

Online Learning Readiness, Student Engagement, and Retention Intention among Higher Education Students in Kuwait

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Abstract: ***Background:** Online learning outcomes may relate to students' preparedness and participation, but intention to continue is distinct from verified institutional retention. This study examined the associations among online learning readiness, student engagement, and retention intention among higher-education students in Kuwait. **Methods:** A quantitative cross-sectional questionnaire was administered online from 1-20 September 2026. The supplied dataset included 100 complete responses recruited through personal contacts and community WhatsApp groups. Readiness (20 items), engagement (24 items), and a broad continuation-related index (19 items) were scored as mean Likert responses. Analyses included descriptive statistics, internal consistency, Pearson and Spearman correlations, and a joint regression with HC3 robust coefficient inference. **Results:** Mean readiness was 4.398 (SD 0.716), engagement 4.353 (SD 0.727), and the broad continuation-related score 4.258 (SD 0.762), on a five-point scale. Pairwise associations were positive: readiness–engagement, $r = .890$; readiness–retention intention, $r = .792$; and engagement–retention intention, $r = .832$ (all $p < .001$). In the joint model, engagement remained positively associated with the outcome ($B = 0.643$, HC3 95% CI 0.382–0.903, $p < .001$), while the readiness coefficient was uncertain ($B = 0.262$, 95% CI -0.025 – 0.549 , $p = .073$). The model explained 70.6% of sample variance; this is not evidence of out-of-sample prediction. A narrower, exploratory direct-intention item subset showed a similar pattern. **Conclusion:** In this convenience sample, higher self-reported readiness and engagement co-occurred with stronger continuation intentions, with engagement showing the more stable adjusted association. Cross-sectional self-report data, unvalidated item sets, influential observations, and nonprobability recruitment preclude causal or population-wide conclusions. No subsequent enrollment was measured; formal ethics approval was not obtained and requires transparent institutional guidance before publication.*

Keywords: online learning readiness; student engagement; retention intention; higher education; Kuwait; cross-sectional study

1. Introduction

Online higher education depends not only on access to digital platforms but also on students' preparation, participation, and expectations about continuing their studies. Kuwait-based research has examined e-learning readiness, engagement-related digital competencies, student experiences, and barriers, while the selected literature does not establish the combined readiness–engagement–retention-intention relationship examined here. The study therefore focuses on associations among these self-reported constructs in a recruited sample of students studying in Kuwait, not verified institutional retention.

The outcome requires particular care. The questionnaire asks about perceived plans to remain enrolled and complete a programme; it does not verify subsequent reenrollment or graduation. Moreover, its continuation section includes direct intention items alongside recommendation, perceived support, willingness to continue online courses, and related perceptions. The resulting full-section score should therefore be interpreted as a broad continuation-related index rather than a validated, pure retention-intention scale.

The study tests three expected positive associations: readiness with engagement, readiness with retention intention, and engagement with retention intention. Because all measures were collected concurrently, the design cannot establish their temporal ordering or show that readiness or engagement causes persistence.

2. Review of Literature (ROL)

The selected Kuwait literature offers relevant but distinct evidence. AlFadley (2021) examined e-learning readiness; Alkandari et al. (2026) examined digital competencies and engagement; and other local studies addressed acceptance, satisfaction, workload, connectivity, and instructional barriers. These constructs inform the study's context but are not interchangeable with readiness, engagement, or observed retention. The reviewed readiness study also contained inconsistencies in reported sample and questionnaire details, so it should be used cautiously.

International and regional evidence provides a rationale for the hypotheses without proving the proposed model in Kuwait. Polat (2024) reported a positive readiness–engagement association in a Turkish undergraduate sample. Tang et al. (2025) found readiness associated with intention to continue online courses in the United States; course continuance intention is not verified institutional retention. Marshall (2017) examined later online-course enrollment, a behavioral outcome distinct from intention, but the available record requires bibliographic verification and is not treated here as a confirmed peer-reviewed journal article.

The theoretical rationale combines self-regulated learning, which concerns learners' planning, monitoring, and adjustment, with student-departure theory, which emphasizes student–institution interactions. These perspectives motivate investigating preparedness and participation in relation to

continuation intentions; the present cross-sectional survey is not a longitudinal test of either theory.

3. Objectives of the Study

- 1) Describe participants' educational and online-learning characteristics.
- 2) Examine the association between online learning readiness and student engagement.
- 3) Examine the associations of readiness and engagement with student retention intention.
- 4) Estimate the joint associations of readiness and engagement with the continuation-related outcome.
- 5) Explore whether the findings are similar when a narrower set of direct intention items is used, while treating that subset as exploratory and unvalidated.

Hypotheses

- **H1:** Online learning readiness is positively associated with student engagement.
- **H2:** Online learning readiness is positively associated with student retention intention.
- **H3:** Student engagement is positively associated with student retention intention.

These hypotheses concern associations, not causal effects. The indirect association through engagement was not tested; the study therefore makes no mediation claim.

4. Research Methodology

Design and participants

A quantitative, cross-sectional, correlational design was used. The questionnaire was administered using Google Forms between 1 and 20 September 2026. The supplied dataset contained 100 complete responses from adults reported to be enrolled in higher education and studying in Kuwait. Recruitment used personal contacts and community WhatsApp groups; selection probabilities were unknown, and the number invited or eligible nonrespondents was not available. The sample is consequently not established as representative of higher-education students in Kuwait.

Measures and Scoring

The study-specific questionnaire included 20 readiness items (B1–B20), 24 engagement items (C1–C24), and 19 continuation-related items (D1–D19). Agreement responses were scored on a five-point scale, with negatively worded continuation items reverse-coded for the broad index. Readiness and engagement means were calculated across their respective item sets. The primary outcome was the mean of D1–D19 and is described as a broad continuation-related index, not a validated scale. An additional exploratory score used direct intention items identified in the dissertation's methodology chapter; it has not been validated independently.

No documentation was supplied establishing validation of the exact administered item sets, pilot testing, or factor structure. Cronbach's alpha was used to describe internal consistency, not to establish unidimensionality or construct validity.

Analysis

Descriptive statistics and Cronbach's alpha were calculated. Pearson correlations were supplemented by Spearman correlations in view of skew and ceiling concentrations. A joint regression included readiness and engagement as predictors of the broad continuation-related outcome; coefficient inference used HC3 robust standard errors.

Two-sided tests were used, with Holm adjustment planned/reported for the three primary correlations. An exploratory indirect-association analysis was not undertaken.

5. Results and Analysis

Sample and Descriptive Results

The dataset contained 100 complete response records. The sample included 54 women, 45 men, and one respondent who preferred not to disclose gender; 70 respondents were aged 30 years or older, 56 were postgraduate students, 65 studied part-time, 57 were in health sciences, and 69 reported Farwaniya as their governorate. These concentrations, together with convenience recruitment, limit generalization. The invitation denominator was unavailable, so a response rate could not be calculated.[1]

Readiness averaged 4.398 (SD = 0.716), engagement 4.353 (SD = 0.727), and the broad continuation-related score 4.258 (SD = 0.762). Internal consistency estimates were $\alpha = .971$, $.979$, and $.945$, respectively. Maximum possible means occurred for 27 readiness, 28 engagement, and 22 continuation-score respondents, indicating ceiling concentrations. High alpha values do not establish that constructs are distinct or that the measures are valid.[1]

Hypothesis tests and joint model

All three pairwise relationships were positive and statistically significant: readiness– engagement ($r = .890$), readiness– continuation intention ($r = .792$), and engagement– continuation intention ($r = .832$), each $p < .001$. These results support the directional hypotheses at the bivariate level within this sample, but not causal interpretations.[1]

The joint model explained 70.6% of observed sample variance ($R^2 = .706$; adjusted $R^2 = .699$). Engagement retained a positive adjusted association ($B = .643$, HC3 95% CI $.382$ – $.903$, $p < .001$). The readiness coefficient was positive but uncertain ($B = .262$, HC3 95% CI $-.025$ – $.549$, $p = .073$). The conventional non-robust test gave a different readiness result ($p = .044$), indicating that the claim of an independent readiness association is sensitive to inferential specification. R^2 describes fit to this sample, not predictive performance in new students.[1]

The two predictors overlapped substantially (VIF = 4.796 each). Diagnostics flagged influential observations, including nine cases exceeding the exploratory Cook's-distance threshold. Removing influence-flagged cases changed the readiness robust p -value to $.008$, while the full-sample estimate was $.073$; the primary full-sample model was retained. In a response-pattern sensitivity analysis excluding 26 constant-response records, the three correlations remained positive ($r = .820$, $.708$, and $.764$; all $p < .001$), but this does not validate the remaining records.

The narrower direct-intention subset had a mean of 4.245 ($SD = .738$; $\alpha = .866$). Its correlations with readiness and engagement were .753 and .780, respectively (both $p < .001$). In the joint model, engagement remained associated with the subset outcome ($B = .534$, $HC3$ 95% CI .207–.861, $p = .002$), while the readiness interval included zero ($B = .294$, 95% CI $-.031$ –.620, $p = .076$). This sensitivity analysis is exploratory; the subset is not a validated instrument, and the analysis was added after the initial full-index analysis.

6. Discussion

The results show that respondents who reported greater readiness also tended to report greater engagement, and that both measures were positively associated with continuation intentions. In the joint model, engagement showed the more stable adjusted association. The readiness–engagement association was especially strong, and predictor overlap makes the unique coefficients less straightforward to interpret. The different readiness inference under conventional and robust standard errors, and its sensitivity to influential observations, argues against presenting readiness as a confirmed independent predictor.

These results are compatible with the proposed theoretical rationale and with prior research discussed in the dissertation, but do not establish a causal sequence from readiness through engagement to retention. All variables were measured concurrently by self-report, and the indirect-association analysis was not performed. Nor can the results show that any participant subsequently reenrolled, remained at the same institution, or graduated.

For practice, the findings may justify evaluating student orientation, technical support, course organization, communication, and opportunities for interaction. They do not demonstrate that any specific intervention increases retention, and the unvalidated scores should not be used to label or exclude students.

7. Limitations of the Study

The nonprobability convenience sample of 100 respondents was recruited through personal and community networks, with no known invitation denominator or response rate. Its demographic and academic composition limits generalizability. Self-reported measures collected at one time point are vulnerable to common response tendencies and do not establish temporal order or causation.

The item sets' exact validation and factor structure were not established. The continuation index combines direct intentions with related perceptions, and the predictors contain overlapping content. Ceiling concentrations, constant response patterns, and influential observations add uncertainty; sensitivity analyses do not resolve these validity concerns.

Actual subsequent enrollment and graduation were not measured, so intention cannot be equated with retention. Formal ethics approval was not obtained, and the adult consent wording and institutional determination were not documented in the supplied materials. This is a publication-

critical reporting issue requiring institutional guidance before submission.

8. Conclusion

Among the 100 participating higher-education students in Kuwait, higher self-reported readiness and engagement were associated with stronger continuation intentions. Engagement retained a positive association in the primary joint model; evidence for an independent readiness association was less stable. These findings are exploratory and sample-specific, not evidence of causal effects or actual institutional retention. Publication should preserve the measurement and sampling caveats and resolve the ethics-review and consent documentation transparently.

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