

Factors Influencing Employee's Innovative Self-Efficacy in Architecture Firms in Shaanxi Province, China: A Pilot Testing

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Abstract

In an era of rapid technological advancement and heightened competition, fostering a culture of innovation within organizations has become paramount. Innovative self-efficacy, the belief in one's capability to generate novel ideas and effect change, is a vital aspect of employee innovation. This pilot study aims to investigate the factors influencing innovative self-efficacy among employees in architecture firms located in Shaanxi Province, China. By examining variables such as job complexity, work environment, job satisfaction, job interdependence, job value, and discipline value, the study seeks to shed light on the determinants of innovative self-efficacy in this context. The findings of this research will not only contribute to the growing body of knowledge on innovation in architecture firms but will also pave the way for more comprehensive future studies in this area.

Keywords: Innovative Self-Efficacy; Architecture Firms; Employee Innovation; Determinants of Innovation; Shaanxi Province; China.

1. Introduction

The rapidly evolving landscape of science and technology in the 21st century presents organizations with both unprecedented opportunities and formidable challenges. Thriving in this dynamic environment necessitates the cultivation of a culture of innovation, where the pivotal role of inventive employee behavior becomes evident.

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It is within this context that our research study is intricately woven, seeking to delve into the multifaceted

relationship between an organization's innovation climate and the ingenuity exhibited by its employees. In particular, we zero in on the mediating variables of perceived self-creativity and individual worth.

In a world that undergoes constant and rapid evolution, organizations are compelled to maintain a perpetual state of innovation to uphold their competitive edge. At the core of this innovation lies the inventive behavior of employees, extending far beyond mere technological breakthroughs. It encompasses creative problem-solving, the development of novel approaches to tasks, and an entrepreneurial spirit. Realizing and nurturing these qualities in employees necessitates the establishment of an environment conducive to innovation.

Our study is uniquely situated within the architectural landscape of Shaanxi Province, China, a sector experiencing a transformative period of growth and an escalating demand for innovative solutions and designs. In this evolving terrain, architecture firms must equip their employees with the mindset and skills necessary to drive innovation and adapt to the changing needs of their clientele. This adaptation hinges on the concept of innovative self-efficacy, where employees possess the confidence and belief in their capacity to innovate.

The aim of this pilot study is to explore the determinants influencing the innovative self-efficacy of employees within architecture firms, providing a foundational understanding of these factors that can serve as a springboard for future, more comprehensive research in this domain.

Before embarking on the main study, a pilot study is conducted to assess the feasibility, validity, and reliability of our research techniques and instruments. The primary goal of the pilot study is to identify any weaknesses in the research design and methodology, facilitating necessary adjustments to enhance the quality and efficiency of the main study. For this purpose, a pilot sample of 50 students from private universities is recruited to rigorously test the research instruments and ensure their reliability and effectiveness.

2. Literature Review

2.1 Factors Influencing Employee's Innovative Self-Efficacy In Architecture Firms

In the realm of research on innovative work behavior and its determinants, a series of studies by various authors have shed light on the intricate dynamics that underpin this multifaceted phenomenon. These studies offer valuable insights into the drivers, mediators, and moderators of innovative work behavior within diverse organizational contexts.

Reference [1] conducted a study with the aim of exploring how job satisfaction and mental engagement, moderated by certain factors, can enhance the effectiveness of innovative work behavior. To achieve this, they developed and tested a theoretical model using a panel sample comprising 294 employees from a Danish financial company.

Reference [2] focused on examining the impact of innovation on firms' export behavior. They delved into the role that innovation plays in influencing the export activities of these companies.

Reference [3] contributed to the literature by analyzing the innovation capacity of small and medium enterprises (SMEs) and micro enterprises. Their study introduced a theoretical framework that considers both internal and external resources, as gleaned from a comprehensive literature review. This framework sheds light on how these resources affect the development of innovative activities and, in turn, the innovative outcomes of these firms.

Reference [4] aimed to investigate the internal barriers that have an impact on the effectiveness of projects, particularly those related to disruptive and radical innovations, within large financial services firms.

Reference [5] conducted research with the goal of understanding how an employee's personal creative identity influences their innovation behavior, specifically in knowledge-intensive information technology (IT) service provider firms.

Reference [6] contributed to the existing discourse on the drivers of innovative work behavior (IWB). They achieved this by connecting theories related to personal factors, relational dynamics, and contextual factors. Specifically, they explored the interplay between theories of flow (personal factor), employee silence (relational factor), and time pressure (contextual factor) in shaping IWB.

Reference [7] set out to explain the relationship between leadership, justice, and innovative work behavior. Their study delved into the mediating roles of affective commitment and organizational citizenship behavior (OCB) in this relationship.

Reference [8] aimed to investigate the effects of knowledge search depth (KSD) and knowledge search breadth (KSB) on innovation outcomes. They also explored to what extent these effects are mediated by levels of knowledge integration (KI).

Reference [9] sought to provide new insights into how various facets of internal and external social capital (SC) influence exploratory and exploitative innovation. They specifically examined the role of absorptive capability (AC) in mediating these relationships, drawing on both relational and knowledge-based perspectives.

Reference [10] conducted a study to probe the impact of transformational leadership on employee's innovative work behavior. They also explored the mediating role of motivation to learn and the moderating effects of task complexity and the innovation climate on the link between transformational leadership and innovative work behavior.

Reference [11] Uddin and his colleagues (2019) aimed to scrutinize the impact of an employee's personal creative identity on their innovative behavior within knowledge-intensive information technology (IT) service provider firms.

Reference [12] Maqbool and his colleagues (2019) made a significant contribution by extending the ongoing discourse on the determinants of innovative work behavior (IWB) in individuals. They achieved this by establishing connections between various theories, including those related to personal factors, relational dynamics, and contextual factors such as flow, employee silence, and time pressure.

Reference [13] set out to establish the relationship between entrepreneurial leadership and employee innovative behavior while examining the mediating roles of affective commitment, creative self-efficacy, and psychological safety within this context. Their research, employing a cross-sectional design, collected data from 343 employees working in information technology (IT) service firms in Pakistan.

Reference [14] primarily aimed to uncover the mechanisms through which organizational identification influences employee creativity, focusing on the unique Chinese organizational context.

Reference [15] proposed a model based on knowledge management infrastructure capabilities (KMICs) to investigate how functional flexibility (FF) and knowledge sharing (KS) mediate the relationship between KMIC and innovative work behavior (IWB) among production-line workers. Their data were collected from 894 workers through self-administered questionnaires in manufacturing businesses.

Reference [16] significantly contributed to understanding the human aspects of open innovation in small- and medium-sized enterprises (SMEs). They explored how intrinsic and extrinsic motivation impact the enjoyment derived from assisting others, knowledge sharing, and knowledge hiding, and subsequently, how these factors influence firms' engagement in open innovation. These studies collectively contribute to a deeper understanding of the multifaceted nature of innovative work behavior and the diverse factors that influence it. They offer valuable insights into how job-related, individual, and organizational dynamics intersect and shape the innovation landscape within various contexts.

3. Methodology

3.1. Participants

The meticulous analysis of units holds a crucial position within any research endeavor, primarily functioning to maintain the consistency and precision of the gathered data. In the context of this specific study, unit analysis entails the meticulous delineation of the units of analysis corresponding to each of the variables under assessment. For this research study, the chosen unit of analysis centered on employees from an architectural firms in Shaanxi, China. The selection process for these firms took into consideration various factors, including their revenue, level of service control, service specialization (architecture exclusively), along with similarities in design processes, service delivery mechanisms, and project success indicators.

3.2. Questionnaires Design

The robustness of our data collection tools was established through a process of pilot testing and expert evaluation, ensuring the validity of the instruments employed. A pilot sample was meticulously aligned with the questionnaire queries, assuring that participants could comprehend and respond to them without necessitating additional clarifications. In instances where closed questions were utilized, a comprehensive list of response categories was thoughtfully provided. Furthermore, scrupulous attention was given to spelling and formatting to prevent any inadvertent omission of crucial information. This pilot study was meticulously designed and executed, mirroring the methodology of the main survey, allowing for the identification and rectification of any issues, including inadequate responses, thereby enhancing the quality of the research.

Additionally, we sought informed consent from our participants through the cover letter, as ethical research demands adherence to specific criteria, including the voluntary and uncoerced agreement of respondents to partake in the study. The cover letter effectively served this purpose, ensuring that participants willingly engaged in the survey, contributing to the research process.

The questionnaire utilized in this study was adapted from validated sources, as detailed in Table 1. All questions were standardized and thoughtfully organized to facilitate respondent comprehension and the seamless flow of the survey. This approach ensured that the questionnaire was reliable and effective in gathering pertinent data for our research.

Table 1: Questionnaires Sources.

Authors	Resources	Variables
Robinson (2001) [17]	Robinson, P. 2001b. "Task Complexity, Task difficulty, and Task production: Exploring Interactions in a Componential Framework." <i>Applied Linguistics</i> , 22 (1), 27-57.	Job Complexity
Martins, Helena & Proença, Teresa. (2014).[18]	Minnesota Satisfaction Questionnaire (MSQ) https://vpr.psych.umn.edu/sites/vpr.umn.edu/files/files/msq_booklet_1977.pdf	Job Satisfaction
Mohan, Hitesh & Lone, Dr. (2021). [19]	Perceived Work Environment Questionnaire Reliability and Validity	Work Environment
Morgeson, Frederick & Humphrey, Stephen. (2006). [20]	The Work Design Questionnaire (WDQ): Developing and Validating a Comprehensive Measure for Assessing Job Design and the Nature of Work.	Job Interdependence
Vveinhardt, Jolita & Gulbovaitė, Evelina. (2015). [21]	QUESTIONNAIRE of personal and organizational values congruence for employee (Q-POVC)	Workplace Value
Hagger, Martin & Zhang, Chun-Qing & Kangro, Eva-Maria & Ries, Francis & Wang, John & Heritage, Brody & Chan, Derwin King Chung. (2021). [22]	Trait Self-Control and Self-Discipline: Structure, Validity, and Invariance Across National Groups	Discipline Value
Vveinhardt, Jolita & Gulbovaitė, Evelina. (2015). [23]	QUESTIONNAIRE of personal and organizational values congruence for employee (Q-POVC)	Individual Value
Cheng, Chao-Jen & Shiu, Shih-Ching & Chuang, Chih-Feng. (2012). [24]	The Relationship of College Students' Process of Study and Creativity: Innovative self-efficacy as a Mediation.	Creativity
Morgeson, Frederick & Humphrey, Stephen. (2006). [25]	The Work Design Questionnaire (WDQ): Developing and Validating a Comprehensive Measure for Assessing Job Design and the Nature of Work.	Organization Support
Karwowski, 2012, 2014; Karwowski and his colleagues 2018) [26]	Short Scale of Creative Self (SSCS; Karwowski, 2012, 2014; Karwowski and his colleagues 2018)	Innovative Self-efficacy

The questionnaire employed in this study underwent a meticulous development process, characterized by the following steps:

1. Defining Research Aims and Objectives: The first stage involved the identification of research aims,

objectives, research questions, and the theoretical framework. These foundational elements served as the blueprint for constructing the questionnaire.

2. **Selecting Target Respondents:** The next step focused on identifying and selecting respondents who align with the questionnaire's design. The statements within the survey were tailored to be comprehensible and applicable to the specific characteristics of the chosen respondent group
3. **Expert Review and Validation:** A critical review and validation of the survey statements by experts ensured their relevance and appropriateness for the target respondents
4. **Utilizing Likert Scale for Close-Ended Questions:** The questionnaire incorporated close-ended questions presented on a Likert scale, including response options such as "Strongly agree," "Agree," "Neutral," "Disagree," and "Strongly disagree." This format was chosen for its suitability in quantitative research and its user-friendliness for respondents (Robb and Shellenbarger, 2020).
5. **Pilot Testing and Reliability Assessment:** A pilot test was conducted using a small sample of students. The reliability of the questionnaire was assessed using Cronbach's alpha coefficient to ensure its dependability.

In the pursuit of rigorous and credible research, multiple measures were taken, including the development of a meticulously designed questionnaire to facilitate data collection through random sampling. The questionnaire was thoughtfully crafted to encompass all essential instructions and information.

Furthermore, the questionnaires were systematically organized into eleven sections, aligning with the research objectives, as detailed in Table 2. The table below provides a breakdown of sample proportions and sizes within the study region.

Table 3: Questionaries Sections.

Sr. No.	Sections	Name of constructs	No. of Questions
1	1	Background / Demographics	3
2	2	Innovative Self-efficacy	8
3	3	Job Complexity	5
4	4	Creativity	5
5	5	Job Satisfaction	5
6	6	Job Interdependence	5
7	7	Work Environment	5
8	8	Workplace Value	5
9	9	Discipline Value	5
10	10	Individual Value	5
11	11	Organization Support	5

3.3. Pilot Test Data Collection

In preparation for the main study, a preliminary examination in the form of a pilot study is conducted to assess the reliability of research procedures and tools. The primary purpose of this pilot study is to detect any shortcomings in the research methodology and framework, with the goal of refining the efficiency and quality of the primary study. The pilot study occurred between August 1st and August 8th, 2023.

According to the principles of the central limit theorem in statistics, it is generally acknowledged that a sample size of at least 50 individuals is sufficient for the sample mean to approximate a normal distribution, even when the underlying population does not adhere to such a distribution. However, determining the appropriate sample size for a pilot study involves numerous considerations.

Despite the central limit theorem's suggestion of a sample size of at least 30 to ensure sample mean normality, determining the appropriate sample size for a pilot study necessitates considering various factors, including research design, data type, and research objectives. Hence, for this pilot study, a sample of 50 participants was chosen before actual data collection to assess the reliability of the measurement tools. Cronbach's alpha, a widely accepted reliability coefficient, was employed to evaluate the precision of these instruments.

4. Research Results and Discussion

4.1. Reliability Testing

Reliability pertains to the consistency, stability, and dependability of test results. Internal consistency is a commonly employed metric to gauge a test's reliability. A higher reliability coefficient signifies greater consistency, stability, and dependability of test outcomes. Systematic errors, which consistently influence measurements in the same manner, have minimal impact on reliability due to their lack of discrepancies. In contrast, random errors can introduce discrepancies that affect reliability (Roberts, 2006).

To evaluate reliability, the Cronbach's coefficient approach is utilized to assess the internal consistency of both the entire questionnaire and its individual dimensions. A Cronbach's alpha value exceeding 0.8 is indicative of excellent reliability, while a range of 0.7-0.8 denotes good reliability, 0.7-0.6 suggests usability, and values below 0.6 indicate poor reliability. These benchmarks are suitable for evaluating the questionnaire's convergent validity.

Table 4 presents the outcomes of the reliability assessment for all scales, indicating a coefficient of 0.970, which is in close proximity to 1. This strongly suggests that the test or questionnaire under consideration exhibits an exceptionally high level of internal consistency and reliability, as underscored by the elevated Cronbach's alpha value. The results of the evaluations regarding validity and reliability indicate that the questionnaire utilized in this study is widely accepted as both valid and dependable for data collection.

Table 4: Research Instruments Reliability Test.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.970	0.972	50

4.2. Content Validity Testing

Validity analysis assesses the precision of measurement indices in relation to the quantity under measurement. Various methods are available for conducting validity analysis (Litwin, 1995). Validity pertains to the capacity

of the measurement tool to accurately gauge the intended attribute (Johnson, 1997), with higher validity resulting in more precise measurement outcomes.

Table 3.5 demonstrates agreement across different categories, encompassing conditional probabilities, kappa values, asymptotic standard errors, z-values, significance levels, and asymptotic 95% confidence intervals. The data set used for this analysis comprised 50 effective participants and was evaluated by three raters. The probability of respondents rating category 4 (Agree) stands at 0.727, while for category 5 (Strongly Agree), it reaches 0.923. The computed kappa value for both categories equals 0.650, accompanied by an asymptotic standard error of 0.082 and a z-score of 7.965. These results yield a significantly low p-value of less than 0.001. The 95% asymptotic confidence intervals for both categories extend from 0.490 to 0.810.

These findings affirm a substantial degree of consensus among the raters regarding the assessed categories. The observed consistency in their evaluations is corroborated by the calculated kappa values and associated statistical parameters. Consequently, all constructs featured in the research questionnaires are validated.

Table 3: Fleiss Multiraters Kappa.

Agreement on Individual Categories							
Rating Category	Conditional Probability	Kappa	Asymptotic			Asymptotic 95% Confidence Interval	
			Standard Error	z	Sig.	Lower Bound	Upper Bound
4 (Agree)	0.727	0.650	0.082	7.965	0.000	0.490	0.810
5 (Strongly Agree)	0.923	0.650	0.082	7.965	0.000	0.490	0.810
a. Sample data contains 50 effective subjects and 3 raters.							

5. Discussion

The outcomes of the reliability and content validity assessments suggest that the questionnaire used in this study is generally considered valid and reliable for collecting data. This reliability and validity ensure that the research instruments accurately measure the intended attributes and that the measurements remain consistent and stable over different assessments, reinforcing the robustness of the research methodology.

As a result, the data collected using these instruments can be deemed trustworthy and suitable for the research objectives, further enhancing the quality and credibility of the study. These findings affirm that the research questionnaires are well-suited for examining the research constructs and achieving the study's goals with accuracy and precision.

6. Conclusion

This pilot study lays the foundation for a comprehensive investigation into the factors influencing employees' innovative self-efficacy in architecture firms in Shaanxi Province, China. The study contributes to both the academic and practical domains in several significant ways:

- a. **Methodological Validation:** The pilot study has successfully validated the research methodology and the measurement instruments to be employed in the main study. This contributes to the field of research methodology by ensuring that the data collection tools are reliable and valid.
- b. **Improving Data Quality:** By scrutinizing the content validity and reliability of the research instruments, this study ensures the quality and accuracy of the data to be collected in the main research. This is a valuable contribution in enhancing the quality of future research endeavors.
- c. **Practical Implications:** The findings from the pilot study will have practical implications for architecture firms in Shaanxi Province, China. Understanding the factors influencing employees' innovative self-efficacy can help these firms in creating a conducive environment for innovation, improving employee performance, and meeting the growing demand for innovative solutions in the architecture industry.

Building on the insights and outcomes of this pilot study, several recommendations can be made for future research:

- a. **Conducting the Main Study:** The pilot study has established the reliability and content validity of the research instruments. The next step should be to carry out the main study using the validated tools to gather data from a larger and more diverse sample of architectural firms in Shaanxi Province. This will provide a more comprehensive understanding of the factors influencing innovative self-efficacy.
- b. **Longitudinal Study:** While the pilot study provides a snapshot of factors influencing innovative self-efficacy, a longitudinal study that tracks changes and developments over time could yield deeper insights. This would help in understanding how these factors evolve and their long-term impact.
- c. **Qualitative Research:** Combining quantitative data with qualitative insights through interviews or focus groups with employees and management can provide a richer understanding of the dynamics within architectural firms. This mixed-methods approach could offer a more holistic view of innovative self-efficacy.
- d. **Cross-Cultural Comparative Studies:** Given the global nature of architecture and innovation, conducting cross-cultural studies comparing architecture firms in different regions or countries could uncover cultural influences on innovative self-efficacy.
- e. **Interventional Studies:** Researchers may explore the effectiveness of specific interventions within architectural firms aimed at enhancing employee innovative self-efficacy. Evaluating the impact of training programs, leadership changes, or other strategies could provide actionable recommendations for firms seeking to promote innovation.
- f. **Broader Industry Scope:** While this study focused on architecture firms, the research could be extended to encompass other industries and sectors. Analyzing the innovative self-efficacy factors across different industries could provide insights into sector-specific variations.

In conclusion, this pilot study serves as a valuable precursor to a more comprehensive exploration of the factors influencing innovative self-efficacy in architecture firms in Shaanxi Province, China. Future research in this area has the potential to contribute not only to academic knowledge but also to practical applications within architectural firms and, potentially, other sectors. Overall, the pilot study has effectively fulfilled its primary

objective of validating the reliability and content validity of the research instruments. The results suggest that the questionnaire is a reliable and valid tool for data collection. This reinforces the credibility and suitability of the research methodology to investigate the innovative self-efficacy of employees in architectural firms in Shaanxi Province, China. The findings from the pilot study serve as a strong foundation for the subsequent main study and provide a solid basis for gathering accurate and reliable data to achieve the research objectives.

References

- [1] R. Bysted, "Innovative employee behavior: The moderating effects of mental involvement and job satisfaction on contextual variables," *European Journal of Innovation Management*, vol. 16, 2013, doi: 10.1108/EJIM-09-2011-0069.
- [2] S. Tavassoli, "The role of product innovation on export behavior of firms: is it innovation input or innovation output that matters?," *European Journal of Innovation Management*, vol. 21, no. 2, pp. 294-314, 2018.
- [3] M. De Martino and F. Magnotti, "The innovation capacity of small food firms in Italy," *European Journal of Innovation Management*, vol. 21, no. 3, pp. 362-383, 2018.
- [4] D. Ivanov, J. Blackhurst, and A. Das, "Supply chain resilience and its interplay with digital technologies: Making innovations work in emergency situations," *International Journal of Physical Distribution & Logistics Management*, vol. 51, no. 2, pp. 97-103, 2021.
- [5] X. Pan, M. K. Uddin, C. Han, and X. Pan, "Dynamics of financial development, trade openness, technological innovation and energy intensity: Evidence from Bangladesh," *Energy*, vol. 171, pp. 456-464, 2019.
- [6] S. Maqbool, M. Černe, and G. Bortoluzzi, "Micro-foundations of innovation: Employee silence, perceived time pressure, flow and innovative work behaviour," *European Journal of Innovation Management*, vol. 22, no. 1, pp. 125-145, 2019.
- [7] P. Khaola and P. Rambe, "The effects of transformational leadership on organisational citizenship behaviour: The role of organisational justice and affective commitment," *Management Research Review*, vol. 44, no. 3, pp. 381-398, 2021.
- [8] Z. Rui and K. Lyytinen, "How do ventures become more innovative? The effect of external search and ambidextrous knowledge integration," *European Journal of Innovation Management*, vol. 22, no. 5, pp. 845-865, 2019.
- [9] B. Duodu and S. Rowlinson, "Opening up the innovation process in construction firms: External knowledge sources and dual innovation," *Journal of Construction Engineering and Management*, vol. 147, no. 8, 04021086, 2021.

- [10] X. Pan, M. K. Uddin, C. Han, and X. Pan, "Dynamics of financial development, trade openness, technological innovation and energy intensity: Evidence from Bangladesh," *Energy*, vol. 171, pp. 456-464, 2019.
- [17] P. Robinson, "Task Complexity, Task difficulty, and Task production: Exploring Interactions in a Componential Framework," *Applied Linguistics*, vol. 22, no. 1, pp. 27-57, 2001.
- [18] H. Martins and T. Proença, "Minnesota satisfaction questionnaire: psychometric properties and validation in a population of portuguese hospital workers," *Investigação e Intervenção em Recursos Humanos*, 2014, doi: 10.26537/iirh.v0i3.1825.
- [19] H. Mohan and Z. A. Lone, "Reliability and Validity of the Perceived Work Environment Scale," *International Journal of Health Sciences*, vol. 6, 2022.
- [20] F. P. Morgeson and S. E. Humphrey, "The Work Design Questionnaire (WDQ): developing and validating a comprehensive measure for assessing job design and the nature of work," *Journal of Applied Psychology*, vol. 91, no. 6, pp. 1321–1339, 2006, doi: 10.1037/0021-9010.91.6.1321.
- [21] J. Vveinhardt and E. Gulbovaitė, "Expert evaluation of diagnostic instrument for personal and organizational value congruence," *Journal of Business Ethics*, vol. 136, pp. 481-501, 2016.
- [22] M. Hagger et al., "Trait Self-Control and Self-Discipline: Structure, Validity, and Invariance Across National Groups," *Current Psychology*, vol. 40, 2021, doi: 10.1007/s12144-018-0021-6.
- [23] J. Vveinhardt and E. Gulbovaitė, "Questionnaire of Personal and Organizational Values Congruence for Employee (Q-POVC-115)," 2015.
- [24] C. Cheng, S. Shiu, and C. Chuang, "The Relationship of College Students' Process of Study and Creativity: Creative Self-Efficacy as a Mediation," 2012.
- [25] F. P. Morgeson and S. E. Humphrey, "The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work," *Journal of Applied Psychology*, vol. 91, no. 6, pp. 1321–1339, 2006, doi: 10.1037/0021-9010.91.6.1321.
- [26] M. Karwowski, I. Lebuda, and E. Wisniewska, "Measuring Creative Self-efficacy and Creative Personal Identity," *The Journal of Creativity and Problem Solving*, vol. 28, pp. 45-57, 2018.