



Does the quality of education impact students' psychological well-being? Engagement as a mediator

Zhichao Jiang¹, Peiran Zhang²

¹School of Information Science and Technology, Nantong University, People's Republic of China

²School of Resource and Environmental Science, Hebei MinZu Normal University, People's Republic of China

How to cite: Jiang, Z., & Zhang, P. (2024). Does the quality of education impact students' psychological well-being? Engagement as a mediator. *Social Behavior and Personality: An international journal*, 52(12), e13780

There is growing concern regarding the psychological well-being of students in Chinese higher education institutions, yet limited research exists on the relationship between the quality of education and students' psychological well-being. In this study we investigated the impact of educational quality on the psychological well-being of university students, and examined the mediating role of students' engagement. Adopting a quantitative research design, we gathered data from 358 university students in East China using a structured survey. The findings demonstrated that educational quality had both a direct and an indirect relationship with students' psychological well-being, with the relationship mediated by student engagement. The study findings emphasize the significance of the quality of education for Chinese students, which highlights the need for educators to recognize the importance of educational quality and its connection to students' psychological well-being.

Keywords

educational quality, learning environment, student engagement, psychological well-being, university students

Article Highlights

- We developed a model of the relationships among the quality of education, student engagement, and psychological well-being.
- Educational quality was associated with students' psychological well-being both directly and indirectly through the mediator of student engagement.
- Educators should be made more aware of the importance of the quality of education and its link with students' psychological well-being.

The academic community has recently shown increased interest in the psychological well-being of students in higher learning institutions (Brooker & Woodyatt, 2019; Morales-Rodríguez et al., 2020; Rehman et al., 2020). *Psychological well-being* is typically understood as a combination of positive emotional states, such as happiness, as well as optimal functioning in both individual and social aspects of life (Deci & Ryan, 2008). Undergraduate students often experience stress because of independent living, a heavy academic workload, and pressure to excel academically and secure employment after graduation. A recent comprehensive survey conducted with a sample of approximately 80,000 Chinese college students revealed that 21.48% faced a significant risk of depression and 45.28% were prone to anxiety (Fang et al., 2023). Given that the future of each nation relies heavily on its younger generations, particularly undergraduates, it is critical to identify and provide early intervention for mental health issues among university students.

CORRESPONDENCE Peiran Zhang, School of Resource and Environmental Science, Hebei MinZu Normal University, 2 West Xueyuan Road, High-Tech Industrial Development Zone, Chengde, Hebei, 067000, People's Republic of China. Email: zhangpeiran@hbun.edu.cn

Education is an influential process for personal development, and the success of an educational institution relies heavily on student motivation and engagement (Caruth, 2018). To enhance educational standards, it is vital to maintain a high quality of education (Noaman et al., 2017), as this significantly impacts student satisfaction and achievement (Blömeke et al., 2016; Mwiya et al., 2017), both of which are positively associated with students' well-being (Franzen et al., 2021; Mustafa et al., 2020). Lera et al. (2023) pointed out that effective educational practices contribute to increased well-being among students. However, few studies have examined the relationship between educational quality and psychological well-being among university students. Therefore, the primary objective of this study was to examine the association between educational quality and the psychological well-being of university students.

Student engagement, which refers to the active involvement and purposeful dedication of students toward their learning endeavors, encompasses both formal and informal educational activities (Krause & Coates, 2008). Research has demonstrated that a high level of engagement among students has a substantial positive effect on their overall well-being (e.g., Wong et al., 2024). In addition, researchers have reported that educational quality positively affects student engagement (J. Wang et al., 2022; Zhao & Ko, 2020). Drawing on these previous findings, it is plausible to suggest that the impact of educational quality on students' psychological well-being may be mediated by the level of their engagement. Consequently, the objective of this study was to investigate the role played by student engagement in the relationship between educational quality and students' psychological well-being.

The Current Study

High-quality education involves supportive teachers, good teaching skills and facilities, access to learning resources, and effective administrative services (Lin & Tsai, 2008), which together create a positive learning environment (Brandisauskiene et al., 2023; Fisher, 2005). A positive and supportive learning environment has been positively linked to students' psychological well-being (Aldridge & McChesney, 2018). When students feel safe, encouraged, and respected in their educational setting, their psychological well-being tends to improve (Lombardi et al., 2019). Quality education often leads to improved academic outcomes (Blömeke et al., 2016). When students experience success in their studies, this enhances their self-esteem, confidence, and overall psychological well-being (Hendry et al., 2022; Murray-Harvey, 2010). High-quality education goes beyond academic instruction; the focus is also on personal growth (Madani, 2019). When students have opportunities for personal growth, this positively affects their psychological well-being (Turashvili & Japaridze, 2012). Therefore, we proposed the following hypothesis:

Hypothesis 1: Educational quality will be positively associated with students' psychological well-being.

The focus in high-quality education is on providing students with relevant and meaningful learning experiences. When students find the content and activities meaningful and applicable to their life, they are more likely to engage with the material and stay motivated to learn (Kuh, 2016). Educational quality often involves incorporating active learning strategies, such as discussions, group work, and hands-on activities (Coorey, 2016; Ginsburg, 2010), whereby students are encouraged to participate and engage with the subject matter. This enhances their understanding and retention of information (Venton & Pompano, 2021). Additionally, quality education recognizes the diverse learning needs and preferences of students and emphasizes personalized instruction, allowing students to learn at their own pace, explore their interests, and pursue their strengths (Powell & Kusuma-Powell, 2011). When students have the autonomy to shape their learning experiences, they become more engaged and motivated to learn (Núñez & León, 2015). Therefore, we proposed the following hypothesis:

Hypothesis 2: Educational quality will be positively associated with student engagement.

Numerous studies have examined the relationship between student engagement and well-being, and researchers have consistently found a positive association (e.g., Wong et al., 2024). Boulton et al. (2019) conducted a longitudinal survey among university students, revealing that engagement and well-being fluctuated throughout the term but showed a significantly positive correlation. Moreover, Pan et al. (2023) reported finding a positive correlation between Chinese students' psychological well-being and academic engagement, specifically among those studying English as a foreign language. M.-T. Wang and Eccles (2011) observed that students who exhibit high, compared to low, emotional and

cognitive engagement in their learning are more likely to invest time and effort into their studies, effectively handle study demands, and demonstrate greater persistence when faced with challenges. Consequently, perceived involvement and efficiency in managing study demands serve as determinants of students' subjective well-being related to their academic experiences (Deci & Ryan, 2008; Pietarinen et al., 2014). Therefore, we proposed the following hypothesis:

Hypothesis 3: Student engagement will be positively connected with their psychological well-being.

Thus, we expected that educational quality may have a positive influence on student engagement, thereby contributing to enhanced psychological well-being. Therefore, we proposed the following hypothesis:

Hypothesis 4: Student engagement will mediate the association between educational quality and students' psychological well-being.

Method

Participants and Procedure

Participants for this study consisted of undergraduate students enrolled at a university located in East China. Prior to data collection, we obtained research approval from the institution with which the first author is affiliated. We conducted a briefing with the undergraduate students, providing them with an explanation of the nature of the study, emphasizing that their participation was voluntary, and informing the students that they had the right to discontinue filling out the survey at any point without needing to provide a reason. We obtained informed consent from students who expressed their willingness to participate in the study. A convenience sampling method was employed, resulting in a sample of 420 students. After excluding incomplete or invalid cases, a final sample of 358 valid responses remained (rate of return = 68.85%). Among the participants, 210 (58.66%) were men and 148 (41.34%) were women. Table 1 provides the demographic characteristics of the participants.

Table 1. *Demographic Details of Respondents*

Variable	<i>n</i>	%	<i>M</i>	<i>SD</i>
Age			21.08	0.94
Gender				
Men	210	58.66		
Women	148	41.34		
Undergraduate year				
Freshman	56	15.64		
Sophomore	95	26.54		
Junior	108	30.17		
Senior	99	27.65		
Major				
Humanities and social science	195	54.47		
Science and engineering	163	45.53		

Note. *N* = 358.

Measures

As the measures were originally developed in English, a university English teacher helped translate these into Chinese. Participants rated the items on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Educational Quality

We assessed educational quality using a five-item scale derived from the concepts evaluated in the Good Teaching Scale of the Course Experience Questionnaire (Ramsden, 1991), as summarized by Lizzio et al. (2002). A sample item is “My teachers express positive expectations and seek to motivate students to do their best work.”

Student Engagement

We used the nine-item scale adapted by Carmona-Halty et al. (2019) from Schaufeli et al. (2006) to measure student engagement. The scale consists of three dimensions with three items each: vigor, dedication, and absorption. Sample items for each dimension are “I feel energetic and capable when I’m studying or going to class” (vigor), “I am enthusiastic about my studies” (dedication), and “I am immersed in my studies” (absorption).

Psychological Well-Being

We used the World Health Organization’s (1998) five-item scale to measure student psychological well-being. A sample item is “I feel calm and relaxed.”

Results

Reliability and Validity Tests

Table 2 displays the descriptive statistics and correlations for the study variables. We conducted a confirmatory factor analysis and structural equation modeling using Amos 22.0. All items exhibited standardized loadings above .70 ($p < .01$). Additionally, the square root of average variance extracted for each construct exceeded the interconstruct correlations. These results supported the reliability and validity of the measures.

Table 2. *Descriptive Statistics, Correlations, and Reliability for Study Variables*

	<i>M</i>	<i>SD</i>	α	AVE	CR	1	2	3
1. Educational quality	4.54	0.76	.88	.53	.85	1		
2. Student engagement	4.32	0.69	.85	.53	.77	.51**	1	
3. Psychological well-being	4.27	0.83	.83	.53	.85	.45**	.56**	1

Note. $N = 358$. AVE = average variance extracted; CR = composite reliability.

** $p < .01$.

Structural Model

The proposed model demonstrated a satisfactory fit to the data, $\chi^2/df = 1.26$, Tucker–Lewis index = .99, relative fit index = .95, comparative fit index = .99, root-mean-square error of approximation = .03. The findings from the path analysis supported Hypotheses 1 and 2, as educational quality exhibited a significant positive relationship with both student psychological well-being and student engagement. Furthermore, there was a significant positive association between student engagement and student psychological well-being, thus supporting Hypothesis 3. To explore the mediating role of student engagement, we employed the bootstrapping method, generating 5,000 resamples and 95% confidence intervals. The results show that student engagement significantly mediated the relationship between educational quality and student psychological well-being. In conclusion, the hypothesized model was deemed acceptable (see Figure 1).

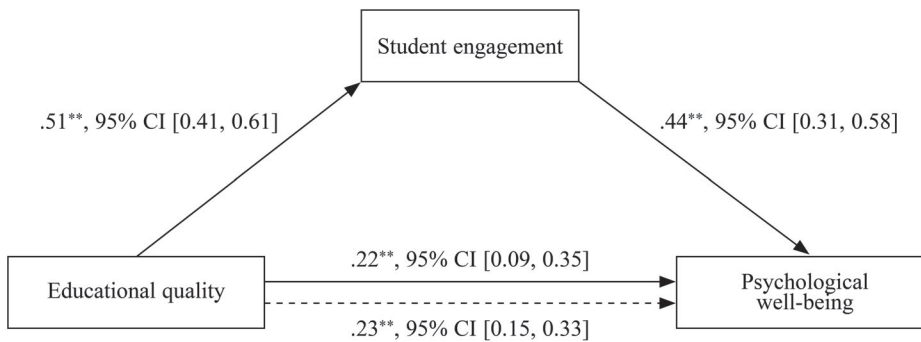


Figure 1. *Results of Hypothesis Testing*

Note. CI = confidence interval. The mediating effect is indicated by the dashed line.

** $p < .01$.

Discussion

Studies have investigated the relationships between educational quality and student outcomes such as satisfaction and achievement (Blömeke et al., 2016; Mwiya et al., 2017); however, limited research had been conducted to examine the link between educational quality and psychological well-being. We addressed this gap by examining the potential mediating role of student engagement in the association between educational quality and psychological well-being among university students. As hypothesized, the results demonstrated a direct positive relationship between educational quality and students' psychological well-being, as well as an indirect relationship mediated by student engagement. These findings hold significance both for theory and practice.

First, we posited that there would be a positive association between educational quality and student psychological well-being, and we found substantial evidence to support the importance of educational quality in predicting students' psychological well-being. Specifically, when students perceive that high-quality education is provided at their university, they report elevated levels of psychological well-being. This aligns with the assertion made by Lera et al. (2023), who contended that effective educational practices can enhance students' well-being in primary and secondary schools. These results suggest that educational quality contributes to the well-being of all students, whether in a basic education setting or a higher education setting.

Second, our investigation showed that student engagement served as a significant mediating factor in shaping the relationship between educational quality and students' psychological well-being. In essence, when students perceive that high-quality education is offered at their university, they are more likely to exhibit higher levels of engagement, which, in turn, relates to enhanced psychological well-being. These findings support those of previous research on the links between educational quality and student engagement (Wong et al., 2022; Zhao & Ko, 2020), as well as between student engagement and well-being (Boulton et al., 2019; Pan et al., 2023; M.-T. Wang & Eccles, 2011). Our results contribute to a meaningful integration of these two distinct lines of research, shedding light on the underlying mechanisms that explain the association between educational quality and psychological well-being.

Additionally, this study has some practical implications. Policymakers need to carefully evaluate how educational policies affect both student engagement and psychological well-being. By prioritizing educational quality and supporting student engagement, policies can yield positive outcomes for students' overall well-being. Moreover, at educational institutions the quality of teaching, curriculum design, and learning environments should be prioritized to foster students' engagement and psychological well-being. Additionally, strategies should be implemented to enhance student engagement in the learning process, such as utilizing active learning techniques, encouraging student participation, and providing opportunities for collaboration and interaction.

Limitations and Directions for Future Research

First, in this study we relied on self-reported data from students, which may have introduced respondent bias. Future research could benefit from replicating these findings using alternative measures and other sources of information, such as external observers. Second, the cross-sectional design employed in this study does not allow causality to be established. We recommend that researchers utilize longitudinal research designs to investigate the causal relationships. Third, the convenience sampling method we used has implications for the generalizability of the results. Alternatives such as stratified sampling, random sampling, or systematic sampling would permit construction of a diverse and representative sample to facilitate applying the findings across a variety of educational settings. Last, the simplistic measure of educational quality that we used is a potential limitation. Future researchers could adopt more complex measures of educational quality, including peer review and student academic performance.

Acknowledgments

The data that support the findings of this study are available on request from the corresponding author.

References

- Aldridge, J. M., & McChesney, K. (2018). The relationships between school climate and adolescent mental health and wellbeing: A systematic literature review. *International Journal of Educational Research*, 88, 121–145.
<https://doi.org/10.1016/j.ijer.2018.01.012>
- Blömeke, S., Olsen, R. V., & Suhl, U. (2016). Relation of student achievement to the quality of their teachers and instructional quality. In T. Nilsen & J.-E. Gustafsson (Eds.), *Teacher quality, instructional quality and student outcomes* (pp. 21–50). Springer Open.
https://doi.org/10.1007/978-3-319-41252-8_2
- Boulton, C. A., Hughes, E., Kent, C., Smith, J. R., & Williams, H. T. P. (2019). Student engagement and wellbeing over time at a higher education institution. *PLoS ONE*, 14(11), Article e0225770.
<https://doi.org/10.1371/journal.pone.0225770>
- Brandisauskiene, A., Buksnyte-Marmiene, L., Cesnaviciene, J., & Jarasiunaite-Fedosejeva, G. (2023). The relationship between teacher's autonomy-supportive behavior and learning strategies applied by students: The role of teacher support and equity. *SAGE Open*, 13(2), 1–16.
<https://doi.org/10.1177/21582440231181384>
- Brooker, A., & Woodyatt, L. (2019). Psychological wellbeing and distress in higher education. *Student Success*, 10(3), i–vi.
<https://doi.org/10.5204/ssj.v10i3.1419>
- Carmona-Halty, M. A., Schaufeli, W. B., & Salanova, M. (2019). The Utrecht Work Engagement Scale for Students (UWES–9S): Factorial validity, reliability, and measurement invariance in a Chilean sample of undergraduate university students. *Frontiers in Psychology*, 10, Article 1017.
<https://doi.org/10.3389/fpsyg.2019.01017>
- Caruth, G. D. (2018). Student engagement, retention, and motivation: Assessing academic success in today's college students. *Participatory Educational Research*, 5(1), 17–30.
<https://doi.org/10.17275/per.18.4.5.1>
- Coorey, J. (2016). Active learning methods and technology: Strategies for design education. *The International Journal of Art & Design Education*, 35(3), 337–347.
<https://doi.org/10.1111/jade.12112>



- Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies*, 9, 1–11.
<https://doi.org/10.1007/s10902-006-9018-1>
- Fang, Y., Wang, L., & Chen, Z. (2023). A survey report on the mental health status of college students in 2022. In X. Fu, K. Zhang, X. Chen, & Z. Chen (Eds.), *Chinese national mental health development report (2021–2022)* [In Chinese] (pp. 70–99). Social Sciences Academic Press.
<https://tinyurl.com/j3f4tjrv>
- Fisher, K. (2005). Research into identifying effective learning environments. *Evaluating Quality in Educational Facilities*, 9, 159–167.
<https://tinyurl.com/bdcmy397>
- Franzen, J., Jermann, F., Ghisletta, P., Rudaz, S., Bondolfi, G., & Tran, N. T. (2021). Psychological distress and well-being among students of health disciplines: The importance of academic satisfaction. *International Journal of Environmental Research and Public Health*, 18(4), Article 2151.
<https://doi.org/10.3390/ijerph18042151>
- Ginsburg, M. B. (2010). Improving educational quality through active-learning pedagogies: A comparison of five case studies. *Educational Research*, 1(3), 62–74.
<https://tinyurl.com/5adxyxjv>
- Hendry, G., Wilson, C., & Gilmour, E. (2022). ‘If I do well I feel on top of the world’: Investigating the impact of psychology students’ academic achievement on self-esteem. *Psychology Teaching Review*, 28(1), 47–58.
<https://doi.org/10.53841/bpsptr.2022.28.1.47>
- Krause, K.-L., & Coates, H. (2008). Students’ engagement in first-year university. *Assessment & Evaluation in Higher Education*, 33(5), 493–505.
<https://doi.org/10.1080/02602930701698892>
- Kuh, G. D. (2016). Making learning meaningful: Engaging students in ways that matter to them. *New Directions for Teaching & Learning*, 145, 49–56.
<https://doi.org/10.1002/tl.20174>
- Lera, M.-J., Leon-Perez, J. M., & Ruiz-Zorrilla, P. (2023). Effective educational practices and students’ well-being: The mediating role of students’ self-efficacy. *Current Psychology*, 42, 22137–22147.
<https://doi.org/10.1007/s12144-022-03266-w>
- Lin, C.-P., & Tsai, Y. H. (2008). Modeling educational quality and student loyalty: A quantitative approach based on the theory of information cascades. *Quality & Quantity*, 42(3), 397–415.
<https://doi.org/10.1007/s11135-006-9051-5>
- Lizzio, A., Wilson, K., & Simons, R. (2002). University students’ perceptions of the learning environment and academic outcomes: Implications for theory and practice. *Studies in Higher Education*, 27(1), 27–52.
<https://doi.org/10.1080/03075070120099359>
- Lombardi, E., Traficante, D., Bettoni, R., Offredi, I., Giorgetti, M., & Vernice, M. (2019). The impact of school climate on well-being experience and school engagement: A study with high-school students. *Frontiers in Psychology*, 10, Article 2482.
<https://doi.org/10.3389/fpsyg.2019.02482>
- Madani, R. A. (2019). Analysis of educational quality, a goal of education for all policy. *Higher Education Studies*, 9(1), 100–109.
<https://doi.org/10.5539/hes.v9n1p100>
- Morales-Rodríguez, F. M., Espigares-López, I., Brown, T., & Pérez-Mármol, J. M. (2020). The relationship between psychological well-being and psychosocial factors in university students. *International Journal of Environmental Research and Public Health*, 17(13), Article 4778.
<https://doi.org/10.3390/ijerph17134778>

- Murray-Harvey, R. (2010). Relationship influences on students' academic achievement, psychological health and well-being at school. *Educational & Child Psychology*, 27(1), 104–115.
<https://tinyurl.com/226j2bbp>
- Mustafa, M. B., Rani, N. H. M., Bistaman, M. N., Salim, S. S. S., Ahmad, A., Zakaria, N. H., & Safian, N. A. A. (2020). The relationship between psychological well-being and university students academic achievement. *International Journal of Academic Research in Business and Social Sciences*, 10(7), 518–525.
<https://doi.org/10.6007/IJARBS/v10-i7/7454>
- Mwiya, B., Bwalya, J., Siachinji, B., Sikombe, S., Chanda, H., & Chawala, M. (2017). Higher education quality and student satisfaction nexus: Evidence from Zambia. *Creative Education*, 8(7), 1044–1068.
<https://doi.org/10.4236/ce.2017.87076>
- Noaman, A. Y., Ragab, A. H. M., Madbouly, A. I., Khedra, A. M., & Fayoumi, A. G. (2017). Higher education quality assessment model: Towards achieving educational quality standard. *Studies in Higher Education*, 42(1), 23–46.
<https://doi.org/10.1080/03075079.2015.1034262>
- Núñez, J. L., & León, J. (2015). Autonomy support in the classroom. *European Psychologist*, 20(4), 275–283.
<https://doi.org/10.1027/1016-9040/a000234>
- Pan, Z., Wang, Y., & Derakhshan, A. (2023). Unpacking Chinese EFL students' academic engagement and psychological well-being: The roles of language teachers' affective scaffolding. *Journal of Psycholinguistic Research*, 52, 1799–1819.
<https://doi.org/10.1007/s10936-023-09974-z>
- Pietarinen, J., Soini, T., & Pyhältö, K. (2014). Students' emotional and cognitive engagement as the determinants of well-being and achievement in school. *International Journal of Educational Research*, 67, 40–51.
<https://doi.org/10.1016/j.ijer.2014.05.001>
- Powell, W., & Kusuma-Powell, O. (2011). *How to teach now: Five keys to personalized learning in the global classroom*. ASCD.
- Ramsden, P. (1991). A performance indicator of teaching quality in higher education: The Course Experience Questionnaire. *Studies in Higher Education*, 16(2), 129–150.
<https://doi.org/10.1080/03075079112331382944>
- Rehman, A. U., Bhuttah, T. M., & You, X. (2020). Linking burnout to psychological well-being: The mediating role of social support and learning motivation. *Psychology Research and Behavior Management*, 13, 545–554.
<https://doi.org/10.2147/PRBM.S250961>
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66(4), 701–716.
<https://doi.org/10.1177/0013164405282471>
- Turashvili, T., & Japaridze, M. (2012). Psychological well-being and its relation to academic performance of students in Georgian context. *Problems of Education in the 21st Century*, 49, 73–80.
<https://doi.org/10.33225/pec/12.49.73>
- Venton, B. J., & Pompano, R. R. (2021). Strategies for enhancing remote student engagement through active learning. *Analytical & Bioanalytical Chemistry*, 413, 1507–1512.
<https://doi.org/10.1007/s00216-021-03159-0>
- Wang, J., Tigelaar, D. E. H., Luo, J., & Admiraal, W. (2022). Teacher beliefs, classroom process quality, and student engagement in the smart classroom learning environment: A multilevel analysis. *Computers & Education*, 183, Article 104501.
<https://doi.org/10.1016/j.compedu.2022.104501>



Wang, M.-T., Willet, J. B., & Eccles, J. S. (2011). The assessment of school engagement: Examining dimensionality and measurement invariance by gender and race/ethnicity. *Journal of School Psychology, 49*(4), 465–480.
<https://doi.org/10.1016/j.jsp.2011.04.001>

Wong, Z. Y., Liem, G. A. D., Chan, M., & Datu, J. A. D. (2024). Student engagement and its association with academic achievement and subjective well-being: A systematic review and meta-analysis. *Journal of Educational Psychology, 116*(1), 48–75.
<https://doi.org/10.1037/edu0000833>

World Health Organization. (1998). *Wellbeing measures in primary health care/the DepCare project: Report on a WHO meeting, Stockholm, Sweden, 12–13 February 1998*. World Health Organization Regional Office for Europe.
<https://tinyurl.com/445zhvkm>

Zhao, Y., & Ko, J. (2020). How do teaching quality and pedagogical practice enhance vocational student engagement? A mixed-method classroom observation approach. *International Journal of Educational Management, 34*(6), 987–1000.
<https://doi.org/10.1108/IJEM-11-2019-0393>