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# Development and Validation of a Serious-Game Based Literacy Assessment

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## **Development and Validation of a Serious-Game Based Literacy Assessment**

study aimed to develop and validate a set of three serious games on a large sample of French individuals benefiting from skills improvement programs (N = 5103). Results were analyzed with exploratory and confirmatory factor analysis for continuous indicators (i.e., response time, global scores), and with item response theory (i.e., correct and incorrect answer for each item). These analyses showed consistent model fit indices for the three games, as well as satisfactory item difficulty, item discrimination, item-total correlation, and option analysis indicators. Moreover, results showed that a composite response time and the number of correct answers z-score is appropriate to summarize individual performances. Overall, this study confirms the operational gains that can be obtained by the use of serious games in literacy assessment, particularly with most fragile publics. Specifically, these games are an ethical advantage considering the enhanced objectivity of counselor evaluations formerly subjectively conducted.

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Illiteracy is commonly an issue perceived as outdated. Yet, numerous organizations such as the OECD warn that many individuals are still lacking in several basic skills, including illiteracy. The use of serious games to assess the acquisition of these basic skills seems to be a promising assessment method (Serret et al., 2017, Browne et al., 2014). The present