Student Adjustment in Attending Lectures in the First Year in the *Hybrid Learning Era*

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Abstract. Student adjustment problems are very complex from personal, social, academic, and institutional aspects that affect their academic success. This study aims to analyze students' adjustment in attending lectures in the first year of the *hybrid learning* era. This study is a comparative study, obtained through random sampling. The sample of this investigation included 163 students (16 men and 147 women). Data were collected with an adjustment questionnaire adapted from Baker & Siryk. The analysis technique uses descriptive analysis and Anova with the help of WINSTEPS Version 5.6.1.0. The result shows the raw variance is 41.8% meaning the instrument is declared valid, and the reliability of the item is 0.99. Furthermore, significant differences between students' adjustment in the first year based on gender and culture.

Keywords: Self-Adjustment, Gender, Culture, Hybrid Learning, First-Year Students

1 Introduction

Hybrid Learning is carried out online but combined with face-to-face. Online learning can be done using various online platforms such as Google Classroom, EdmodoI, web, through Google Meet teleconference media, Zoom Meeting, through the WhatsApp application and so on [1]. While face-to-face learning, students can come directly to campus.

Based on the decree of the Minister of Education, Culture, Research and Technology Number. 01/KB/2022, that learning at the University is held in a mixed manner (*hybrid learning*), namely face-to-face (offline) and online (online). Although some meetings are held face-to-face (offline), each university must implement very strict health protocols. The policy is a follow-up to the results of the evaluation during the implementation of the online Learning policy during the Covid-19 pandemic.

Many problems occur in *hybrid* learning-based learning, one of which is student adjustment. Low self-adjustment as a result of inability to interact, irrational thinking that has an impact on one's judgment before he behaves and difficulty accepting opinions from others which has an impact on the difficulty of accepting suggestions given by others, and difficulty in adjusting to academic tasks [2].

Self-adjustment problems can be seen by students unable to express opinions, students' inability to adjust to lecturers can be seen by students unable to adjust student learning styles to lecturers' teaching styles, unable to understand their peers can be seen students do not understand what is being felt and needed by their friends [3]. The low level of self-adjustment makes students unable to interact properly. Based on the results of study [4], students' self-adjustment is low by 20%. There are five factors that play a role in adjustment, namely: (1) support; (2) obstacles; (3) characters; (4) intrapersonal; and (5) interpersonal [5]. Peer social support and self-concept both effectively contributed 33.6% to school adjustment, with male self-adjustment being higher than female self-adjustment [6]. This justification leads to the conclusion that gender is the determining factor in self-adjustment.

Students in making adjustments on campus are influenced by factors including physiological factors; psychological factors consisting of experience, learning, self-determination, conflict; development and maturity factors; environmental factors consisting of family environment, community environment, school environment, peer environment; and cultural and religious factors [7]. Based on this presentation, it can be concluded that there are internal and external factors that influence students in making adjustments. One of the external factors is culture.

As a result of the inability of adolescents to adjust, adolescents are still found who suffer and find it difficult to achieve happiness in life, both with family life, school, work and in society in general. It is also not uncommon for individuals to experience stress and depression due to their failure to adjust to stressful conditions [8]. Considering the study's outcomes showed adolescent self-adjustment by 17.7% with a high level, 68.5% had moderate self-adjustment and 13.7% with a low level of self-adjustment the results were also self-adjustment related to self-control [9].

Based on previous research, it does not discuss much about how gender and culture can affect student adjustment. Therefore, more research is needed to fill this gap, with the aim of the study being to examine differences in gender and cultural adjustment and implications for guidance and counseling.

2 Research Method

2.1 Participants

This study is a comparative study conducted using random sampling method. To collect the data, the researchers used a random sampling technique that involves distributing surveys through social media platforms. The demographics of the study sample were quite diverse, consisting of 163 students with a distribution where only 16 were men while 147 were women. This composition reflects the higher participation of female respondents, which can provide insight into gender perspectives related to the topic under study.

2.2 Measures

2.2.1 Measuring Adjustment to College (MAC)

This study used a self-adjustment questionnaire in collecting research data, namely Measuring Adjustment to College (MAC), consisting of 67 question items adapted from Baker & Siryk

(1984) consisting of 4 dimensions, namely: (1) personal, (2) academic, (3) social, (4) institutional [10]. The instrument developed consists of 115 statements. Responses vary from 1 = Strongly Incongruous to 5 = Highly Conforming on a 5-point Likert scale. After data collection, the study focused on the validation and reliability of the questionnaire instrument. Through the application of sophisticated RASCH models, questionnaires are reviewed to determine internal consistency and measurement structure.

2.5 Data Analysis

This study used descriptive data analysis techniques and anova to examine differences in selfadjustment based on gender and culture using JASP 18.0 tools. JASP, which is an advanced yet easy-to-use statistical analysis tool, provides an intuitive graphical interface for the execution of these statistical techniques [11]. With JASP, researchers can easily input data, select appropriate statistical tests, and receive well-formatted outputs, which include ANOVA tables that aid in the interpretation of results.

3 Result and Discussion 3.1 Result

In the results of this study, I first explained the results of the validation and reliability of the questionnaire instrument, after that the presentation of the results of the self-adjustment difference test in terms of gender and culture. The Rush Model is for validating factors related to self-adjustment, and a number of indices are used to identify the extent of model fit.

3.1 Reliability

Measurement consistency and stability are referred to as an instrument's reliability. The statistical summary can be used to obtain information regarding an individual's and an item's reliability. The statistics' summary results are further explained in Table 1 below.

	Total	Count	Maagura	Model	IN	INFIT		FIT			
	score	Count	Measure	Error	MNSQ	ZSTD	MNSQ	ZSTD			
MEAN	212.3	66.7	.15	.13	1.02	25	1.00	-31			
S.D	24.2	1.3	.41	.01	.43	2.64	.42	2.52			
MAX	293.0	67.0	1.82	.18	2.37	6.43	2.22	5.72			
MIN	145.0	52.0	-1.00	.13	.31	-6.04	.33	-5.60			
ReaL RM	ReaL RMSE .14 True SD .39 Separation 2.70 Person Reliability .88										

Table 1. Summary Statistics

RMSE Model .13 True SD .39 Separation 2.98 Person Reliability .90 S.E. OF Person MEAN = .03

Person Raw Score-To-Measure Correlation = .98 Cronbach Alpha (KR-20) Person Raw Score "Test" Reliability = .90

Table 2. Summary Of 67 Measured Item

	Total	Count	Maaanaa	Model	IN	FIT	OUTFIT				
	score	Count	Measure	Error	MNSQ	ZSTD	MNSQ	ZSTD			
MEAN	516.5	162.2	.00	.09	.99	33	1.00	26			
S.D	117.0	.2	.10	.01	.37	3.58	.37	3.59			
MAX	759.0	163.0	1.60	.15	1.85	7.45	1.89	7.69			
MIN	283.0	154.0	-2.30	.08	.11	-9.90	.12	-9.90			
Real RMS	SE .09 True	e SD .79 Se	paration 8.60) Item Reliab	oility .99						
RMSE Model .09 True SD .79 Separation 9.20 Item Reliability .99											
S.E. OF It	tem MEAN	N = .10									

The person dependability score is 0.98 and the item reliability score is 0.99 in Table 1. This demonstrates that both the individual's responses and the measurement's item quality are of high caliber. However, the person-item interaction is good, as indicated by the Cronbach's alpha value (KR-20) of 0.90.

Moreover, the person stratum formula, H, which gives the value of H = [(4*separation) + 1]/3 [12], can be used to determine the grouping of persons and items based on the separation value. Given that the separation person has a value of 2.70, H = [(4*2.70) + 1]/3, and H = 3.93 (rounded to 4) result. Four categories of respondents are displayed here: high, medium, low, and extremely low ability. Based on the separation item value of 7.79 and H = 10, it may be inferred that the items are suitable for those with medium, high, and very high ability.

Table 3. Standardized Residual Variance

	Empirical			Modeled
Total raw variance in observations	115.11	100.0%		100.0%
Raw variance explained by person	11.17	9.7%		42.1%
Raw Variance explained by items	36.93	32.1%		32.3%
Raw explained variance (total)	67.0	58.2%	100.0%	57.9%
Unexpleded variance in 1st contrast	5.0	4.7%	8.0%	
Unexpleded variance in 2st contrast	4.5	4.0%	6.8%	
Unexpleded variance in 3st contrast	3.1	2.7%	4.7%	
Unexpleded variance in 4st contrast	3.0	2.5%	4.5%	
Unexpleded variance in 5st contrast	2.7	2.4%	4.1%	

Table 2 above shows that the overall raw variance result is 41.8%, which is not too dissimilar from the 30.5% predicted value. This indicates that the 20% minimum unidimensional criterion has been satisfied [13]. The unexplained variance values for the first five years are less than 15%, indicating a high degree of item independence in the measure. As a result, this condition certifies

that the instrument's requirements for unidimensionality are satisfied and that the 67 components that make up the J-SABI instrument are legitimate.

3.2 Respondent Validity

Variable maps that display the distribution of item difficulty on the right and student skills on the left are used to demonstrate the validity of the respondents' instrument [12]. is shown in more detail in Figure 1 below.

Drawing from Figure 1, the distribution of logit grain values is explained by the right-hand map. Since Point P3 is the question with the highest level of difficulty, there is little chance that all pupils will answer it properly. "I've been feeling exhausted lately" is the remark associated with A9. The logit score is low even though practically all pupils can answer the A9 question properly. "Achieving graduation at this school is very important to me" is the statement that goes with the A9.

Second, the distribution of student ability is larger on the left side of the map than the distribution of item ability levels on the right, as can be seen by comparing the distance between M-S-T (average, 1SD, and 2SD) in the variable maps above. Although the question points in this context demonstrate diversity, the 163 students' ability distribution is more widely distributed downward. This indicates that 163 students' ability falls short of high ability question points.



Fig. 1. Variable Maps (person 163 and 67 question items)

3.3 Item Validation

Fit statistics can be uncovered by analyzing item measures. Infit and outfit of the mean square with a middle square value of 1.0 or an ideal range of 0.5>MNSQ<1.5 and Z-standardized values with a middle square value of 0.0 or an ideal range of -2.0>ZSTD<+2.0 are the parameters used to demonstrate conformity [12], [14], and [15]. Table 3 provides more information in this regard.

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Entr	Tot	Tot	Sum Meas	Type S F	IN	FIT	0	UTFIT	PTMEA	SUR-AL	EXAC T	MATCH	Items
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	y Nu	Sco	Cou	ure	3.E.	MNS	ZSTD	MN	ZSTD	CORR	EXP.	OBS%	EXP%	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	mbe	re	nt			Q	2010	SQ	2010			020,0		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	r					`								
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	32	454	162	.42	.08	1.85	7.45	1.89	7.69	A.19	.38	24.1	32.9	S8
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	22	452	162	.43	.08	1.69	6.30	1.83	7.28	B35	.38	30.9	32.9	A22
53 492 162 2.0 0.08 1.66 5.09 1.67 5.89 D.21 3.8 22.8 33.64 F 57 308 161 1.53 4.93 1.53 4.93 1.53 4.93 1.53 4.93 3.33 42.6 43.7 S 61 416 154 5.3 0.81 1.53 4.93 1.53 4.93 3.22 2.8.4 45.7 I 9 759 163 -2.30 1.5 1.44 2.9.7 1.51 3.2 2.8.4 45.7 I I 9 759 163 -2.30 1.5 1.44 2.94 J.19 2.7 45.7 47.2 A 60 554 163 -16 .08 1.27 2.58 1.43 3.80 K.12 3.7 45.3 3.6 27.6 37.7 47.2 A 64 554 163 -16 .08 1.27 2.18 1.33 8.04 3.3 3.8 3.3 3.3 3.9 3.8	42	566	163	23	.08	1.58	4.86	1.68	5.41	C.36	.35	32.5	37.7	S18
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	53	492	162	.20	.08	1.66	5.91	1.67	5.89	D.21	.38	22.8	33.6	P9
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	57	308	161	1.35	.09	1.66	5.03	1.61	4.50	E.22	.36	26.7	36.4	P13
61 416 154 .53 0.08 1.53 3.493 1.53 3.22 2.40 3.31 1 9 759 163 -2.30 1.5 1.45 2.78 1.44 2.65 1.09 .20 66.3 68.2 A 9 532 162 -0.4 .08 1.27 2.58 1.44 2.65 1.09 .20 66.3 68.2 A 64 554 163 -16 0.8 1.39 3.49 1.38 3.37 1.53 3.6 2.7 P.4 64 554 163 -16 0.8 1.39 3.49 1.38 3.37 L.53 3.62 7.6 3.7 P.4 61 163 33 0.8 1.22 1.98 1.24 2.09 0.42 .35 3.8.9 4.3.8 S 52 400 162 74 0.8 1.22 2.10 2.09 R.18 .38 2.54 3.4.3 F 52 400 162 40 0.8	43	612	162	59	.09	1.63	4.72	1.60	4.50	F.18	.33	42.6	43.7	S19
05 652 162 7 0.09 1.31 3.80 1.44 3.32 H.23 3.22 28.4 45.7 A 18 691 162 -1.32 .11 1.44 3.15 1.44 2.04 J.19 2.7 45.7 47.2 A 64 554 163 -16 .08 1.39 3.49 1.38 3.37 L.53 3.6 2.76 37.2 1.6 63 613 162 -59 .09 1.33 2.67 1.31 2.55 N.25 33 38.9 43.8 S 55 80 163 -62 -59 .09 1.33 2.67 1.31 2.55 N.25 .33 38.9 43.8 S 39 35 50 164 .87 .08 1.22 2.16 1.20 2.03 Q.55 .38 25.3 34.7 F 29 378 162 .88 .08	61	416	154	.53	.08	1.53	4.93	1.53	4.83	G.39	.39	24.0	33.1	12
9 759 163 -2.30 .15 1.43 2.78 1.44 2.05 1.09 2.0 66.3 68.2 A 50 532 162 04 .08 1.27 2.58 1.43 3.80 K.12 37 29.6 35.7 F 66 638 162 80 .09 1.38 2.94 1.36 2.75 M.41 .31 2.65 4.62.7 1 36 613 62 80 .09 1.33 2.67 1.31 2.55 N.25 33 38.9 43.8 S 51 374 160 87 .08 1.22 2.16 1.23 2.21 P.42 .38 32.5 34.7 F 52 400 162 .74 .08 1.20 2.01 1.21 2.00 R.18 .38 25.3 34.3 F 53 383 162 .85 .08 1.20	65	632	162	75	.09	1.51	3.80	1.44	3.32	H.53	.32	28.4	45.7	16
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	9	759	163	-2.30	.15	1.45	2.78	1.44	2.65	1.09	.20	66.3	68.2	A9
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	18	691	162	-1.32	.11	1.45	3.15	1.41	2.94	J.19	.27	45.7	47.2	AI8
66 638 162 -16 0.08 1.39 2.49 1.36 2.75 $M.41$ 31 26.5 46.2 11 33 613 162 -59 0.9 1.33 2.67 1.31 2.55 $M.25$ 333 38.9 43.8 55 55 100 62 -59 0.9 1.22 2.16 1.23 2.21 $P.42$ 38 32.5 34.7 F 52 400 162 $.74$ 0.8 1.22 2.22 1.20 2.03 $Q.55$ 38 25.3 34.3 F 29 378 162 $.88$ 0.8 1.20 2.01 1.21 2.06 $S.30$ 38 25.9 34.6 S 29 78 $A6$ 1.21 2.06 2.5 50.6 50.4 1 15 1.62 1.62 1.6	50	532	162	04	.08	1.27	2.58	1.43	3.80	K.12	.37	29.6	35.7	P6
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	04	554	163	10	.08	1.59	3.49	1.58	3.3/	L.55	.30	27.0	31.2	15
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	66	638	162	80	.09	1.58	2.94	1.30	2.75	M.41 N.25	.51	26.5	46.2	1/
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	35	580	162	39	.09	1.33	2.07	1.51	2.55	N.25	.33	38.9	43.8	59
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	55	274	165	55	.08	1.22	2.16	1.24	2.09	0.42 D.42	.55	35.7	39.0	511
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	52	374 400	162	.07	.08	1.22	2.10	1.25	2.21	r.42	.30	52.5 25.3	34./ 3/3	r / DS
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	20	378	162	./+	.08	1.22	2.22	1.20	2.05	Q.55 P 18	.50	23.3	34.5	5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	30	383	162	.00	.08	1.21	2.07	1.21	2.09	S 30	.30	26.4	34.6	\$15
1010310310410410410510510510610710	40	522	163	.85	.08	1.20	2.01	1.21	1.89	3.30 T 46	.38	31.9	35.0	S16
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	62	715	162	-1.62	12	1.121	02	1.15	1.09	11.40	25	50.6	50.4	13
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	13	550	161	- 18	08	1.12	62	1.10	71	V 50	36	39.1	37.5	A13
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	27	460	163	40	08	1.05	59	1.06	70	W 32	38	24.5	32.9	\$3
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46	417	163	.65	.08	1.06	.69	1.06	.63	X.49	.38	32.5	33.8	P2
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	31	513	163	.09	.08	1.05	.55	1.05	.51	Y.18	.37	41.7	34.7	S7
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	54	417	162	.64	.08	1.05	.55	1.05	.51	Z.45	.39	33.3	33.7	P10
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	16	472	163	.33	.08	.89	-1.17	.89	-1.17	z.60	.38	35.0	33.0	A16
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	23	602	160	57	.09	.88	-1.11	.85	-1.32	Y.27	.33	60.0	43.3	A23
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	14	603	162	52	.09	.87	-1.23	.83	-1.53	x.32	.33	53.7	42.8	A14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	28	638	163	76	.09	.80	-1.81	.87	-1.07	W.34	.31	57.1	45.9	S4
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	20	396	162	.77	.08	.84	-1.79	.85	-1.64	V. 45	.38	36.4	34.4	A20
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	41	450	162	.45	.08	.81	-2.14	.82	-2.02	U.39	.38	42.6	32.9	S17
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	47	283	163	1.60	.10	.81	-1.65	.82	-1.47	T.36	.34	52.8	40.9	P3
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	8	402	163	.74	.08	.80	-2.32	.79	-2.40	S.50	.38	40.5	34.3	A8
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	44	600	163	47	.08	.79	-2.02	.78	-2.15	R.40	.34	55.2	42.1	S20
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	45	393	163	.80	.08	.78	-2.54	.79	-2.37	Q.38	.38	38.0	34.6	P1
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	5	553	163	15	.08	.77	-2.42	.78	-2.26	p.33	.36	44.8	37.3	A5
	7	671	163	-1.06	.10	.75	-2.16	.76	-2.06	o.34	.29	57.1	46.6	A7
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	63	621	163	63	.09	.72	-2.74	.71	-2.83	n.39	.33	58.3	44.2	I4
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2	687	162	-1.27	.11	.71	-2.55	.70	-2.60	M.45	.28	58.6	47.1	A2
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	694	162	-1.35	.11	.60	-3.62	.70	-2.61	1.19	.27	66.7	47.1	A1
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	24	576	163	30	.08	.68	-3.39	.69	-3.24	k.38	.35	57.1	39.3	A24
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	21	583	162	37	.08	.68	-3.37	.68	-3.25	J.39	.34	59.3	40.5	A21
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	15	388	163	.83	.08	.67	-3.97	.66	-4.00	1.58	.38	49.7	34.0	A15
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	67	594	162	45	.08	.66	-3.50	.62	-3.94	p.53	.34	57.4	41.7	18
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	60	017	163	60	.09	.61	-4.05	.60	-4.04	G.4/	.55	55.2	43.7	11
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3	505	162	1.39	.09	.33	-5.12	.5/	-4.35	1.55	.35	57.4	5/.1	A3
4 326 163 1.24 .09 .16 .990 1.7 .990 c.00 .36 896 361 A	30 25	642	163	05	.09	.54	-4.90	.54	-4.80	e.44	.32	60.1	44.5	50
	25	226	162	83	.09	.40	-0.00	.39	-0.0/	a.46	.51	09.1 80.6	40.4	51
	4	520 652	163	1.24	.09	.10	-9.90	.17	-9.90	c.00	.30	89.0	30.1	A4
10 0.52 10.5 06 $.09$ $.11$ -9.90 $.12$ -9.90 0.00 $.50$ 94.5 40.5 A	10	652	163	88	.09	.11	-9.90	.12	-9.90	b.00	.30	94.5	40.5	A10
11 0.52 10506 .09 .11 -9.70 .12 -9.70 8.00 .50 94.5 40.5 A	ME	516	162	00	.09	.11	-9.90	.12	-9.90	a.00	.50	94.5	40.5	AII

Table 4. Misfit Items

AN	5	2	.80	.01	.37	3.55	.37	3.55		15.9	6.1	
P.S	116.	1.3										
D	2											

The order of misfit order items is displayed in Table 3. Eight misfit items S8, A22, S18, P9, P13, S19, I2, and I6 are present. Based on the standardized values (ZSTD) value, >3.0 has exceeded the optimal range, which is (-2.0>ZSTD<+2.0), indicating that the item needs to be modified in order to comply.

Table 5. Statements that need to be Revised

Code	Statement
S8	Today the source of difficulty for me is loneliness, being away from home
A22	Most of the things that attracted me were unrelated to his learning on campus
S18	When you consider the gains and losses, I am better off at home than on campus
P9	Lately I have gained too much weight/skinny
P13	I'm worried about my tuition fees
S19	I have some good friends or acquaintances in college talking about any problems I might be having
I2	I want to go to another college or school
16	Recently, I have been thinking a lot about whether it is better to withdraw from this campus

3.4 Rank Scale Validation

Due to the fact that the rating scale is utilized to verify the rating of the selected option, its authenticity is crucial for measurement. Use likert ratings as answer choices for each item in the J-SABI instrument. Respondents answer each question in a way that makes sense for their situation. The answers provided by respondents are viewed according to their propensity to move their answer selections to either the rightmost column 5 with the Never (TP) option or the leftmost column 1 with the Always (S) option. The student's degree of aggression in each item is contrasted in this choice. is shown in more detail in Figure 2 below.



Fig. 2. Response Functions for a 5-Category Likert-Style Item (Item 47) with a Disordered Threshold Estimate

The numerals 1 = often, 2 = often, 3 = seldom, 4 = occasionally, and 5 = never are displayed in figure 2 above. The Andrich Threshold, which illustrates the change in decision-making by respondents from one rank to the next, is another way to determine the validity of the rating. This demonstrates that the respondents' five options are legitimate.

3.5 Differential Item Functionality (DIF)

Due to variances, measurement tools and items may be biased, favoring only one certain type of person over another (e.g. gender, family background etc.). The findings of the DIF analysis are displayed in Table 5 and can be determined by looking at the probability value below 0.05, which indicates that the items are biased [12].

Person	SUMMARY	D.F.	PROB.	BETWEEN-	ZSTD	ITEM	NAME
CLASSES	DIF CHI-			CLASS/GROUP		NUMBER	
	SQUARED			UNWTD MNSQ			
	D.F.						
2	6.5101	1	.0107	8.6523	2.71	1	A1
2	.4712	1	.4924	.5273	.06	2	A2
2	1.6759	1	.1955	1.8610	.96	3	A3
2	.0652	1	.7984	.0826	73	4	A4
2	.0118	1	.9133	.0125	-1.16	5	A5
2	.3457	1	.5565	.3879	10	6	A6
2	2.0753	1	.1497	2.3349	1.16	7	A7
2	.4057	1	.5242	.4789	.01	8	A8

Table 6. Differential item functionality (DIF)

2	1.5647	1	.2110	1.7415	.90	9	A9
2	.0498	1	.8235	.0527	85	10	A10
2	.0498	1	.8235	.0527	85	11	A11
2	.0062	1	.9373	.0075	-1.23	12	A12
2	4.9434	1	0262	6.2912	2.27	13	A13
2	2.2003	1	.1380	2.4829	1.22	14	A14
2	9954	1	3184	1 0721	52	15	A15
2	1471	1	7013	1662	- 48	16	A16
2	1 /133	1	2345	1 5482	+0	17	A17
2	2 2024	1	1219	2 7261	1.30	17	A17
2	2.3934	1	.1210	2.7501	1.52	10	A10
2	2.0/90	1	.0897	5.5512	1.52	19	A19
2	.5281	1	.46/4	.0007	.15	20	A20
2	.2430	1	.6221	.2881	25	21	A21
2	.0623	1	.8028	.0702	//	22	A22
2	.0232	I	.8789	.0306	99	23	A23
2	.0325	1	.8570	.0404	92	24	A24
2	.0000	1	1.0000	.0039	-1.32	25	S1
2	1.2971	1	.2547	1.4159	.73	26	S2
2	.3879	1	.5334	.4509	02	27	S3
2	.0275	1	.8684	.0288	-1.00	28	S4
2	7.3203	1	.0068	10.3227	2.97	29	S5
2	.0124	1	.9115	.0129	-1.15	30	S6
2	.2642	1	.6072	.3071	22	31	S 7
2	.2039	1	.6516	.2296	35	32	S8
2	.0067	1	.9347	.0101	-1.19	33	S9
2	1.0187	1	3128	1.0943	.54	34	S10
2	0363	1	8488	0390	- 93	35	S11
2	4 4612	1	0347	5 5156	2 10	36	S12
2	3731	1	5413	4308	- 05	37	S12
2	3517	1	5521	.4300	05	38	S14
2	4 02 28	1	.5551	.4121	07	30	S14 S15
2	4.0326	1	.0440	4.9490	1.97	39	S15
2	.0403	1	.8403	.0448	90	40	510
2	./009	1	.4025	./45/	.27	41	517
2	3.8989	1	.0483	4./4/4	1.92	42	518
2	.2463	1	.6197	.2/40	27	43	819
2	2.6421	1	.1041	3.0207	1.42	44	S20
2	1.2977	I	.2546	1.4154	.73	45	PI
2	1.0007	1	.3171	1.0792	.53	46	P2
2	.0761	1	.7826	.0816	73	47	P3
2	.1171	1	.7322	.1280	58	48	P4
2	.0000	1	1.0000	.0074	-1.24	49	P5
2	.0000	1	1.0000	.0007	-1.46	50	P6
2	5.3366	1	.0209	6.9021	2.39	51	P7
2	.4169	1	.5185	.4926	.03	52	P8
2	1.3944	1	.2377	1.5261	.79	53	Р9
2	.5900	1	.4424	.6836	.22	54	P10
2	2.4888	1	.1147	2.8630	1.36	55	P11
-		-		2.0000	1.50		

2	1.2267	1	.2681	1.3365	.69	57	P13
2	.1035	1	.7477	.1154	62	58	P14
2	.8239	1	.3641	.8819	.38	59	P15
2	.2798	1	.5968	.3100	21	60	I1
2	.4329	1	.5106	.5123	.05	61	I2
2	.0086	1	.9261	.0092	-1.20	62	13
2	1.5451	1	.2139	1.7056	.88	63	I4
2	.0173	1	.8952	.0185	-1.09	64	15
2	1.1138	1	.2913	1.2061	.61	65	16
2	2.2976	1	.1296	2.6109	1.27	66	17
2	.2734	1	.6010	3249	19	67	18

In Table 5 above, it can be seen that the 8 infected items can be A1, A13, A19, S5, S12, S15, S18, and P7. Some biased items demonstrate how different factors, such as gender and culture, have an impact on students' perceptions of their own adjustment.

3.2 Discussion

The results showed that on the validation and reliability of the questionnaire instrument. The results of the analysis resulted in a very high reliability coefficient for MAC, with a value of 0.98, which indicates that this questionnaire has excellent reliability in measuring the desired phenomenon. This reliability coefficient places the MAC in the 'excellent' category, confirming that the items in the questionnaire can be relied upon to produce consistent and accurate data.

Furthermore, there are eight misfit items, namely, S8, A22, S18, P9, P13, S19, I2, I6. Based on the standardized values (ZSTD) value, >3.0 has exceeded the optimal range, which is (-2.0>ZSTD<+2.0), indicating that the item needs to be modified in order to comply.

Self-adjustment instruments for students are needed to assist lecturers in supporting assessment implementers in the learning process in the classroom. However, there are still few instruments of self-adjustment in students and there are no instruments of self-adjustment that cover four aspects such as personal, social, academic, and institutional. Therefore, it is necessary to develop self-adjustment instruments for students. The results of self-adjustment development research [16] the initial instrument developed consisted of 62 items, after passing design validation and trials of the use of the final instrument totaling 40 items.

Furthermore, there are significant differences in student adjustment based on a combination of gender and cultural factors. The results of the study [17] found that there were problems in student adjustment which included psychological, academic, social and demographic aspects. Resolution of problems or problems of self-adjustment includes internal aspects (namely by the way the individual or student makes goal setting, self-management or social interaction well) and external (there is a need for psychological assistance and counseling from the institution). In line with research [18] the positive relationship between self-adjustment and intercultural communication, and the correlation coefficient supports this view. People who are more conformed are also better able to communicate across cultural boundaries. Furthermore, the results of the study [19] there is a relationship between self-adjustment and the effectiveness of online learning. Most respondents

have a high degree of adjustment to online learning, and some are already familiar with it. The study's findings show that students differ in their capacity for self-adaptation, there is a need for innovation and variation in online learning in the future, so that students do not get bored quickly, adapt to online learning methods, so that the material provided by lecturers as facilitators can be delivered better in accordance with graduate learning outcomes. According to the study's results [20], there were differences in the self-adjustment of students based on their gender, female students scored higher on average than male students, and students' levels of adjustment in terms of their cultural background (Minang and non-Minang) were in the high category. The following also explained the ramifications of employing multicultural counseling to address self-adjustment.

4 Conclusion

The results show that the reliability of the self-adjustment instrument has very good reliability and the validation of each item has passed the ideal range. Furthermore, there are significant differences in student adjustment based on a combination of gender and cultural factors. The implication is that the Integrated Guidance and Counseling Services Unit (UPTBK) and the Guidance and Counseling Department Laboratory strive to provide individual information and counseling services for new students, so that they do not experience adjustment problems that impact their academic success.

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