

Risk-Taking Propensity and Newness Management Entrepreneurial Self-Efficacy

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Abstract— This study examines whether risk-taking propensity is linked to newness management entrepreneurial self-efficacy, understood as a person's confidence in dealing with novelty, ambiguity, and unfamiliar entrepreneurial tasks. Data were collected through a paper-based survey of undergraduate students in Croatia. Risk-taking propensity was measured with self-report items, while newness management entrepreneurial self-efficacy was assessed through items capturing perceived ability to initiate and manage novel entrepreneurial activities. The regression results showed a positive relationship. Students with a stronger tendency to take risks also reported greater confidence in managing newness-related tasks. This pattern remained positive when the analyses were conducted separately for male and female respondents, suggesting consistency across gender groups. By connecting a risk-oriented personal disposition with a specific entrepreneurial competency that can be developed, the study contributes to entrepreneurship research. It integrates trait-based perspectives with competency-focused self-efficacy theory and shows how entrepreneurial capabilities may be strengthened under uncertain conditions.

Keywords— entrepreneurial self-efficacy, entrepreneurship, newness management, risk-taking propensity.

I. INTRODUCTION

Personality-based perspectives remain important in entrepreneurship and small and medium-sized enterprise management research because entrepreneurs and owner-managers differ in relatively stable ways that shape how they identify opportunities, respond to uncertainty, and make strategic decisions over time (Antončič & Auer Antončič, 2023). In their integrative analysis, Antončič and Auer Antončič (2023) show that psychological factors have a stronger influence than sociological factors in explaining entrepreneurial entry and related behaviors. Among the broader personality dimensions, openness, extraversion, and low agreeableness stand out as especially important, while specific motivational characteristics (entrepreneurial self-efficacy, internal locus of control, and risk-taking propensity) add another meaningful level of explanation (Antončič & Auer Antončič, 2023).

At the same time, findings on entrepreneurs' risk-related tendencies have remained mixed. One likely reason is the diversity of earlier research, since risk is not a single, uniform construct and studies differ in venture type, institutional setting, and the specific decision context in which risk is measured (Densberger, 2014). Cross-national evidence based on data from six countries (Auer Antončič et al., 2018) further suggests that risk-taking propensity can have different behavioral effects across countries. This supports a contextual interpretation of risk and indicates that cultural dimensions, such as power distance, may influence how individual risk orientations are translated into entrepreneurial intentions and behaviors (Ray, 1994; Auer Antončič et al., 2018).

Recent studies using planned-behavior and social-cognitive logics continue to highlight that risk-related dispositions and self-efficacy often operate together rather than independently. For example, Shukla and Kumar (2024) show that entrepreneurial self-efficacy has both direct and indirect effects on entrepreneurial intentions, whereas the effect of risk-taking propensity can be channeled through attitudinal mechanisms. In a similar vein, research in entrepreneurship education shows that risk-taking propensity is related to perceived behavioral control and the formation of entrepreneurial intentions (Mothibi & Malebana, 2025).

In this study, risk-taking propensity is theoretically connected to newness management entrepreneurial self-efficacy, a specific entrepreneurial competency. Managing newness involves unfamiliar tasks, ambiguity, non-routine demands, experimentation, and rapid adjustment. These situations require both a willingness to engage with uncertain outcomes and confidence in one's ability to act effectively when facing novelty.

II. THEORY

Risk-taking propensity refers to an individual's general orientation toward taking risks (Auer Antončič et al., 2018). It is often viewed as a relatively stable, trait-like characteristic (Rauch & Frese, 2007), although its expression may depend on the specific decision context (Ray, 1994; Sitkin & Weingart, 1995). Brockhaus (1980) questioned whether risk-taking propensity clearly distinguishes entrepreneurs from non-entrepreneurs, suggesting that it may not be a universal marker of entrepreneurship. Other research, however, indicates that risk-taking propensity can be meaningfully linked to entrepreneurial action and new venture creation, especially when risk is understood as calculated risk-taking aimed at growth, innovation, or opportunity exploitation (Begley & Boyd, 1987; Nicholson et al., 2005; Stevenson & Gumpert, 1985). Recently, the sustainability paradigm has considered risk propensity in relation to its impact on the social and environmental aspects of company value or a specific entrepreneurial project (Miljenović, 2018).

From a competency perspective, entrepreneurial competencies are underlying individual characteristics that support venture creation, survival, and growth (Bird, 1995) and are associated with performance outcomes (Baum & Locke, 2004; Chandler & Jansen, 1992; Man et al., 2002; Kutnjak et al., 2019; Mitchelmore & Rowley, 2010). A central mechanism connecting competencies to action is self-efficacy: Bandura (1997) defines self-efficacy as people's beliefs about their capability to organize and execute courses of action. In entrepreneurship, this construct is made more specific for the research field as entrepreneurial self-efficacy (a person's belief that they can successfully perform core entrepreneurial tasks, Chen et al., 1998; DeNoble et al., 1999). Entrepreneurial self-efficacy has been linked to opportunity-related processes, innovation-oriented behaviors, and venture outcomes, yet its effects are not always the same (Chatpuyakul & Gulthawatvichai, 2024), in some situations, strong entrepreneurial self-efficacy supports action and persistence, whereas in other situations, it may lead to overconfidence and more extreme decision-making. Newness management entrepreneurial self-efficacy refers to beliefs about one's ability to deal with novelty (Li and Antončič, 2023), which includes starting unfamiliar projects, trying new approaches, adapting under ambiguity, and persisting despite uncertain feedback. In the entrepreneurial competencies framework (Li and Antončič, 2023), the newness management entrepreneurial self-efficacy dimension is placed within the conative component, together with planning and management entrepreneurial self-efficacy and financial-control entrepreneurial self-efficacy. The conative component complements other conative and social competency elements, such as conscientiousness, openness, and networking activity. Newness management entrepreneurial self-efficacy is a form of self-efficacy that is especially important in entrepreneurial contexts shaped by dynamic markets, innovation pressure, and non-routine problem solving. The relationship between risk-taking propensity and newness management entrepreneurial self-efficacy can be understood from two perspectives: developmental and behavioral. Individuals with higher risk-taking propensity are more likely than their counterparts to engage in uncertain and novel situations, such as pilot testing, experimenting with new products, or entering unfamiliar customer segments. Through these experiences, they are also more likely to build mastery experiences, which Bandura (1997) identified as the strongest source of self-efficacy development. Over time, repeated engagement with novelty can create a self-reinforcing loop: risk-taking propensity increases exposure to newness situations, successful coping strengthens newness management entrepreneurial self-efficacy, and higher newness management entrepreneurial self-efficacy further reduces perceived threat from novelty. Recent evidence supports this combined view: (a) Entrepreneurial self-efficacy is linked to risk-related decision tendencies and, when confidence becomes excessive or poorly calibrated, may also be associated with more extreme or escalated decision-making. This highlights the close behavioral connection between efficacy beliefs and risk-taking (Chatpuyakul & Gulthawatvichai, 2024). (b) Risk propensity can shape how strongly self-efficacy translates into entrepreneurial affect and motivation; for instance, risk propensity moderates the influence of entrepreneurial self-efficacy on entrepreneurial passion in student samples (Nguyen & Nguyen, 2024). (c) Integrated intention models increasingly treat risk-taking as a personality-like input that works alongside social-cognitive beliefs (including self-efficacy) to predict entrepreneurial intention and behavior (Caputo et al., 2025). Accordingly, newness management entrepreneurial self-efficacy is expected to be higher among individuals who are dispositionally more willing to engage with uncertainty, because they more often practice and learn that they can cope with novelty, ambiguity, and non-routine entrepreneurial demands.

Hypothesis: A person's risk-taking propensity is positively related to their newness management entrepreneurial self-efficacy.

III. METHODS

Data were collected at the University of Rijeka, Faculty of Economics and Business (Croatia). A voluntary, anonymous, paper-based survey was used and administered to undergraduate students. Using students as respondents in entrepreneurship and business research is widely accepted when the focal constructs concern judgment, decision-making, and individual-level dispositions, which is supported by past research (Auer Antončić et al., 2018; Bolton et al., 2012; Graf-Vlachy, 2019; Greenberg, 1987; Mowen & Mowen, 1986; Oakes, 1972; Remus, 1996; Waters & Collins, 1984), so the validity of students as proxies for business people exists in such designs. Since entrepreneurial activity is fundamentally rooted in decision-making, the question of using students rather than managers can also be viewed through the lens of novices versus experts in decision-making (Shanteau, 1992a, 1992b). Research on judgment and decision-making (Kahneman et al., 1982) suggests that experts do not necessarily have better performances than novices in every situation and that both groups may have similar systematic biases.

A total of 320 questionnaires were returned. The sample was predominantly young. Among the valid responses, 270 respondents (85.7%) were 20 years old or younger, 42 respondents (13.3%) were between 21 and 30 years old, and only three respondents were older than 30. Regarding gender, 85 respondents (27.0%) identified as male and 230 respondents (73.0%) as female.

Risk-taking propensity was measured with two Likert-type items, using a scale from 1 (very untrue) to 5 (very true), in line with previous operationalizations (Antončić et al., 2012; Auer Antončić et al., 2018): "I like to take risks" and "I am in favor of risk-taking." The strong correlation between the two items indicated good internal consistency for this brief measure. Newness management entrepreneurial self-efficacy was measured with five items adapted from Li and Antončić (2023), assessing perceived capability to perform tasks associated with managing novelty and newness: generating new venturing and new ideas, entering new markets and geographic territories, implementing new methods of production/marketing/management, managing time through goal setting, and establishing and achieving goals and objectives. All items used the same 1–5 response format to ensure scale comparability.

Gender was included as a control variable. Age was not included as a control because the respondents were relatively homogeneous in age (predominantly 20 years or younger), limiting meaningful age-related variance in the sample.

The hypothesis was tested using ordinary least squares regression in SPSS. One case was excluded from the regression due to missing data on at least one variable used in the model.

IV. RESULTS

The regression model using risk-taking propensity as the predictor and newness management entrepreneurial self-efficacy as the dependent variable provided clear support for the hypothesis in the overall sample ($n = 319$). The regression model was statistically significant, $F(1, 317) = 18.739, p < .001$. This result indicates that risk-taking propensity explains a meaningful share of the variance in newness management entrepreneurial self-efficacy.

Risk-taking propensity emerged as a positive and significant predictor of newness management entrepreneurial self-efficacy ($B = 0.181, SE = 0.042, \beta = 0.236, t = 4.329, p < .001$). In practical terms, a one-point increase in risk-taking propensity on the five-point scale was linked to an estimated 0.18-point increase in newness management entrepreneurial self-efficacy. The amount of explained variance was modest ($R^2 = 0.056$; adjusted $R^2 = 0.053$), which is common in single-predictor models based on psychological dispositions. This suggests that risk-taking propensity helps explain newness management entrepreneurial self-efficacy, but it is not the only factor involved. Other competency-related factors are also likely to play a role.

Put simply, students who expressed a stronger willingness to take risks also reported greater confidence in handling entrepreneurial tasks that involve novelty, such as entering new markets, introducing new methods, and setting and achieving goals. This supports the idea that comfort with uncertainty is connected to a stronger perceived ability to manage new and non-routine entrepreneurial demands.

To examine whether this relationship was stable across gender groups, the sample was divided into male and female subsamples. Separate regression analyses were then conducted for each group. The positive relationship appeared in both subsamples. The statistical support was somewhat stronger among female respondents, which is consistent with the larger female subsample and the slightly higher coefficient.

For the male subsample ($n = 84$), the model was significant, $F(1, 82) = 4.380, p = .039$, with $R^2 = 0.051$ and adjusted $R^2 = 0.039$. Risk-taking propensity positively predicted newness management entrepreneurial self-efficacy ($B = 0.169, SE = 0.081, \beta = 0.225, t = 2.093, p = .039$). This result suggests that, among male respondents, those with a stronger tendency to take risks also reported greater confidence in managing entrepreneurial tasks involving novelty. The effect is relatively smaller and estimated with a smaller precision than in the female subsample, as indicated by the larger standard error.

For the female subsample ($n = 230$), the model was highly significant, $F(1, 228) = 17.875, p < .001$, with $R^2 = 0.073$ and adjusted $R^2 = 0.069$. Risk-taking propensity again showed a positive and significant effect ($B = 0.212, SE = 0.050, \beta = 0.270, t = 4.228, p < .001$). For the females, the relationship was somewhat stronger and estimated more precisely than for the male subsample, which is in line with the larger size of the female subsample.

Taken together, the findings indicate that risk-taking propensity is positively related to newness management entrepreneurial self-efficacy in the full sample and in both gender subsamples. The results are in support of the hypothesis. The standardized effects (β ranging from 0.225 to 0.270) may be interpreted as small to moderate in practical terms, and the relatively modest explained variance suggests that risk-taking propensity is one meaningful contributor to newness management entrepreneurial self-efficacy, but probably not the only one.

V. DISCUSSION

The empirical findings are in support of the theoretical argument developed in this study. Risk-taking propensity as a trait-like orientation toward engaging with uncertainty (Auer Antončić et al., 2018; Rauch & Frese, 2007) was found to be positively related to newness management entrepreneurial self-efficacy, a competency-specific efficacy belief focused on dealing with novelty, ambiguity, and non-routine entrepreneurial tasks (Li & Antončić, 2023). In conceptual terms, this relationship supports the proposed developmental mechanism: individuals with higher risk-taking propensity are more likely to enter uncertain and unfamiliar situations and, through these experiences, gain the mastery experiences that strengthen efficacy beliefs (Bandura, 1997). In this respect, risk-taking propensity should not be viewed only as a personality characteristic that distinguishes entrepreneurs from non-entrepreneurs (Brockhaus, 1980), but also as a trait that may assist in the development of entrepreneurial competencies, especially in contexts molded by uncertainty, experimentation, and change.

This study also adds to the literature on risk and self-efficacy by offering a fresh perspective on how these two constructs may be related. Earlier research has usually treated self-efficacy as an antecedent of opportunity perception and risk-taking behavior, showing that stronger efficacy beliefs can increase perceived opportunities and willingness to accept risk (Krueger & Dickson, 1994), and that risk preference is linked to efficacy dimensions related to opportunity identification (Barbosa et al., 2007). The present findings do not simply contradict that line of work. Rather, they extend it by emphasizing a competency-development pathway. Specifically, the positive association between risk-taking propensity and newness management entrepreneurial self-efficacy suggests that a relatively stable willingness to engage with uncertainty may help foster efficacy beliefs relevant for managing entrepreneurial newness. This is particularly consistent with competency perspectives that locate efficacy beliefs within the conative component of entrepreneurial competencies (Li & Antončić, 2023) and with social-cognitive theory, which allows for reciprocal relationships among traits, experiences, and efficacy beliefs over time (Bandura, 1997). Thus, the present findings extend the literature by positioning risk-taking propensity as a plausible upstream correlate of a specific, entrepreneurship-relevant efficacy facet (newness management), rather than focusing only on efficacy to risk-taking direction.

Implications for theory. The results support integrating personality traits and competency frameworks. Risk-taking propensity appears meaningfully connected to a task-specific entrepreneurial self-efficacy domain (newness management entrepreneurial self-efficacy), which strengthens micro-foundational arguments that entrepreneurial outcomes can be better explained when traits and competencies/efficacy beliefs are modeled together. Future studies could examine this by testing boundary conditions (e.g., decision domain, culture/power distance) and examining whether newness management entrepreneurial self-efficacy mediates the risk-taking propensity–entrepreneurial intention/behavior relationship.

Implications for practice (entrepreneurs and SME support). If higher risk-taking propensity is associated with stronger confidence in managing novelty, then efforts to select and develop people for entrepreneurial roles (such as in startups, innovation units, or growth-oriented small and medium-sized enterprises) may benefit from assessing risk-taking propensity together with newness management entrepreneurial self-efficacy. At the same time, because the explained variance is modest, organizations should not treat risk-taking propensity as sufficient on its own. It is better understood as one of several factors that may influence readiness to deal with entrepreneurial newness.

Implications for education and training. Densberger's (2014) argument that self-efficacy can be developed is especially important here. Although risk-taking propensity contains relatively stable trait-like elements, newness management entrepreneurial self-efficacy can still be strengthened through structured mastery experiences. These may include opportunity experiments, simulations of entry into new markets, iterative prototyping exercises, and goal-setting tasks supported by intensive feedback. This interpretation fits the theoretical framework of the study, according to which repeated exposure to manageable forms of novelty should increase confidence in handling entrepreneurial newness (Bandura, 1997; Li & Antončič, 2023).

Implications for policy perspectives can focus on experiential learning supports. Initiatives aimed at strengthening entrepreneurial capacity can focus directly on building newness management entrepreneurial self-efficacy through experiential formats such as university-business cooperation projects, incubators, technological parks, business excellence centers, student venture laboratories, challenge-based learning programs, and internships in innovative small and medium-sized enterprises. Consistent with the views of Densberger (2014), policies that widen access to guided entrepreneurial experiences (such as mentoring, small grants for experimentation, and protected environments for trial and error) may accelerate development of competencies, especially in the area of managing newness, which is crucial for opportunity pursuit and exploitation, and adaptation in the early stages of a venture.

Taken together, the findings support the theoretical proposition that risk-taking propensity is positively related to newness management entrepreneurial self-efficacy. The study also highlights the prominence of linking relatively stable personal dispositions with entrepreneurial competencies that can be intentionally developed through education, training, and intervention design.

VI. LIMITATIONS AND FUTURE RESEARCH

Limitations should be considered when interpreting the observed positive association between risk-taking propensity and newness management entrepreneurial self-efficacy. First, the study used a student sample from one institution, the University of Rijeka, Faculty of Economics and Business. Although previous research supports the use of students in studies of business-related decision-making and individual differences, the findings cannot be fully generalized to active entrepreneurs and managers. The relationship may be different in settings where risk involves higher stakes, stronger resource constraints, and real business consequences. Second, the study was cross-sectional, so causal conclusions cannot be drawn. The theoretical argument suggests that risk-taking propensity may lead to stronger newness management entrepreneurial self-efficacy. However, the opposite direction is also possible: people who feel more confident in managing newness may become more willing to take risks. These relationships may also develop reciprocally over time. Third, the main constructs were measured with self-reported data. In addition, risk-taking propensity was measured with two items. Although these items were highly correlated, this short measure may not capture all relevant forms of risk, such as financial, social, ethical, or strategic risk. Fourth, the model explained a modest share of variance, about 6%. This is reasonable for a single-predictor model, but it also suggests that newness management entrepreneurial self-efficacy is shaped by other factors not included in this study, such as mastery experiences, entrepreneurial exposure, openness, conscientiousness, internal locus of control, entrepreneurship education, and contextual support. Fifth, more objective or behavioral indicators, such as risk choices in experimental tasks, outcomes of entrepreneurial projects, or external evaluations of competence, were not included. Future research should also consider adaptive psychological mechanisms that influence how persons cope with uncertainty and prolonged ambiguity in entrepreneurial settings. In particular, the literature on entrepreneurial resilience emphasizes adaptive coping, cognitive flexibility, and the capacity to maintain functioning under stress as important elements of entrepreneurial capability development (Grčić Fabić et al., 2025). Including constructs related to resilience could help clarify whether risk-taking propensity is translated into efficacy beliefs only when individuals possess or develop adaptive coping capacities.

Future research can build on the study's findings and address the limitations. First, longitudinal designs would make it possible to examine the direction of effects over time, for example, by tracing the sequence from risk-taking propensity to novelty exposure and mastery experiences, and then to newness management entrepreneurial self-efficacy, as well as whether this form of self-efficacy later predicts entrepreneurial intentions, experimentation, and venture-related outcomes. Second, the model could be replicated with active entrepreneurs and innovation managers in small and medium-sized enterprises and startups, where newness management takes place under real constraints such as limited capital, time pressure, and market uncertainty. This would display validity and show whether the strength of the relationship changes with entrepreneurial experience. Third, multi-country research designs would be especially valuable because they would allow researchers to examine whether contextual and cultural factors shape the relationship between risk-taking propensity and newness management entrepreneurial self-efficacy.

VII. CONCLUSIONS

This study examined the association between risk-taking propensity and newness management entrepreneurial self-efficacy. The regression analysis results support the hypothesis, showing that individuals with higher risk-taking propensity also report greater confidence in handling entrepreneurial tasks that involve novelty, and that this is displayed in both the male and female subsamples. By linking a relatively stable orientation toward risk with a specific entrepreneurial competency (newness management entrepreneurial self-efficacy) that can be developed, the study contributes to entrepreneurship research by bringing together trait-based perspectives and competency-focused self-efficacy theory, and by clarifying how capabilities may be developed under conditions of uncertainty.

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REFERENCES

- [1] B. Antončič and J. Auer Antončič, "Psychological and sociological determinants of entrepreneurial intentions and behaviors," *Frontiers in Psychology*, vol. 14, art. no. 1076768, 2023. doi: 10.3389/fpsyg.2023.1076768.
- [2] B. Antončič, J. Auer Antončič, and M. Gantar, "Risk-taking propensity of entrepreneurs and their non-persistence in entrepreneurship," in *Advances in Business-Related Scientific Research Conference—ABSRC 2012: Conference Proceedings*, B. Antončič, Ed. Koper, Slovenia: Edukator, 2012.
- [3] J. Auer Antončič, B. Antončič, M. Gantar, R. D. Hisrich, L. J. Marks, A. A. Bachkirov, Z. Li, P. Polzin, J. L. Borges, A. Coelho, and M.-L. Kakkonen, "Risk-taking propensity and entrepreneurship: The role of power distance," *Journal of Enterprising Culture*, vol. 26, no. 1, pp. 1-26, Mar. 2018.
- [4] A. Bandura, *Self-efficacy: The Exercise of Control*. New York, NY, USA: W. H. Freeman, 1997.
- [5] S. D. Barbosa, M. W. Gerhardt, and J. R. Kickul, "The role of cognitive style and risk preference on entrepreneurial self-efficacy and entrepreneurial intentions," *Journal of Leadership & Organizational Studies*, vol. 13, no. 4, pp. 86-104, 2007.
- [6] J. R. Baum and E. A. Locke, "The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth," *Journal of Applied Psychology*, vol. 89, no. 4, pp. 587-598, 2004. doi: 10.1037/0021-9010.89.4.587.
- [7] T. M. Begley and D. P. Boyd, "Psychological characteristics associated with performance in entrepreneurial firms and smaller businesses," *Journal of Business Venturing*, vol. 2, no. 1, pp. 79-93, 1987.
- [8] B. Bird, "Toward a theory of entrepreneurial competency," *Advances in Entrepreneurship, Firm Emergence and Growth*, vol. 2, pp. 51-72, 1995.
- [9] G. E. Bolton, A. Ockenfels, and U. W. Thonemann, "Managers and students as newsvendors," *Management Science*, vol. 58, no. 12, pp. 2225-2233, 2012.
- [10] R. H. Brockhaus, "Risk taking propensity of entrepreneurs," *Academy of Management Journal*, vol. 23, no. 3, pp. 509-520, 1980.
- [11] A. Caputo, V. H. A. Nguyen, and S. Delladio, "Risk-taking, knowledge, and mindset: Unpacking the determinants of entrepreneurial intention through an integrated model," *International Entrepreneurship and Management Journal*, vol. 21, art. no. 48, 2025. doi: 10.1007/s11365-024-01064-3.
- [12] G. N. Chandler and E. Jansen, "The founder's self-assessed competence and venture performance," *Journal of Business Venturing*, vol. 7, no. 3, pp. 223-236, 1992.
- [13] C. Chatpunyakul and T. Gulthawatvichai, "Entrepreneurial self-efficacy and extreme decision-making: The unexpected influence of entrepreneurial personality," *Asia-Pacific Social Science Review*, vol. 24, no. 4, pp. 94-107, 2024.
- [14] C. C. Chen, P. G. Greene, and A. Crick, "Does entrepreneurial self-efficacy distinguish entrepreneurs from managers?" *Journal of Business Venturing*, vol. 13, no. 4, pp. 295-316, 1998. doi: 10.1016/S0883-9026(97)00029-3.
- [15] A. F. DeNoble, D. Jung, and S. B. Ehrlich, "Entrepreneurial self-efficacy: The development of a measure and its relationship to entrepreneurial action," in *Frontiers of Entrepreneurship Research*, P. Reynolds et al., Eds. Babson Park, MA, USA: Babson College, 1999.
- [16] K. Densberger, "The self-efficacy and risk-propensity of entrepreneurs," *Journal of Enterprising Culture*, vol. 22, no. 4, pp. 437-462, 2014.

- [17] L. Graf-Vlachy, "Like student like manager? Using student subjects in managerial debiasing research," *Review of Managerial Science*, vol. 13, no. 2, pp. 399-424, 2019. doi: 10.1007/s11846-017-0250-3.
- [18] J. Greenberg, "The college sophomore as guinea pig: Setting the record straight," *Academy of Management Review*, vol. 12, no. 1, pp. 157-159, 1987.
- [19] M. Grčić Fabić, A. Petrić, and A. Srok, "Evolution of entrepreneurial resilience: A bibliometric analysis," *Ekonomika misao i praksa = Economic Thought and Practice*, vol. 34, no. 1, pp. 137-164, 2025.
- [20] D. Kahneman, P. Slovic, and A. Tversky, *Judgment Under Uncertainty: Heuristics and Biases*. Cambridge, U.K.: Cambridge Univ. Press, 1982.
- [21] N. F. Krueger, Jr. and P. R. Dickson, "How believing in ourselves increases risk taking: Perceived self-efficacy and opportunity recognition," *Decision Sciences*, vol. 25, no. 3, pp. 385-400, 1994.
- [22] G. Kutnjak, D. Miljenović, and A. Mirković, "Improving competitiveness of small and medium-sized enterprises with the application of quality management system," *Pomorstvo*, vol. 33, no. 1, pp. 11-21, 2019.
- [23] Z. Li and B. Antončić, "Entrepreneurial competencies: An extended construct," *Journal of Enterprising Culture*, vol. 32, no. 2, pp. 101-137, 2023. doi: 10.1142/S0218495823500048.
- [24] T. W. Y. Man, T. Lau, and K. F. Chan, "The competitiveness of small and medium enterprises: A conceptualization with focus on entrepreneurial competencies," *Journal of Business Venturing*, vol. 17, no. 2, pp. 123-142, 2002.
- [25] D. Miljenović, "Testing sustainable value added as an integrative measure of business sustainability," *Proceedings of Rijeka Faculty of Economics: Journal of Economics and Business / Zbornik radova Ekonomskog fakulteta u Rijeci: Časopis za ekonomsku teoriju i praksu*, vol. 36, no. 1, pp. 155-181, 2018. doi: 10.18045/zbefri.2018.1.155.
- [26] S. Mitchelmore and J. Rowley, "Entrepreneurial competencies: A literature review and development agenda," *International Journal of Entrepreneurial Behavior & Research*, vol. 16, no. 2, pp. 92-111, 2010.
- [27] N. H. Mothibi and M. J. Malebana, "Entrepreneurship education, role models, and risk-taking propensity: Evidence using the theory of planned behavior," *Administrative Sciences*, vol. 15, no. 10, art. no. 374, 2025. doi: 10.3390/admsci15100374.
- [28] M. Mowen and J. C. Mowen, "An empirical examination of the biasing effects of framing on business decisions," *Decision Sciences*, vol. 17, no. 4, pp. 596-602, 1986.
- [29] G. N. Nguyen and T. K. Nguyen, "Entrepreneurial passion of business and technical students: The roles of subjective norms, entrepreneurial education, entrepreneurial self-efficacy, and risk propensity," *The International Journal of Management Education*, vol. 22, no. 3, art. no. 101012, 2024. doi: 10.1016/j.ijme.2024.101012.
- [30] N. Nicholson, E. Soane, M. Fenton-O'Creevy, and P. Willman, "Personality and domain-specific risk taking," *Journal of Risk Research*, vol. 8, no. 2, pp. 157-176, 2005.
- [31] W. Oakes, "External validity and the use of real people as subjects," *American Psychologist*, vol. 27, no. 10, pp. 959-962, 1972.
- [32] A. Rauch and M. Frese, "Born to be an entrepreneur? Revisiting the personality approach to entrepreneurship," in *The Psychology of Entrepreneurship*, J. R. Baum, M. Frese, and R. A. Baron, Eds. Mahwah, NJ, USA: Lawrence Erlbaum Associates, 2007, pp. 41-65.
- [33] D. M. Ray, "The role of risk-taking in Singapore," *Journal of Business Venturing*, vol. 9, no. 2, pp. 157-177, 1994.
- [34] W. Remus, "Will behavioral research on managerial decision making generalize to managers?" *Managerial and Decision Economics*, vol. 17, no. 1, pp. 93-101, 1996.
- [35] J. Shanteau, "Competence in experts: The role of task characteristics," *Organizational Behavior and Human Decision Processes*, vol. 53, no. 2, pp. 252-266, 1992.
- [36] J. Shanteau, "How much information does an expert use? Is it relevant?" *Acta Psychologica*, vol. 81, no. 1, pp. 75-86, 1992.
- [37] S. Shukla and R. Kumar, "Venturing into a new business: Do self-efficacy and risk-taking propensity help?" *Vikalpa*, vol. 49, no. 1, pp. 25-44, 2024.
- [38] S. B. Sitkin and L. R. Weingart, "Determinants of risky decision-making behavior: A test of the mediating role of risk perceptions and propensity," *Academy of Management Journal*, vol. 38, no. 6, pp. 1573-1592, 1995.
- [39] H. H. Stevenson and D. E. Gumpert, "The heart of entrepreneurship," *Harvard Business Review*, vol. 63, no. 2, pp. 85-94, 1985.
- [40] L. K. Waters and M. Collins, "Effect of pricing conditions on preference reversals by business students and managers," *Journal of Applied Psychology*, vol. 69, no. 2, pp. 346-348, 1984.