Evaluating a Scale for University Student Help Avoidance in Group Projects

Samia Ayaat, Hengyi Liu, Madeline Miller | Foundations of Psychometrics 2025

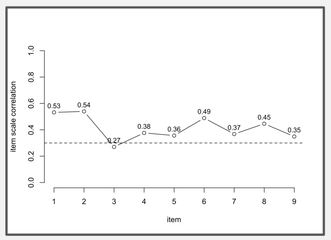
Construct

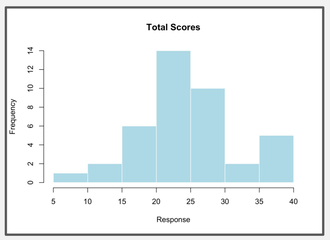
University Student Help Avoidance in Group Projects is the tendency for students in group projects to avoid seeking help from group members when they are confused, even if that results in less understanding of the project and less participation.

Items

Item	Full Text	Difficulty	Variance
1*	I ask my group members to explain concepts that confuse me.	.33	1.82
2	If I do not understand, I will be quieter in group project meetings.	**.54**	2.16
3*	If I am struggling with my project contributions, I seek support from my group members.	.36	1.41
4	When I am unsure about my work, I am reluctant to seek feedback from my group.	.26	1.46
5	If a project is too hard for me, I participate less rather than ask my group for help.	.26	1.51
6 (LLM)	I avoid asking my group members for help even when I find my task difficult.	.31	1.43
7 (LLM)	I pretend to understand group project discussions even when I feel confused.	.39	2.15
8 (LLM)	I hesitate to ask my teammates for clarification during group projects.	.32	2.2
9 (LLM)	I tend to keep working on my own even when collaborating with my group would make the task easier.	.41	2.25

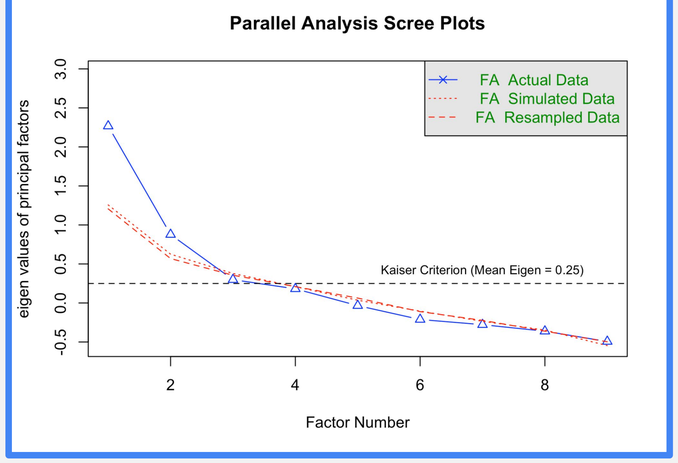
* = Reverse Coded, LLM = LLM-generated (ChatGPT), underlined = task oriented





Survey Results

- Sample: 40 total participants
- People tend to agree strongly with item 2
- Item 3 has the weakest correlation with the total scale (potential candidate for removal)
- Most respondents scored in the mid to low range between 20-30 (out of a possible ~54)



2 Factor Model

- Scree plot elbow and the Kaiser–Guttman criterion: three-factors
- Parallel analysis: two-factors

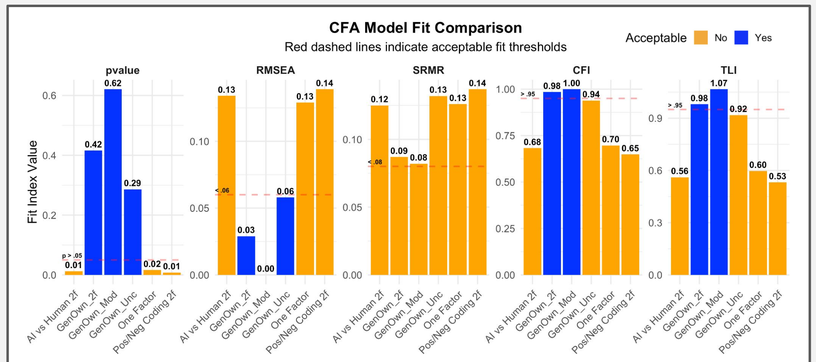
Factor Analysis

EFA: 2 Factor Model

- 1 factor versus two factor model: ANOVA p-value = 0.01
- 1 factor versus two factor model: ANOVA p-value = .17
- Oblimin Rotation: factor correlations = 0.288, high enough that we chose oblique rotation

EFA : Oblimin Factor Loadings

	PA1	PA2
I9 CollaborTask	0.02	**0.54**
I8: Clarificat	**0.65**	0.02
I7: Discussn	**0.73**	-0.18
I6: Help My Task	0.01	**0.79**
I5: Particpat	**0.32**	0.16
I4: Feedack My Work	0.04	**0.56**
I3: Contribut Support	-0.07	**0.50**
I2: Meetings	**0.66**	0.13
I1: Concepts	**0.51**	0.24



GenOwn_Mod

- Only modification index above 3.84 suggested adding a correlation between items 4 and 7 (mi = 3.96).
- Slightly improves fit indices, but there is no theoretical justification for these items to covary

GenOwn_Unc

- Constraining the factor correlation to zero (uncorrelated factors)
- Worsens model fit, supporting the original two-factor structure with correlated factors.

GenOwn_2f (suggested from EFA): good fit, most parsimonious

Final Model

General Understanding

Measures help avoidance in group projects in the context of asking for help or clarification related to overall understanding

Owned Task

Measures group project help avoidance in the context of asking for help in order to complete tasks

Internal Consistency

- Items generally correlate well
- Full scale: α < ω by .15, violates tau-equivalence assumption
- Full scale: Worst-case split half reliability suggests not all items measure same construct consistently

Full Scale	General	OwnTask
α = 0.74	α = 0.74	α = **0.68**
ω = 0.89	ω = 0.74	ω = .69
Split Half:	Split Half:	Split Half:
Max: 0.84	Max: 0.77	Max: 0.70
Avg = 0.73	Avg = 0.70	Avg = 0.68
Min = **0.45**	Min = 0.61	Min = 0.67