Cronbach's Alpha for Post-test datasets

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27 March 2020

Cronbach's alpha (measure of internal consistency) for post-test scores for data collected as part of Xie et. al SIGCSE 2019. Note that for the SIGCSE 2019 paper, we used **pre-**test data. So, this post-test data was never directly used in the paper.

Combined dataset: alpha

- N = 399 (386 from GT, 66 from UW INFO 201, 46 from UW CSE 142, 1 from UW who did not indicate course)

Cronbach's alpha:

	value
All Items	0.7574
Excluding score1	0.7556
Excluding score2	0.7530
Excluding score3	0.7431
Excluding score4	0.7584
Excluding score5	0.7504
Excluding score6	0.7515
Excluding score7	0.7491
Excluding score8	0.7579
Excluding score9	0.7475
Excluding score10	0.7474
Excluding score11	0.7466
Excluding score12	0.7451
Excluding score13	0.7595
Excluding score14	0.7405
Excluding score15	0.7501
Excluding score16	0.7453
Excluding score17	0.7489
Excluding score18	0.7594
Excluding score19	0.7365
Excluding score20	0.7598
Excluding score21	0.7515
Excluding score22	0.7488
Excluding score23	0.7437
Excluding score24	0.7549

Excluding score25 0.7491
Excluding score26 0.7429
Excluding score27 0.7602

Georgia Tech CS 1301: alpha = 0.7403

- N = 286
- online course offered by Georgia Tech. The information Miranda Parker provided to me (dated May 15 2017) about that course is provided in the attached PDF.
    - (PDF could not be shared because we do not have permission to share)

Cronbach's alpha:

	value
All Items	0.7403
Excluding score1	0.7352
Excluding score2	0.7349
Excluding score3	0.7238
Excluding score4	0.7376
Excluding score5	0.7375
Excluding score6	0.7342
Excluding score7	0.7340
Excluding score8	0.7416
Excluding score9	0.7289
Excluding score10	0.7311
Excluding score11	0.7264
Excluding score12	0.7285
Excluding score13	0.7457
Excluding score14	0.7199
Excluding score15	0.7344
Excluding score16	0.7248
Excluding score17	0.7344
Excluding score18	0.7407
Excluding score19	0.7156
Excluding score20	0.7435
Excluding score21	0.7335
Excluding score22	0.7299
Excluding score23	0.7247
Excluding score24	0.7431
Excluding score25	0.7323
Excluding score26	0.7255
Excluding score27	0.7422

UW INFO 201: alpha = 0.8061

- N = 66
    - R gave warning about Chi-squared approximation being potentially incorrect
- UW INFO 201, Technical Foundations of Informatics. It teaches a data programming with R. It does not teach recursion and doesn't focus much on scope, so there is some misalignment between this course and the SCS1 content (we discussed this briefly in our discussion).
    - Here is the online textbook used in the INFO 201 and co-written by the instructor: https://info201.github.io/

Cronbach's alpha:

	value
All Items	0.8061
Excluding score1	0.8031
Excluding score2	0.8018
Excluding score3	0.7978
Excluding score4	0.8079
Excluding score5	0.7934
Excluding score6	0.7968
Excluding score7	0.7962
Excluding score8	0.8077
Excluding score9	0.7995
Excluding score10	0.7927
Excluding score11	0.7956
Excluding score12	0.7979
Excluding score13	0.8073
Excluding score14	0.7959
Excluding score15	0.7983
Excluding score16	0.8041
Excluding score17	0.7898
Excluding score18	0.8129
Excluding score19	0.7981
Excluding score20	0.8096
Excluding score21	0.8062
Excluding score22	0.7978
Excluding score23	0.7984
Excluding score24	0.7922
Excluding score25	0.7984
Excluding score26	0.7886
Excluding score27	0.8104

UW CSE 142: alpha = 0.7824

- N = 46
    - R gave warning about Chi-squared approximation being potentially incorrect
- Cronbach's alpha would improve if following items were dropped
- UW CSE 142, Computer Programming 1. This course taught introductory programming in Java, covering all topics mentioned in the SCS1.
    - Link to CSE 142 course website from quarter it was taught: https://courses.cs.washington.edu/courses/cse142/17wi/

Cronbach's alpha:

	value
All Items	0.7824
Excluding score1	0.7790
Excluding score2	0.7811
Excluding score3	0.7669
Excluding score4	0.7907
Excluding score5	0.7718
Excluding score6	0.7872
Excluding score7	0.7731
Excluding score8	0.7788
Excluding score9	0.7768
Excluding score10	0.7742
Excluding score11	0.7812
Excluding score12	0.7661
Excluding score13	0.7748
Excluding score14	0.7737
Excluding score15	0.7659
Excluding score16	0.7737
Excluding score17	0.7749
Excluding score18	0.7844
Excluding score19	0.7609
Excluding score20	0.7774
Excluding score21	0.7697
Excluding score22	0.7823
Excluding score23	0.7717
Excluding score24	0.7772
Excluding score25	0.7736
Excluding score26	0.7741
Excluding score27	0.7838

Metadata

- Filtering to only consider responses w/ 10 or more responses (as consistent with Xie et al. SIGCSE 2019)
- Tests run in R with `ltm::descript`