

Computer Competency, Test Anxiety, and Perceived Ease of Use Profile Exploration of High School Students during Computer-Based Testing

by Endah Mastuti

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Endah Mastuti & Seger Handoyo
Universitas Airlangga, Indonesia

The aim of this research was to identify profiles of computer competency, test anxiety, and perceived ease of use during computer-based testing (CBT) on students of two high schools which had recently implemented CBT. K-means cluster analysis was employed. The result identified three profiles out of 176 research participants, namely the incompetence-ignore group, the competence-calm group, and the incompetence-anxious group.

The implementation of Computer-Based Testing (CBT) in Indonesia has started in the last few years. Some of its applications include admission tests, final examinations, and mid-term examinations in universities, and computer-based national examination in schools. When computer-based testing is implemented widely in Indonesia, a digital divide should be taken into account, especially given that Indonesia consists of various regions, ethnic groups, cultures, and socio-economic statuses. Not all students have computers at home. This makes students differ in their readiness for taking CBT. According to empirical data obtained from an initial survey by Mastuti (2017), there are still some issues related to students' individual differences, attitudes, and perceptions about CBT. Therefore, this is a phenomenon of concern in the application of CBT for Indonesian students.

Current research focused on the grouping of students based on three individual difference aspects, computer competency, test anxiety, and perceived ease of use. We investigated differences in gender and major of study across groups resulting from the student profiling based on those three psychological variables mentioned above.

METHOD

We conducted a survey of high school students who had prior experience with CBT. Participants were 176 high school students from

Author info: Correspondence should be sent to: Endah Mastuti, S.Psi,M.Si.
Faculty of Psychology , Universitas Airlangga, Indonesia.
Email: endah.mastuti@psikologi.unair.ac.id
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two different schools which have implemented CBT for six to twelve months. Data collection was conducted by distributing these Indonesian translated measures: 1) *Computer Competency Survey* by Du (2004); 2) *Test Anxiety* scale, was based on the *Test Anxiety Inventory* (TAI) by Taylor and Diane (2002) in which the term "test" had been changed into CBT. 3) *Perceived Ease of Use* scale by Davis (1989).

RESULTS AND DISCUSSION

Based on cluster analysis using K-means method, the result showed that Cluster 1 consisted of 37 (21%) participants, Cluster 2 of 103 (58.5%) participants, and Cluster 3 of 36 (20.58%) participants. According to those three variables, Cluster 1 was labelled as the *incompetence-ignorance* group (low computer competency, low test anxiety, and perceived low ease of use), Cluster 2 as the *competence-calm* group (high computer competency, low level of test anxiety, and perceived high ease of use), and Cluster 3 as the *incompetence-anxious* group (low computer competency, high text anxiety, and perceived low ease of use). The differences across clusters were significant, in terms of computer competency ($F=112.24, p<.01$); in terms of test anxiety ($F=99.62, p<.01$), and in terms of perceived ease of use ($F=47.75, p<.01$). The incompetence-ignorance cluster consisted of 8.5% males and 12.5% females; 12.5% from social science, and 8.5% from natural science. The competence-calm cluster was comprised of 21.6% males and 36.9% females; 19.9% from social science and 38.5% from natural science. The incompetence-anxious cluster consisted of 7.4% males and 13.1% females; 6.3% students from social science and the remaining 1.2% from natural science.

The competence-calm group is an ideal profile. According to research by Du (2004), individuals with computer competency will be more likely to enjoy web-based distance learning and not to find difficulties with it (Du, 2004). According Lu et al (2016), Alkist (2010) showed that anxiety correlated inversely with behavioral intention to use web-based assessments. If an individual experiences high anxiety, they will have a low level of academic performance (Lu et al, 2016).

Gender-wise, the majority of female participants was included in the competence-calm group, followed by the incompetence-anxious and the incompetence-ignorance respectively. Among the male participants, the majority was categorized in the competence-calm group, followed by the incompetence-ignorance group. The incompetence-anxious group had the smallest number of male students. In terms of the majors, there are two concentrations in high school, natural science and social science. Both natural science and social science majors were predominantly found in the competence-calm group.

REFERENCES

- Alkist, N. (2010). Identifying factors that affect students' acceptance of Web-based assessment tools within the context of higher education. *Masters Dissertation*, Middle East Technical University.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance. *MIS Quarterly*, 13, 319–339. <https://doi.org/10.2307/249008>
- Du, Y. (2004). The relationship between students' computer competency and perception of enjoyment and difficulty level in Web-based distance learning. *Education Libraries*, 27(2), Winter 2004-2005.
- Lu, H., Hu, Y. P., Gao, J. J., & Kinshuk, K. (2016). The effects of computer self-efficacy, training satisfaction and test anxiety on attitude and performance in computerized adaptive testing. *Computers and Education*, 100, 45–55. <https://doi.org/10.1016/j.compedu.2016.04.012>
- Mastuti, E. (2017) Students' Individual Differences, Attitude, And Perception Toward CBT. Unpublished Manuscript in preparation.
- Taylor, J. E., & Deane, F. P. (2002) Development of a short form of the Test Anxiety Inventory (TAI). *The Journal of General Psychology*, 129(2), 127-136.

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