ability is largely determined by the extent of one's insight and expertise in designing products that not only consider time efficiency but also prioritise user comfort and satisfaction (Alhogail, 2020). Creativity generates product ideas that offer solutions for consumers and can motivate women entrepreneurs to innovate. While previous studies often associate self-efficacy with general MSME behaviour, it also plays a crucial role in ensuring business sustainability. Self-efficacy fosters strong confidence, enabling entrepreneurs to produce high-value products (Han & Bai, 2019; Hapugoda et al., 2018). These study proposed the following hypotheses.

H1: Extrinsic motivation influences creative behaviour.

H2: Creative self-efficacy as a moderation between extrinsic motivation and creative behaviour.

### ***Intrinsic motivation, creative behaviour, and creative self-efficacy***

Intrinsic motivation is the internal drive to engage in tasks that are personally meaningful and fulfilling, often pursued for the inherent satisfaction they provide rather than for external rewards. This motivation stems from a deep desire to take on challenges and contribute positively, not only to oneself but also to the organisation and the broader environment, even when the tasks are complex or demanding (Putra et al., 2015; Deci & Ryan, 1985; Deci & Ryan, 2000). Self-efficacy includes an individual's assessment of their abilities to positively impact themselves and their environment because individuals are confident that what they create will produce added value (Abdur et al., 2015; Terje Slåtten, 2014). Self-efficacy leads to a person's belief that someone can succeed or produce something because they understand an existing condition. Creative self-efficacy is dynamic because it will change along with new information and experiences obtained (Thundiyil, 2016; Zhang et al., 2019). Previous studies state that intrinsic motivation influences creative behaviour (Kundu et al., 2020; Su & Chen, 2020; Venketsamy & Lew, 2022; Zhu & Xin, 2023). Women who have a strong emotional connection to the products they create often aim to deliver not only

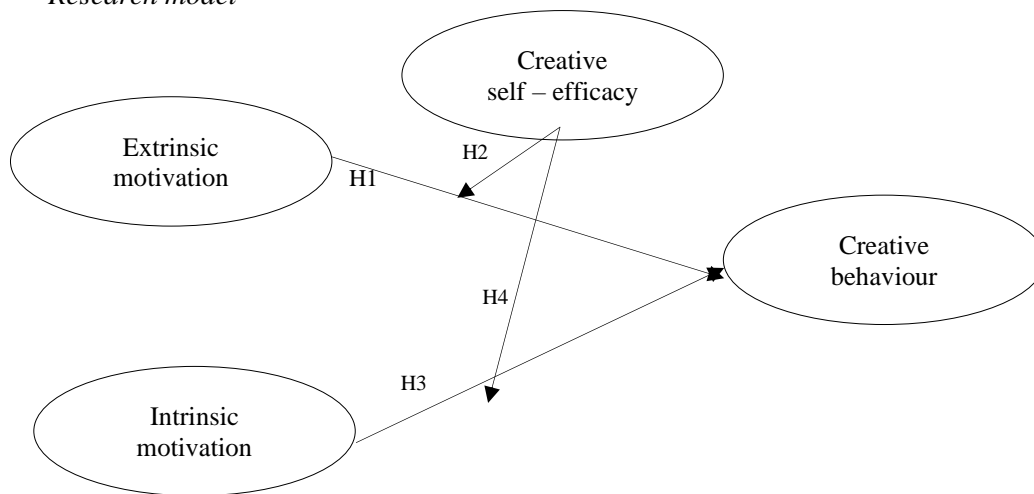
environmentally friendly solutions but also products that appeal to all age groups, driven by a high level of creativity in their design and purpose (Krishna, Vandavasi, & Mcconville, 2020; Marino-Romero & Palos-Sanchez, 2023; G. Zhang, Zhang, & Wang, 2022). These study proposed the following hypotheses.

H3: Intrinsic motivation influences creative behaviour.

H4: Creative self-efficacy as a moderation between intrinsic motivation and creative behaviour.

**Figure 1.**

*Research model*



Source: Author's work (2023)

### Research method

This study employs a quantitative approach, utilising structured questionnaires distributed to a targeted group of respondents. The population consists of women entrepreneurs on Madura Island, Indonesia, specifically those engaged in handmade batik production and who have been operating their businesses for more than two years. The selected age range of the respondents is between 25 years and 1 month to 30 years, which is considered a productive stage of life.

Data collection took place from mid-2022 to September 2023, spanning nearly one year to ensure the inclusion of respondents who met the specific criteria of the study. The initial target was to obtain at least 150 respondents to meet the assumptions required for further statistical analysis. However, the final number exceeded expectations, resulting in 310 valid responses collected through both online and offline surveys.

Data was processed using SEM-PLS. This research fulfilled the assumptions in SEM-PLS, which include reliability, validity, and, finally, the evaluation of the goodness of fit (Hair et al., 2022). Creative self-efficacy was measured with five items adapted from Li et al. (2020), motivation was measured with six items adapted from Elliot and Thrash (2010), and creative behaviour was measured with six items adapted from Clercq and Pereira (2019).

**Table 1.**

*Respondent characteristics*

Characteristics	Amount	Percent (%)
<i>Experience</i>		
1–2 years	36	9.6%
2 years ( 1 month ) –3 years	210	39.0%
3 years (1 month ) – 4 years	87	28.1%
>4 years (1 month )	72	23.2%
<i>Age</i>		
15 – 20 years	56	18.1%
20 years (1 month) – 25 years	41	13.2%
25 years (1 month ) - 30 years	123	39.7%
30 years (1 month ) – 35 years	36	11.6%
35 years (1 month) – 40 years	43	13.9%
>40 years (1 month)	11	3.5%
<i>Education background</i>		
Elementary school	51	16.5%
Junior high school	58	25.5%
Senior high school	125	55.5%
Diploma	5	1.6%
Bachelor degree	3	0.9%
<i>Number of Children</i>		
1 – 2 Children	215	69.4%
3 – 4 Children	89	28.7%
>4 Children	6	1.9%

Source: data processed (2023)

## Results

### *Respondent profile*

Most participants are high school graduates with extensive experience creating unique batik products. On average, respondents have 1–2 children. Among the 310 respondents, 210 have children, 80 of whom have 3–4 children, 11 are unmarried, and the remainder do not yet have children. Respondent profile shows in Table 1.

### *Data analysis results*

The results section presents the outcomes of data analysis conducted using Structural Equation Modelling with Partial Least Squares (SEM-PLS). The findings include assessments of convergent validity, discriminant validity, and reliability.

### *Convergent validity test result*

Convergent validity means that a set of indicators represents one latent variable, this value can be demonstrated through one-dimensionality, which is expressed through the outer loading value must be greater than 0.7 and the average value of the extracted variance (AVE) is at least 0.5. The outer loading value for all indicators in this research is above 0.7. The most significant outer loading value is 0.922 for creative self-efficacy and the smallest one is 0.733 for intrinsic motivation. All indicators have met convergent validity and have high values. The highest AVE values is 0.854 for extrinsic motivation and the smallest one is 0.646 for intrinsic motivation. The AVE value for all indicators of all variables has met the following requirements, i.e., greater than 0.5 which means that all variables have met



good convergent validity (Sekaran, U & Bougie, 2017). The details of convergent validity test results were available in Appendix 1.

#### ***Discriminant validity test result***

Discriminant validity was assessed using the Fornell-Larcker criterion and cross-loadings. According to the Fornell-Larcker criterion, each latent variable must share more variance with its indicators than with other latent variables. This is confirmed when the square root of the AVE for each construct is greater than its correlations with other constructs. Additionally, at the indicator level, discriminant validity is supported when each indicator's outer loading on its associated construct is higher than its loadings on other constructs (Hair et al., 2022). The results indicate that each indicator's loading on its respective construct is higher than its loadings on other constructs, confirming discriminant validity through cross-loading analysis, as presented in Appendix 2.

#### ***Reliability test result***

The reliability of the constructs was assessed using two measures: Cronbach's alpha and composite reliability. Cronbach's alpha evaluates the lower bound of reliability and should exceed the threshold of 0.70. Similarly, composite reliability, which provides a more accurate estimation of internal consistency, must also have a value greater than 0.70 (Hair et al., 2022). The results show that all variables meet this criterion, indicating strong internal consistency. The highest Cronbach's alpha was observed for innovation behaviour (0.938), while the lowest was for creative self-efficacy (0.856). Similarly, composite reliability values ranged from 0.941 (intrinsic motivation) to 0.987 (extrinsic motivation). These results confirm that all constructs demonstrate acceptable reliability, in line with the standards proposed by Hair et al. (2022) and Sekaran & Bougie (2017). The details of the reliability test results is available in Appendix 3.

#### ***Direct and indirect effect test results***

The results of the analysis provide strong support for all four hypotheses. Hypothesis 1, which posited that extrinsic motivation influences creative behaviour, is supported by the direct effect test results ( $O = 0.635$ ,  $T = 7.651$ ,  $p < 0.001$ ), indicating a significant positive relationship. Similarly, Hypothesis 3, which proposed that intrinsic motivation influences creative behaviour, is also supported ( $O = 0.603$ ,  $T = 7.807$ ,  $p < 0.001$ ). These findings suggest that both extrinsic and intrinsic motivation play vital roles in enhancing creative behaviour. Furthermore, Hypothesis 2—which stated that creative self-efficacy moderates the relationship between extrinsic motivation and creative behaviour—is confirmed through the significant indirect effect ( $O = 0.328$ ,  $T = 4.066$ ,  $p < 0.001$ ). Likewise, Hypothesis 4, which proposed creative self-efficacy as a moderator between intrinsic motivation and creative behaviour, is supported by the data ( $O = 0.289$ ,  $T = 5.087$ ,  $p < 0.001$ ). These results highlight the critical moderating role of creative self-efficacy in strengthening the impact of motivation on creative outcomes. The details of the results are available in Table 2 and Table 3.

**Table 2.**  
*Direct effect test results*

Variable		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Extrinsic Motivation → Creative Behaviour		0.635	0.542	0.081	7,651	0,000
Intrinsic Motivation → Creative behaviour		0.603	0.602	0.073	7,807	0,000

Source: processed data (2023)

**Table 3.**  
*Indirect effect test results*

Variable		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P- values
Creative Efficacy*Extrinsic Motivation → Behaviour	Self Innovation	0.328	0.342	0.088	4,0659	0,000
Creative Efficacy*Intrinsic Motivation → Behaviour	Self- Creative	0.289	0.303	0.069	5,087	0,000

Source: processed data (2023)

## Discussion

The result shows that extrinsic motivation influences creative behaviour. Hypothesis 1 is proven. There is an influence in the form of environmental support, especially from successful predecessors. Individuals who have extrinsic motivation tend to exhibit creative behaviour. Women entrepreneurs are highly motivated even though they are busy as mothers managing household responsibilities. Support and enthusiasm from external parties positively impact their creative behaviour. These findings are supported by previous research (Aleksi, 2022; Butt & Ahmad, 2020). Creative behaviour of is critical to create successful and sustainable business. To form such behaviour, there needs to be a role for both extrinsic and intrinsic motivation in the individual as an entrepreneur, because an entrepreneur must be confident and face challenges. The implication of this finding highlights the importance of building creative behaviour through motivation not only from within (intrinsic) but also from external sources (extrinsic), as it has been proven that motivation can strongly support the success of creative behaviour. It is also inevitable that women need to be confident that the knowledge and insight they have will produce a creative product that certainly brings added value.

Furthermore, this research proves hypothesis 2, that creative self-efficacy moderates the relationship between extrinsic motivation and creative behaviour. Women entrepreneurs' knowledge, skills, and perspectives are evident in their products. They play a crucial role in moderating the influence of external support, such as inspiration and moral encouragement, on creative



behaviour. These findings are consistent with previous research (Law et al., 2016; Nguyen et al., 2019). The existence of creative self-efficacy is an important point for an individual; the confidence and belief that the skill able to achieve success possessed is not only theoretical but also practical. Creative self-efficacy can play an important role in moderating the influence of motivation on creative behaviour, especially when individuals receive external support. In this case, women need to be confident that the knowledge and insight they have will result in valuable creative output. When creative self-efficacy is strong, it helps transform extrinsic motivation such as encouragement from the environment into actual creative behaviour. Therefore, it becomes crucial to foster both external motivation and internal confidence to achieve innovation and sustainability, especially among traditional women entrepreneurs in the Batik industry.

The third hypothesis, that intrinsic motivation influences creative behaviour, is supported. There is an internal drive that encourages individuals to perform certain behaviours. This internal motivation is based on prior reflection and a belief in one's abilities. Women entrepreneurs, especially mothers, understand the risks they face, and their self-confidence helps them behave creatively and produce added value. This result supports Sedighi et al. (2018) and Yoo (2014). This finding implies that their internal drive, rooted in self-confidence, plays a significant part in their ability to produce innovative and culturally rich Batik products. For stakeholders such as local governments, cooperatives, and entrepreneurial development programs, this highlights the importance of nurturing the inner motivation of these women through training, mentoring, and empowerment initiatives. By focusing on personal development and self-belief, programs can help strengthen the sustainability and creativity of batik businesses while preserving Indonesia's cultural heritage and empowering women at the grassroots level.

Lastly, this study confirmed the fourth hypothesis that creative self-efficacy moderates the relationship between intrinsic motivation and creative behaviour. The creative self-efficacy possessed by women entrepreneurs is highly developed. This enables individuals to believe in their knowledge and abilities, which helps moderate the effect of intrinsic motivation on creative behaviour (Yuan & Wu, 2022). An individual's behaviour is influenced by their strong inner drive, and when combined with high creative self-efficacy, this becomes a strong moderating factor (Yu et al., 2018). This research suggests that empowering women entrepreneurs in Indonesia's batik industry requires more than encouraging passion. It also demands strengthening their confidence in their creative abilities. Women enterprises in the Batik industry, especially those managing home-based or small-scale enterprises, believe their innovation capacity is essential for turning internal motivation into meaningful creative outcomes. Stakeholders, such as local governments, women's cooperatives, and craft associations, should focus on initiatives that build self-confidence through capacity-building programs, peer mentoring, and platforms that showcase their work. By fostering creative self-efficacy, these women will be better equipped to innovate, sustain their businesses, and contribute to the preservation and evolution of Indonesia's rich batik tradition.

### Conclusion, limitation, and future research

This study concludes that all proposed hypotheses are supported, indicating that extrinsic and intrinsic motivations, along with creative self-efficacy, play a significant role in shaping the creative behaviour of women entrepreneurs. Creative behaviour is critical to business success and sustainability, particularly for women in traditional handmade industries such as batik. Creative self-efficacy emerges as a key moderating factor, reinforcing that confidence in one's skills and knowledge is essential in transforming motivation into meaningful innovation. The findings highlight that fostering creative behaviour requires a balance of internal drive and external support and a strong belief in one's creative abilities. Despite providing valuable insights, this study has several limitations. First, it is limited to women entrepreneurs in the batik industry on Madura Island, which may restrict the generalisability of the findings to other regions or sectors. Second, the study employs a cross-sectional design, which does not capture changes in creative behaviour over time. Additionally, the reliance on self-reported data may introduce bias, as responses can be influenced by personal perceptions or social desirability. Future studies could explore creative behaviour across diverse cultural and regional contexts to enhance the generalisability of findings. Longitudinal research designs are recommended to assess motivation and creative behaviour evolution over time. Moreover, further research could investigate other potential moderating or mediating variables, such as leadership style, digital literacy, or social support systems. Special attention should also be given to the unique behavioural dynamics of women entrepreneurs, particularly those who strive to create economic and cultural value through their businesses.

### Author contribution

**Helmi Buyung Aulia Safrizal:** Conceptualisation, Writing Original Draft, Data Curation, Formal Analysis, Investigation, Methodology, Writing, Review, and Editing, Supervision, Validation, Visualisation. **Hindah Mustika:** Review and Editing, Writing, Review, and Editing, Supervision, Validation, Visualisation. **Mateus Ximenes:** Writing Original Draft, Validation, Visualisation, Supervision.

### Declaration of interest

The authors declare no conflicts of interest regarding the investigation, composition, and/or dissemination of this manuscript.

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## Appendix 1.

### Convergent validity

Variable	Indicator	Outer Loading	AVE
Extrinsic motivation	EX1	0.821	0.854
	EX2	0.813	
	EX3	0.887	

Variable	Indicator	Outer Loading	AVE
Creative self-efficacy	EX4	0.817	0.673
	EX5	0.813	
	EX6	0.830	
	EX7	0.832	
	EX8	0.818	
	CSE 1	0.922	
	CSE 2	0.891	
	CSE 3	0.841	
	CSE 4	0.871	
	CSE 5	0.841	
	CSE 6	0.810	
	CSE 7	0.824	
Creative behaviour	CSE 8	0.756	0.703
	CSE 9	0.881	
	CB1	0.818	
	CB2	0.869	
	CB3	0.878	
	CB4	0.843	
	CB5	0.823	
Intrinsic motivation	CB6	0.871	0.646
	CB7	0.845	
	INT1	0.845	
	INT2	0.827	
	INT3	0.823	
	INT4	0.733	
	INT5	0.788	
	INT6	0.778	
	INT7	0.782	
	INT8	0.782	

Source: processed data (2023)

## Appendix 2.

### *Discriminant validity*

Indicator	Extrinsic motivation	Creative self-efficacy	Creative behaviour	Intrinsic motivation
EX1	0.821	0.557	0.486	-0.026
EX2	0.814	0.470	0.467	-0.023
EX3	0.877	0.598	0.547	-0.009
EX4	0.807	0.491	0.487	0.007
EX5	0.930	0.450	0.466	-0.046
EX6	0.940	0.524	0.517	0.006
EX7	0.831	0.514	0.504	-0.008
EX8	0.817	0.489	0.501	-0.034
GK 1	0.508	0.823	0.677	0.378

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Indicator	Extrinsic motivation	Creative self-efficacy	Creative behaviour	Intrinsic motivation
GK 2	0.372	0.799	0.563	0.442
GK 3	0.393	0.811	0.591	0.292
GK4	0.512	0.861	0.700	0.492
GK 5	0.587	0.851	0.728	0.463
GK 6	0.435	0.810	0.738	0.370
GK 7	0.351	0.834	0.628	0.471
GK 8	0.363	0.746	0.562	0.393
GK 9	0.459	0.881	0.708	0.433
CB1	0.594	0.781	0.918	0.356
CB2	0.437	0.609	0.885	0.265
CB3	0.362	0.592	0.778	0.413
CB4	0.382	0.618	0.843	0.428
CB5	0.419	0.706	0.975	0.366
CB6	0.500	0.698	0.771	0.430
CB7	0.448	0.644	0.875	0.309
INT1	-0.059	0.382	0.345	0.845
INT2	-0.035	0.380	0.284	0.827
INT3	0.010	0.448	0.379	0.933
INT4	-0.096	0.459	0.218	0.723
INT5	0.013	0.439	0.380	0.878
INT6	-0.039	0.371	0.294	0.798
INT7	-0.009	0.369	0.472	0.892
INT8	0.065	0.459	0.531	0.782

Source: processed data (2023)

### Appendix 3.

#### *Reliability*

Variable	Cronbach's Alpha	Composite Reliability
Extrinsic motivation	0.873	0.987
Creative self-efficacy	0.856	0.957
Creative behaviour	0.938	0.953
Intrinsic motivation	0.927	0.941

Source: processed data (2023)