Asosiasi Asesmen Pendidikan (AAP)
Address: Bumi Mutiara Serang, Cluster Symphony, Blok C2 No.18 Serang – Banten, 42122 – Indonesia.
☎ +62 85312898866; jurnal@aapbk.org

Journal of Counseling and Educational Research

ISSN 3063-9786 (Electronic)
Editor: Rima Pratiwi Fadli

Publication details, including author guidelines
URL: https://journal.aapbk.org/index.php/jcerch/about/submissions#authorGuidelines

Exploring Gender Based Differences in Resilience Among Indonesian University Students Through Rasch Model

Maria Oktasari[1], Hayu Stevani[1], Herul Wahyudin[1], Fijriani[2], Restu Dwi Ariyanto[3], Leung Hoi-Young[4]
[1]Universitas Negeri Malang, Indonesia
[2]Universitas Indraprasta PGRI, Jakarta, Indonesia
[3]Universitas Negeri Surabaya, Indonesia
[4]BNU-HKBU United International College, Guangdong Province, China

Article History
Received : 17 November 2025
Revised : 26 December 2025
Accepted : 27 December 2025

How to cite this article (APA 6th)
Oktasari, M., Stevani, H., Wahyudin, H., Fijriani, F., Ariyanto, R. D., & Hoi-Young, L. (2025). Exploring Gender Based Differences in Resilience Among Indonesian University Students Through Rasch Model. *Journal of Counseling and Educational Research, 2*(2), 89–98. DOI: 10.63203/jcerch.v2i2.414

The readers can link to article via https://doi.org/10.63203/jcerch.v2i2.414

Correspondence regarding this article should be addressed to:
Maria Oktasari, Universitas Negeri Malang, Email: maria.oktasari.2201119@students.um.ac.id, Indonesia

The authors whose names are listed in this manuscript declared that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript. This statement is signed by all the authors to indicate agreement that the all information in this article is true and correct.

Journal of Counseling and Educational Research (2025), 2(2), 89-98
ISSN 3063-9786 (Electronic)
https://doi.org/10.63203/jcerch.v2i2.414

Original Article

Exploring Gender Based Differences in Resilience Among Indonesian University Students Through Rasch Model

Maria Oktasari[1], Hayu Stevani[1], Herul Wahyudin[1], Fijriani[2], Restu Dwi Ariyanto[3], Leung Hoi-Young[4]
[1]Universitas Negeri Malang, Indonesia
[2]Universitas Indraprasta PGRI, Jakarta, Indonesia
[3]Universitas Negeri Surabaya, Indonesia
[4]BNU-HKBU United International College, Guangdong Province, China

Abstract. Resilience is a crucial psychological construct that enables university students to navigate academic and social challenges effectively. Despite its significance, gender-based differences in resilience remain underexplored in the context of Indonesian higher education. This study aimed to identify differences in resilience between male and female students using a psychometric approach based on the Rasch Model. A total of 1046 students from public and private universities across 19 provinces in Indonesia participated in the study by completing a 20-item resilience scale tailored to academic settings. The Rasch analysis was used to assess item reliability, unidimensionality, and differential item functioning (DIF) across gender groups. The results indicated strong psychometric performance, with person reliability of 0.89 and item reliability of 0.99. The scale was confirmed to be unidimensional, and item difficulty ranged from −0.99 to 1.33 logits. Although the raw scores of male and female students were similar, DIF analysis revealed a statistically significant difference in resilience levels ($F = 8.79$, $p = 0.003$), with male students scoring higher (mean logit = 2.16) than female students (mean logit = 1.86). These findings highlight the presence of gender-based differences in resilience and emphasize the need for culturally sensitive interventions tailored to the psychological needs of each gender in higher education settings. The Rasch Model proved to be a robust method for detecting subtle psychological variations in diverse student populations.

Keywords: Resilience; Gender; Rasch Model; University

Corresponding author: Maria Oktasari, Universitas Negeri Malang, Email: maria.oktasari.2201119@students.um.ac.id, Indonesia

Introduction

Resilience is a psychological quality that plays a crucial role in helping individuals face and adapt to life's various challenges (Brewer et al., 2020; Windle, 2011). In the context of higher education, resilience becomes especially important, as college students who are undergoing a transitional phase into adulthood often deal with a combination of academic demands, social pressures, and emotional stressors that can affect their psychological well-being and academic performance (Etherton et al., 2022; Stevenson & Wood, 2016). Resilience is defined as the ability to adapt, regulate stress, and continue functioning effectively despite adversity (Holdsworth et al., 2018; Masten, 2001; Ramezanpour et al., 2019). Within university settings,

resilience has been shown to support students in managing academic pressure, maintaining emotional balance, and achieving optimal academic outcomes (Chu et al., 2021; Dhovier & Maryam, 2023; Li & Hasson, 2020; Turner et al., 2017).

Although resilience is widely recognized as a key factor in student success, studies that examine how resilience differs across gender particularly within the Indonesian higher education context are still limited. Prior research indicates that men and women often adopt different coping strategies when facing stress (Shukla & Shukla, 2023). Graves et al. (2021) found that male students are more likely to rely on problem-solving and emotional distancing, whereas female students tend to seek emotional support and demonstrate higher emotional awareness. These differing strategies may lead to variations in levels of resilience and influence how academic stress is experienced and managed across genders.

To explore such differences, this study employs the Rasch Model a modern psychometric approach that allows researchers to assess the validity and fairness of measurement tools by identifying differential item functioning (DIF) across subgroups (Bond et al., 2015; Bond & Fox, 2013). The Rasch model is particularly effective in detecting subtle bias in scale instruments and validating their use in diverse populations. In this study, the Rasch model is used not only to measure resilience but also to evaluate whether the instrument used fairly captures resilience levels across male and female students.

Despite growing literature on resilience, there remains a gap in understanding how gender-related factors contribute to student resilience in Indonesia. Most previous studies have not incorporated psychometric models that assess fairness or measurement bias, and fewer have examined resilience through a gender lens. This study aims to address these gaps by combining psychometric analysis with gender-focused inquiry.

The main objective of this study is to explore gender differences in student resilience among Indonesian university students using the Rasch Model. It seeks to determine how gender influences resilience levels, how coping patterns may vary, and whether the resilience scale used offers fair measurements for both groups. Through a survey involving 1046 students from public and private universities in Indonesia, this study aims to provide a stronger empirical basis for designing interventions that are responsive to gender-based needs and culturally grounded. The formulation of the problem in this study centers on how gender differences in student resilience can be revealed through Rasch-based measurement, and to what extent the Rasch model ensures fairness in such measurement. Additionally, it investigates whether the resilience instrument used is capable of detecting differences in resilience across genders in a psychometrically valid way. Findings from this study are expected to inform the development of more inclusive and targeted resilience building programs in higher education.

Method

Participants

This study involved 1046 students from various public and private universities in several provinces in Indonesia. Participants were recruited using convenience sampling techniques, taking into account the affordability of access and respondents' willingness to participate in online surveys. Of the total respondents, 866 students were female and 180 were male students. The gender proportion inequality in this sample reflects the actual composition of students in several study programs in Indonesian higher education, which are generally dominated by female students. In the context of Rasch's analysis, the difference in group size is not a major obstacle because this model is sample-independent and is able to conduct fair cross-group comparisons through differential item functioning (DIF) analysis (Bond et al., 2015). Thus, even though the size of the group is unbalanced, the Rasch Model still allows for a valid and unbiased evaluation of differences in resilience between genders. Previous research using Rasch modeling and DIF analysis has successfully examined item functioning across gender groups in

large sample sizes, even when gender representation was not balanced (Erawati et al., 2025; Hayat et al., 2023).

Ethical Considerations

This research has obtained ethical approval from the research ethics committee of the relevant institution, and all participants give informed consent before filling out the questionnaire. Participation is voluntary, and the confidentiality of respondents' data is fully guaranteed in accordance with the principles of research ethics

Materials and Apparatus

The measurement tool used in this study is the resilience scale in universities (Turner et al., 2017), which is designed specifically for students with a total of 20 items. All items were rated using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), where higher scores indicate higher levels of resilience. Prior to data collection, participants were provided with information regarding the purpose of the study, voluntary participation, and data confidentiality, and informed consent was obtained electronically. Data were collected online using Google Forms and subsequently prepared for Rasch analysis. Responses were coded numerically (1–5) and analyzed using the Rasch Rating Scale Model.

The analysis process involved several steps: (1) examining item and person reliability to assess measurement consistency, (2) testing unidimensionality to confirm that the instrument measures a single underlying resilience construct, and (3) evaluating item difficulty estimates to determine the instrument's ability to differentiate students' resilience levels. In addition, Differential Item Functioning (DIF) analysis was conducted to examine measurement fairness across gender groups. The resulting logit scores generated from the Rasch model were used for subsequent statistical comparisons between male and female students, as these scores provide interval-level measurement and offer a more accurate representation of resilience differences than raw Likert scores.

Data Analysis

The purpose of resilience at university scale to evaluate the level of student resilience. This study uses a Likert scale which has alternative answers consisting of 5 ranging from strongly agree to strongly disagree. The testing process begins with an overall fit test that is carried out to determine the extent to which the data meets the rasch model's criteria. In this stage, the main indicators used are the infit and outfit values of MNSQ. Ideal MNSQ values range from 0.5 to 1.5; values below 1 indicate high consistency, while values above 1 indicate variation in response. Furthermore, the reliability and stability of measurements as well as the ability of items in the resilience at university scale to distinguish the level of resilience were measured using internal consistency and separation index. Good reliability is indicated by internal consistency above 0.70. Meanwhile, a logit value of more than 1.5 is an acceptable indicator of individual separation index.

In addition, unidimensionality testing is performed to ensure that the instrument measures only one key attribute, which is resilience. Validation is carried out through Principal Component Analysis (PCA) of the residuals, to see if the described variant is dominated by one main dimension. The ideal value is > 40%. Finally, a Differential Item Functioning (DIF) analysis was carried out. DIF is part of Rasch's analysis that is used to see if an item functions differently in a particular group of respondents, such as by gender. This analysis is important to ensure measurement fairness and avoid interpretation bias due to differences in item function (Linacre, 2016). The entire analysis process uses winstep version 5.1.5 (Linacre, 2016; Linacre & Wright, 2000)

Results and Discussions

Testing Theoretical Construction Research Instruments

The evaluation of the instrument began with the psychometric analysis of the 20-item resilience scale, originally developed for university students by Turner et al., (2017, 2022). As shown in Table 2, the person reliability was 0.89 and item reliability was 0.99, indicating strong internal consistency and excellent ability of the scale to differentiate students with varying resilience levels (Bond & Fox, 2007; Sumintono dan Widhiarso, 2014).The separation indices for persons and items were also high (2.89 and 12.61, respectively), suggesting a wide distribution of resilience traits among students and item difficulty levels.

Table 1. Summary Statistics of Items and People (I=20 N=1046)

	Reliability	Separation Index	Cronbach alpha
People	0.89	2.89	0.90
Item	0.99	12.61	

*) Measure in Logit.

The high Cronbach's alpha (0.90) confirms the excellent reliability of the scale. These values reflect the instrument's stability and precision in capturing individual differences in resilience within the university context. To further assess construct validity and unidimensionality, Table 3 presents standardized residual variance. The proportion of variance explained by the main resilience construct was 40.5%, nearly identical to the expected value of 40.4%. The unexplained variance in the first to fifth contrasts ranged between 3.7% and 5.5%, indicating the absence of significant multidimensionality and confirming that the instrument captures a single dominant construct (Linacre, 2022).

Table 2. Standardised Residual Variance

	Observed	Expected
Raw variance explained by the measure	40.5 %	40.4%
Unexplained variance in 1st contrast	5.5%	9.3%
Unexplained variance in 2nd contrast	5.0%	8.4%
Unexplained variance in 3rd contrast	4.9%	8.2%
Unexplained variance in 4th contrast	4.1%	6.8%
Unexplained variance in 5th contrasts	3.7%	6.2%

The values indicate that the residual variance is well within acceptable thresholds, suggesting the scale is unidimensional and measures a coherent construct across respondents. Furthermore, Table 3 displays the category functioning of the Likert-scale responses. All infit and outfit values were within the acceptable range (0.94–1.01), indicating that response categories functioned appropriately and that students utilized all options in a meaningful way (Bond & Fox, 2007, 2013; Sumintono dan Widhiarso, 2014)

Table 3. Item threshold and response format fit index (I = 20, N = 1046)

Category	Andrich threshold	Observed average	Number Observed (%)	Infit	Clothing
Strongly Disagree	None	-0.92	0	0.94	0.94
Disagree	-4.14	0.13	54	1.00	1.00
Neutral	-1.29	1.10	34	1.01	1.01
Agreed.	1.26	2.18	48	0.98	0.98
Strongly Agree	4.17	3.68	13	1.01	1.01

The distribution of Andrich thresholds shows a logical progression across categories, and no threshold disordering was detected. The scale categories thus performed effectively, supporting response validity. Furthermore, to assess the extent to which the items maintained in the Resilience at University Scale are in accordance with the level of student resilience, an analysis was carried out using the Wright Map (figure 1) based on the Rasch Model. This map visualizes the distribution of individual abilities and the difficulty level of an item on the same logit scale, allowing evaluation of measurement accuracy and scope.

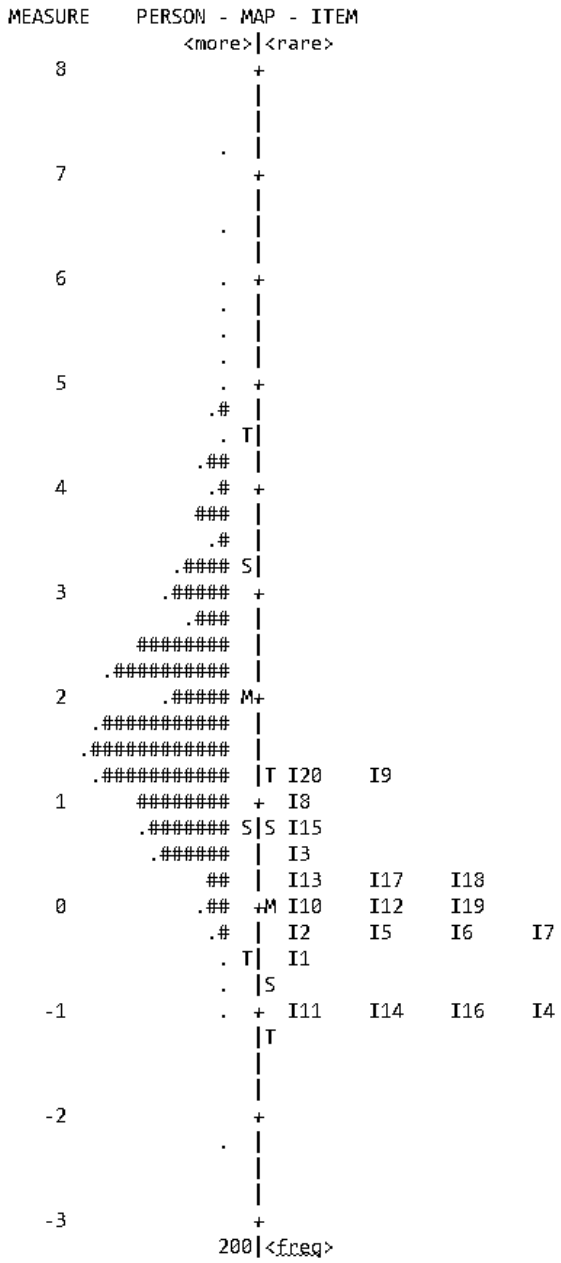

Figure 1. Item-Person Wright Map

https://doi.org/10.63203/jcerch.v2i2.414

The results of the analysis showed that the distribution of students' abilities tended to be concentrated between +1 to +3 logits, which represented a moderate to high level of resilience. Most respondents were above the item average (0.0 logit), indicating that the instrument was able to measure groups with fairly good resilience. On the other hand, the distribution of items is in the range of around –2.0 to +2.0 logits. Some high-difficulty items, such as I20 and I9, are located above +1 logit, while easier items such as I4, I11, and I14 are below 0.0 logits. Overall, the Wright Map shows that the 20 items analyzed have a distribution of difficulty levels that are quite proportional to the distribution of respondents' abilities. This shows that the instrument has good coverage, and is able to accurately distinguish the level of student resilience. However, there are not many items that measure groups with very high resilience (above +3 logits), so in future development the addition of items with a higher level of difficulty can be considered.

Student Resilience from a Gender Perspective

This section presents the item-level analysis of the resilience instrument and the comparisons of male and female students. Table 4 reveals item difficulty (measured in logits) ranked from highest to lowest. The most difficult item was: "Nothing related to my university studies ever really 'fazes me' for long" (1.33 logits), suggesting that the ability to remain composed under academic pressure is a defining trait of highly resilient students. Conversely, the easiest item was "I am careful to ensure that my university studies do not dominate my personal life" (-0.99 logits), indicating that maintaining life balance was relatively common among respondents.

Table 4. Item Measurement Summary (I=20, N=1046)

No Item	Item Statement	Measuring
9	Nothing related to my university studies ever really "fazes me" for long	1.33
20	I have a strong and reliable network of supportive students at university	1.18
8	When things go wrong with my university studies, they do not overshadow the other parts of my life	0.94
15	I often ask for feedback so that I can improve my university performance.	0.83
3	I know my personal strengths and I use them regularly during my university studies	0.45
17	I have a good level of physical fitness	0.32
13	I have developed some reliable ways to deal with the personal stress of challenging events associated with my studies.	0.25
18	I am careful about eating well and healthily.	0.14
10	Negative people at university do not pull me down.	0.09
19	I have friends at university whom I can rely on to support me when I need it.	-0.10
12	I have developed some reliable ways to relax when I am under pressure with my university studies.	-0.11
2	I am able to change my mood at university when I need to.	-0.16
5	My university is somewhere where I feel that I belong.	-0.18
7	Generally, I appreciate what I have in my university environment.	-0.21
6	The university studies that I do fits well with my personal values and beliefs	-0.30
1	I have important core values that I hold fast to in my university life.	-0.62
11	I make sure I take breaks to maintain my strength and energy when I am studying hard.	-0.93
4	The university studies that I do helps to fulfill my sense of purpose in life.	-0.95
16	I believe in giving help to my fellow students, as well as asking for it.	-0.98
14	I am careful to ensure that my university studies do not dominate my personal life.	-0.99

Items with positive logit values were more likely to be endorsed by students with higher resilience, while items with negative values reflected more universally endorsed behaviors. These patterns demonstrate the scale's discriminative capability in identifying varying resilience levels.

Table 5. Measurement Sequence of Male and Female Students (I=20, N=1046)

Male			Female		
Person	Total Score	Measure	Person	Total Score	Measure
325	96	5.74	1261	99	7.34
1818	95	5.44	1492	99	7.34
924	94	5.18	1926	99	7.34
1654	94	4.95	529	98	6.57
591	93	4.95	1450	97	6.10
639	59	-0.15	1729	54	-0.80
111	58	-0.28	459	53	-0.94
218	58	-0.28	1206	53	-0.94
1487	56	-0,54	1172	52	-1.07
1916	55	-0.67	1115	44	-2.17

An analysis of person scores by gender highlights notable differences. Table 6 shows that female students (N = 866) had a mean measure of 1.86, while male students (N = 180) had a higher mean measure of 2.16. Although raw scores were nearly identical (73.5 for females and 73.6 for males), the Rasch model adjusted measures indicated that male students showed slightly higher levels of resilience. The difference was statistically significant, as evidenced by the F-test value of 8.79 with a p-value of 0.003.

Tabel 6. Subtotal Male and Female Students (I=20, N= 1046)

Gender	Person Count	Mean Score	Mean Measure	Model Separation	Model Reability	True SD	F-test	Prob>F
Female	866	73.5	1.86	0.04	0.90	1.25	8.79	0.003
Male	180	73.6	2.16	0.09	0.90	1.24		

These results are in line with several previous findings that suggest that men tend to rely more on problem-based approaches and emotional control to cope with academic stress, while women are often more reliant on social support and emotional skills (Guszkowska et al., 2016; Theodoratou et al., 2023). Although women tend to have an advantage in terms of empathy and social support, in stressful academic contexts, problem solving based strategies more commonly used by men may be more effective in dealing with greater difficulties and are more durable (Gil, 2024; Graves et al., 2021). Consequently, while women may exhibit stronger emotional resilience, men may appear more resilient when confronting academic pressures that require direct problem resolution.

This pattern reflects broader differences in how male and female students interact with academic challenges. Students with higher resilience, particularly among men, tend to recover more quickly from academic setbacks or stress. In contrast, female students, despite strong emotional coping capacities, may experience greater difficulty maintaining balance between academic demands and personal responsibilities. Such differences align with conceptualizations of resilience as a dynamic process shaped by interactions between individuals and their social environments (Masten, 2001; Sarwar et al., 2010). Cultural norms, social expectations, and educational contexts may therefore influence how resilience is expressed and mobilized across genders (Li et al., 2015).

In line with these theoretical perspectives, the findings of the present study indicate that male students demonstrated slightly higher resilience levels than female students when assessed using Rasch-based logit measures. This difference should be interpreted within the Indonesian socio-cultural context, where gender socialization continues to shape responses to academic

stress. Male students are often encouraged to develop independence, emotional restraint, and task-focused coping, which may foster persistence in academic challenges. Conversely, female students frequently navigate multiple role expectations academic, relational, and familial which may intensify psychological demands despite their strong emotional and social competencies.

Importantly, although the difference in resilience between male and female students was statistically significant ($F = 8.79$; $p = 0.003$). This indicates that the observed difference, while reliable from a statistical standpoint, is moderate in terms of practical significance. Given the large sample size, it is essential to distinguish statistical sensitivity from meaningful differences in students' everyday academic functioning. The use of the Rasch model in this study enables such nuanced interpretation by providing interval-level measurement and detecting subtle variations that may be obscured in raw score analyses. Accordingly, the findings suggest that resilience-building initiatives in higher education should avoid rigid gender-based differentiation. Instead, interventions should emphasize the development of adaptive coping strategies that accommodate diverse student experiences, thereby supporting inclusive and culturally responsive approaches to resilience development.

Conclusions

The study found a difference in resilience levels between male and female students based on the Rasch Model measurements, where male students showed slightly higher levels of resilience than female students even though the raw scores of the two were relatively similar. These findings confirm that differences in resilience not only reflect individual capacity, but are also influenced by coping strategies, academic demands, and the socio-cultural context of higher education in Indonesia. Although the difference is statistically significant, the magnitude of the difference is moderate in terms of practical significance, so it needs to be interpreted carefully. Methodologically, the use of the Rasch Model has proven to be effective in producing precise and equitable cross-gender measurements through DIF analysis. Therefore, the development of resilience strengthening programs in higher education is recommended not to be based on rigid gender differentiation, but on strengthening adaptive coping strategies that are responsive to the diversity of student experiences in the context of Indonesian culture.

References

Bond, T. G., & Fox, C. M. (2007). *Applying the Rasch model: Fundamental measurement in the human sciences* (2nd ed). Psychology Press.

Bond, T. G., & Fox, C. M. (2013). *Applying the Rasch model: Fundamental measurement in the human sciences*. Psychology Press.

Bond, T., Yan, Z., & Heene, M. (2015). *Applying the Rasch model: Fundamental measurement in the human sciences*. Routledge.

Brewer, J. F., O'Connell, J. K., Drennen, A. N., & ... (2020). Role of Resilience and Stress in Academic Success for PT, OT, and SLP Graduate Students. In *2020 Combined …*. apta.confex.com. https://apta.confex.com/apta/csm2020/meetingapp.cgi/Paper/22553

Chu, M. L., Creed, P. A., & Conlon, E. G. (2021). Work–Study Boundary Congruence, Contextual Supports, and Proactivity in University Students Who Work: A Moderated-Mediation Model. *Journal of Career Development*, *48*(2), 166–181. https://doi.org/10.1177/0894845319830253

Dhovier, I., & Maryam, E. W. (2023). Resilience in Student Workers. *UMSIDA*, 1–8.

Erawati, E., Hidayah, N., Eva, N., Indreswari, H., Abd Hamid, H. S., & Oktasari, M. (2025). Adaptation of the ARS-30 Academic Resilience Scale for Indonesian Junior High School Students Utilizing the Rasch Model. *Psychology Hub*, *42*(2), 79–92.

Etherton, K., Steele-Johnson, D., Salvano, K., & Kovacs, N. (2022). Resilience effects on student performance and well-being: the role of self-efficacy, self-set goals, and anxiety. *Journal of General Psychology*, *149*(3), 279–298. https://doi.org/10.1080/00221309.2020.1835800

Gil, S. V. (2024). The Influence of Gender on Academic Performance and Psychological Resilience, and the Relationship Between Both: Understanding the Differences Through Gender Stereotypes. *Trends in Psychology*. https://doi.org/10.1007/s43076-024-00370-7

Graves, B. S., Hall, M. E., Dias-Karch, C., Haischer, M. H., & Apter, C. (2021). Gender differences in perceived stress and coping among college students. *PLoS ONE*, *16*(8 August), 1–12. https://doi.org/10.1371/journal.pone.0255634

Guszkowska, M., Zagórska-Pachucka, A., Kuk, A., & Skwarek, K. (2016). Gender as a factor in differentiating strategies of coping with stress used by physical education students. *Health Psychology Report*, *4*(3), 237–245. https://doi.org/10.5114/hpr.2016.57681

Hayat, B., Dwirifqi, M., Putra, K., & Isa, K. (2023). *Rasch Calibration and Differential Item Functioning (DIF) Analysis of the Indonesian National Assessment Program-Language (INAP-L)*. *13*(6). https://doi.org/10.5430/wjel.v13n6p402

Holdsworth, S., Turner, M., & Scott-Young, C. M. (2018) Not drowning, waving. Resilience and university: a student perspective. *Studies in Higher Education*, *43*(11), 1837–1853. https://doi.org/10.1080/03075079.2017.1284193

Li, H., Martin, A. J., & Yeung, W.-J. J. (2015). Academic risk and academic resilience: individual, contextual and cultural influences on the educational development of Asian children. *Educational Psychology*, *35*(8), 1025–1026. https://doi.org/10.1080/01443410.2015.1102384

Li, Z. S., & Hasson, F. (2020). Resilience, stress, and psychological well-being in nursing students: A systematic review. *Nurse Education Today*. https://www.sciencedirect.com/science/article/pii/S0260691719317186

Linacre, J. M. (2016). A user's guide to WINSTEPS® MINISTEP: Rasch-model computer programs. *(No Title)*, 719.

Linacre, J. M. (2022). R Statistics: survey and review of packages for the estimation of Rasch models. *International Journal of Medical Education*, *13*, 171.

Linacre, J. M., & Wright, B. D. (2000). Winsteps. *URL: Http://Www. Winsteps. Com/Index. Htm [Accessed 2013-06-27][WebCite Cache]*.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, *56*(3), 227.

Ramezanpour, A., Kouroshnia, M., Mehryar, A., & Javidi, H. (2019). *Psychometric Evaluation of the Academic Resilience Scale (ARS-30) in Iran. Iranian Evolutionary and Educational Psychology Journal, 1 (3), 144-150*.

Sarwar, M., Inamullah, H., Khan, N., & Anwar, N. (2010). Resilience And Academic Achievement of Male and Female Secondary Level Students in Pakistan. *Journal of College Teaching & Learning (TLC)*, *7*(8), 19–24. https://doi.org/10.19030/tlc.v7i8.140

Shalaby, Y. M., & Elkasaby, W. H. (2023). Direct and Indirect Effects of Academic Stress, Coping Strategies, Academic Self-Motivation, on Adaptation among University Students. *Migration Letters*, *21*(S1), 100–118. https://doi.org/10.59670/ml.v21is1.5983

Shindi, Y. A., Alkharusi, H., Shebani, Z., Kazem, A., & Alsoudi, S. (2024). *Rasch Analysis and Differential Item Functioning of the Time Management Questionnaire among University Students*. *3576*, 560–579.

Shukla, N., & Shukla, A. (2023). Gender Variations in Coping Strategies for Challenges Faced by University Students. *Mind and Society*, *12*(02), 65–72. https://doi.org/10.56011/mind-mri-122-20238

Stevenson, J., & Wood, R. (2016). *Promoting students' 'resilient thinking' in diverse higher education learning environments Literature review Project lead: Viv Caruana Project team: Viv Caruana, Sue Clegg, Joseph Ploner,. July 2011*. https://doi.org/10.13140/RG.2.1.1834.1361

Sumintono dan Widhiarso. (2014). *Aplikasi Model Rasch Untuk Penelitian Ilmu - Ilmu Sosial* (Revisi). Tim Komunikata Publishing House.

Theodoratou, M., Farmakopoulou, I., Kougioumtzis, G., Kaltsouda, A., Siouti, Z., Sofologi, M., Gkintoni, E., & Tsitsas, G. (2023). Emotion-focused coping, social support and active coping among University students: gender differences. *Journal of Psychology & Clinical Psychiatry*, *14*(1), 5–9. https://doi.org/10.15406/jpcpy.2023.14.00720

Turner, M., Bowen, P., Hayes, P., & Ryan, J. (2022). Psychometric and conceptual analysis of the resilience at university scale. *Current Psychology*, *41*(8), 5220–5235. https://doi.org/10.1007/s12144-020-00995-8

Turner, M., Holdsworth, S., & Scott-Young, C. M. (2017). Resilience at University: the development and testing of a new measure. *Higher Education Research and Development*, *36*(2), 386–400. https://doi.org/10.1080/07294360.2016.1185398

Windle, G. (2011). What is resilience? A review and concept analysis. *Reviews in Clinical Gerontology*, *21*(2), 152.