

## Context

NBOME transitioned COMLEX-USA Level 1 (Level 1) score reporting from a numeric score with a pass/fail result to a pass/fail result only, starting from 2022-2023 testing cycle in May 2022. Although this change applies to the Level 1 exam, its influence may also extend to COMLEX-USA Level 2-CE (Level 2-CE), which remains the only scored exam in COMLEX series during DO students' residency application.

## Objective

The purpose of this study is to explore the changes of student-reported stress and time dedicated to preparing for Level 1 and Level 2-CE, as well as the relationship between these changes and students' test performance.

**Table 1.** Frequency of Students' Responses on Stress Levels

N (%)	Agree on Increased Stress in L2 Prep	N/D on Increased Stress in L2 Prep	Total
Agree on Reduced Stress in L1 Prep	2344 <b>(42%)</b>	983 <b>(18%)</b>	3,327 (60%)
N/D on Reduced Stress in L1 Prep	1,660 <b>(30%)</b>	542 <b>(10%)</b>	2,202 (40%)
Total	4,004 (72%)	1,525 (28%)	5,529 (100%)

**Table 2.** Frequency of Students' Responses on Prep Time

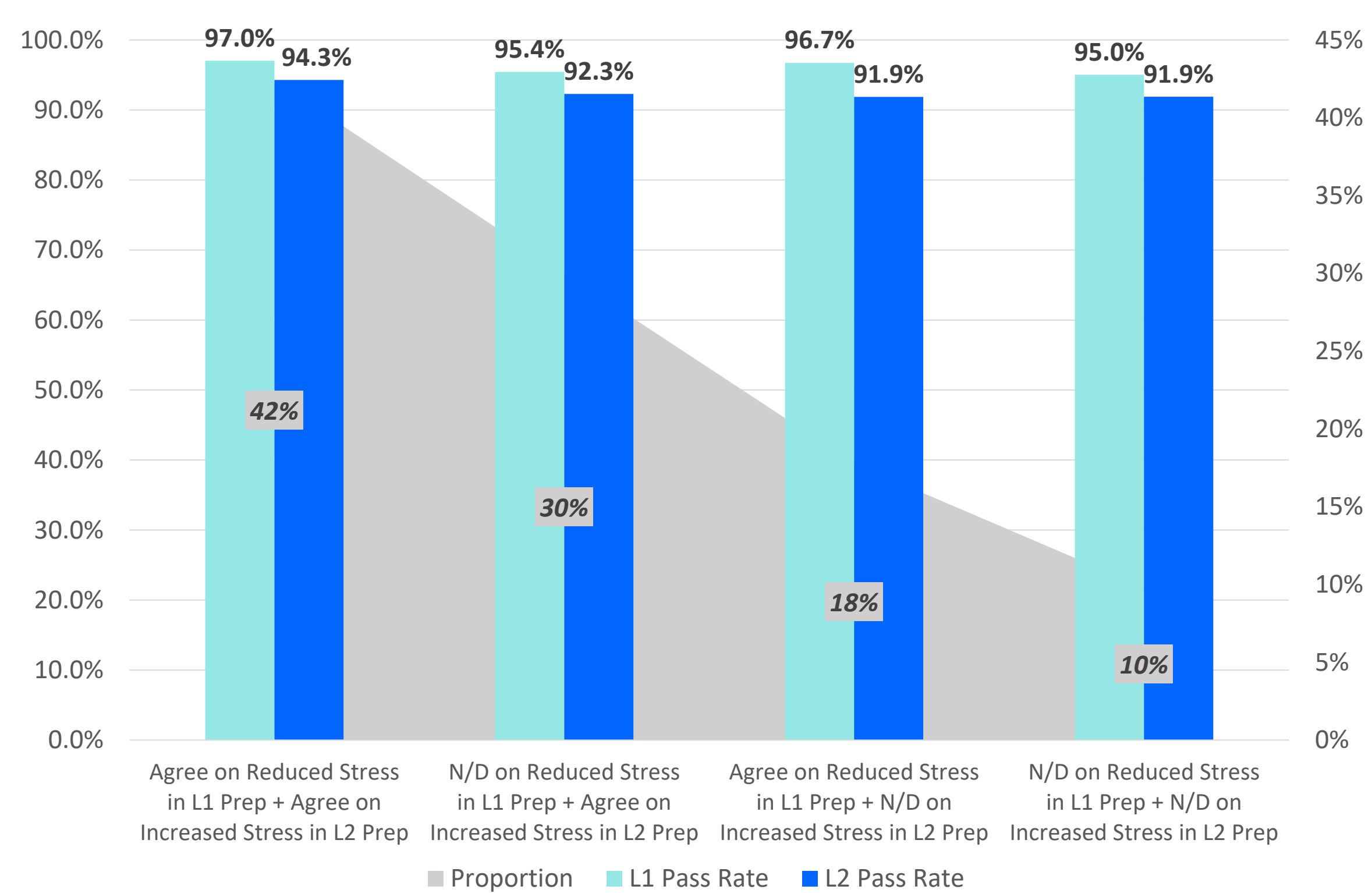
N (%)	More Time in L2 Prep	No Change in L2 Prep	Less Time in L2 Prep	Total
More Time in L1 Prep	598 <b>(11%)</b>	224 (4%)	7 (0%)	829 (15%)
No Change in L1 Prep	2,426 <b>(44%)</b>	1,713 <b>(31%)</b>	30 (1%)	4,169 (75%)
Less Time in L1 Prep	376 <b>(7%)</b>	145 (3%)	10 (0%)	531 (10%)
Total	3,400 (61%)	2,082 (38%)	47 (1%)	5,529 (100%)

\*L1 represents Level 1; L2 represents Level 2-CE; N/D represents Neutral or Disagree

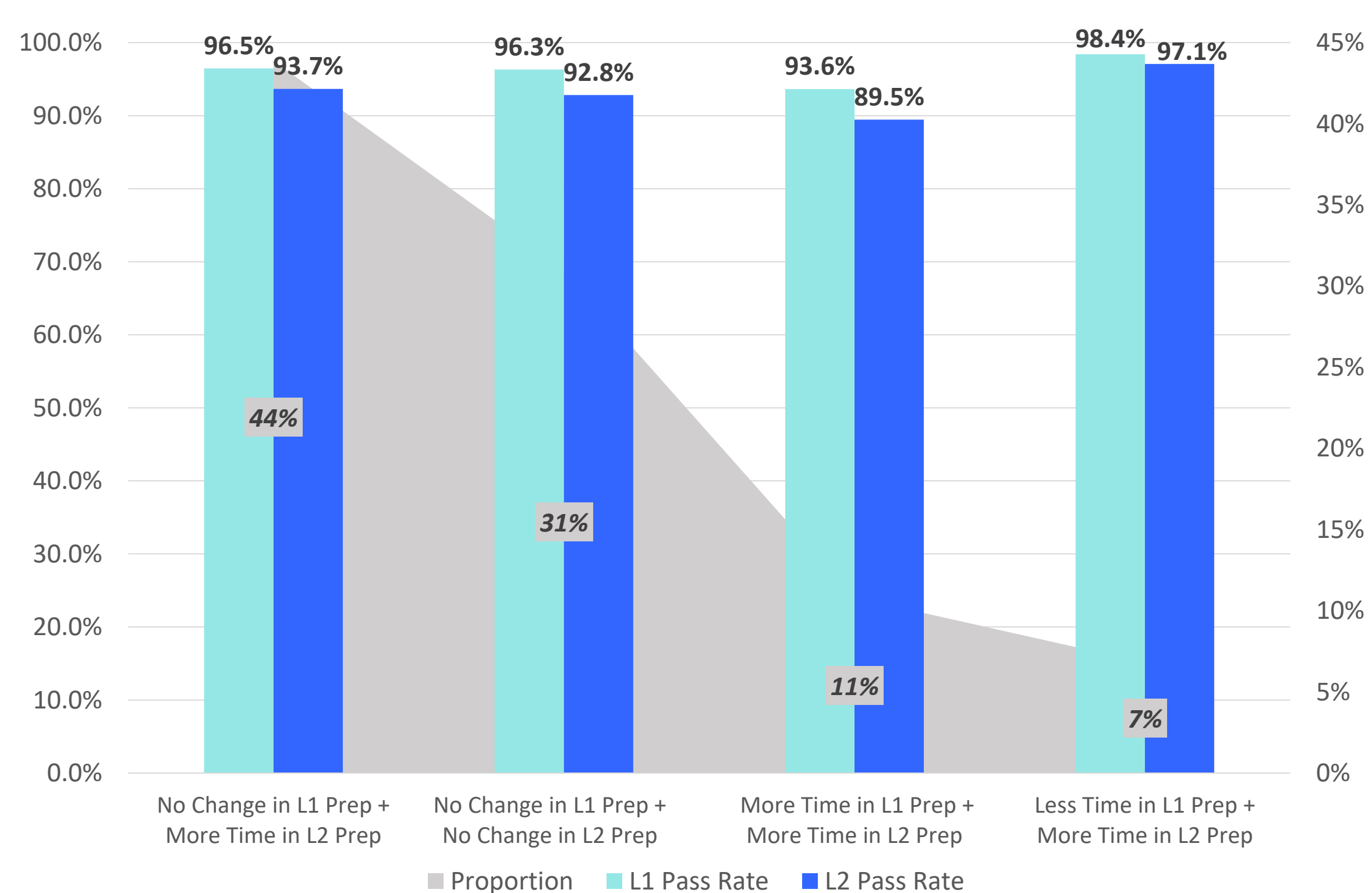
## Method

The study utilized end-of-exam survey responses and exam data from students who took Level 1 for the first time in 2023-2024 and Level 2-CE in 2024-2025. Among 8,356 students, 5,529 (66%) completed all survey questions on Level 1 pass/fail reporting and were included in the study. The analysis focused on three key outcomes:

- (1) student-reported changes in stress levels during Levels 1 and 2-CE preparation,
- (2) student-reported changes in preparation time for both exams,
- (3) the interactions between students' responses and test performance.



**Figure 1.** Students' Pass Rates by Responses on Stress Levels



**Figure 2.** Students' Pass Rates by Responses on Test Prep

## Results

### 1. Stress Levels (Table 1 and Figure 1)

- 60% of students reported reduced stress in L1 prep.
- 73% reported increased stress in L2 prep.
- all combinations:
  - reduced stress in L1 prep + increased stress in L2 prep (42%, with the highest L1 & L2 pass rates among a-d)
  - reduced stress in L1 prep + neutral or not increased stress in L2 prep (18%)
  - neutral or not reduced stress in L1 prep + increased stress in L2 prep (30%)
  - neutral or not reduced stress in L1 prep + neutral or not increased stress in L2 prep (10%, with the lowest L1 & L2 pass rates among a-d)

### 2. Prep Time (Table 2 and Figure 2)

- 75% of students reported no change in L1 prep.
- 61% reported more time in L2 prep.
- four most common combinations:
  - no change in L1 prep + more time in L2 prep (44%)
  - no change in L1 prep + no change in L2 prep (31%)
  - more time in L1 prep + more time in L2 prep (11%, with the lowest L1 & L2 pass rates among e-h)
  - less time in L1 prep + more time in L2 prep (7%, with the highest L1 & L2 pass rates among e-h)

## Conclusions

The transition to pass/fail score reporting for Level 1 impacted students' experience with both Levels 1 and 2-CE. While 60% of student respondents reported reduced stress during Level 1 preparation, 73% indicated increased stress for Level 2-CE. Additionally, although 75% reported no change in their Level 1 preparation time compared to how they would have prepared for the numerically scored Level 1 exam, 61% stated that they dedicated more time to preparing for Level 2-CE.

These findings suggest that the elimination of numeric score for Level 1 alleviated pressure on students to achieve a high score and may have shifted their focus to Level 2-CE, leading them to allocate additional preparation time to maximize their performance.

Furthermore, the results imply a relationship between students' perceived changes and their test performance. Those who reported reduced stress in Level 1 preparation but increased stress in Level 2-CE had higher pass rates on both tests compared to students who remained neutral or disagreed with these stress changes. Similarly, students who indicated less preparation time for Level 1 but more time to Level 2-CE achieved higher pass rates than those spent more times on both exams.

## Contact

Rong Jin  
NBOME  
Email: [RJin@nbome.org](mailto:RJin@nbome.org)  
Website: <https://www.nbome.org/>  
Phone: (773)724-3196

## References

- COMLEX-USA Level 1. <https://www.nbome.org/assessments/comlex-usa/comlex-usa-level-1/>. Accessed March 15, 2025.
- COMLEX-USA Level 2-CE. <https://www.nbome.org/assessments/comlex-usa/level-2-ce/>. Accessed March 15, 2025.
- National Board of Osteopathic Medical Examiners (NBOME). COMLEX-USA Level 1 to eliminate numeric scores. NBOME website; 2022. <https://www.nbome.org/news/comlex-usa-level-1-to-eliminate-numeric-scores/>. Accessed March 15, 2025.
- Twardowski DA, Montemayor J, Payton M, Waller J. Impact of the USMLE Step 1 and COMLEX Level 1 transition to Pass/Fail on osteopathic medical student stress levels and board preparation. *J Osteopath Med.* 2023;123(12):583-589. Published 2023 Sep 5. doi:10.1515/jom-2023-0045
- Baniadani K, Elkadi S, Towfigh R, Aminpour N, Sutarya R, Chen HC. The Impact on Medical Student Stress in Relation to a Change in USMLE Step 1 Examination Score Reporting to Pass/Fail. *Med Sci Educ.* 2023;33(2):401-407. Published 2023 Feb 27. doi:10.1007/s40670-023-01749-4
- Girard AO, Qiu C, Lake IV, Chen J, Lopez CD, Yang R. US Medical Student Perspectives on the Impact of a Pass/Fail USMLE Step 1. *J Surg Educ.* 2022;79(2):397-408. doi:10.1016/j.jsurg.2021.09.010
- Bloodgood RA, Short JG, Jackson JM, Martindale JR. A change to pass/fail grading in the first two years at one medical school results in improved psychological well-being. *Acad Med.* 2009;84(5):655-662. doi:10.1097/ACM.0b013e31819f6d78
- Reed DA, Shanafelt TD, Satele DW, et al. Relationship of pass/fail grading and curriculum structure with well-being among preclinical medical students: a multi-institutional study. *Acad Med.* 2011;86(11):1367-1373. doi:10.1097/ACM.0b013e3182305d81
- Spring L, Robillard D, Gehlbach L, Simas TA. Impact of pass/fail grading on medical students' well-being and academic outcomes. *Med Educ.* 2011;45(9):867-877. doi:10.1111/j.1365-2923.2011.03989.x