



Validation and Reliability of Lifestyle Instruments for Indonesian Adolescents with Hypertension Family History: A Rasch Model

Andra Kurnianto¹*10, Deni Kurniadi Sunjaya²10, Fedri Ruluwedrata Rinawan²10, Dany Hilmanto³10

¹Department of Nutrition Science, Faculty of Medicine, Universitas Sriwijaya, Palembang, Indonesia; ²Department of Public Health, Faculty of Medicine, Universitas Padjadjaran, Bandung, Indonesia; ³Department of Child Health, Faculty of Medicine, Universitas Padjadjaran, Bandung, Indonesia

Abstract

Edited by: Ksenija Bogoeva-Kostovska Citation: Kurnianto A, Sunjaya DK, Rinawan FR, Hilmanto D. Validation and Reliability of Lifestyle Hilmanto D. Validation and Reliability of Lifestyle Instruments for Indonesian Adolescents with Hypertension Family History: A Rasch Model. Open Access Maced J Med Sci. 2023 Feb 05; 11(B):109-114. https://doi.org/10.3889/oamjms.2023.11127 Keywords: Adolescent; Hypertension; Healthy; Indonesia; Lifestyle *Correspondence: Andra Kurnianto, Faculty of

Medicine, Universitas Sriwijaya, Palembang, Indonesia. E-mail: kurniantoandra@gmail.com Received: 16-Oct-2022 Received: 16-Oct-2022 Revised: 20-Nov-2022 Accepted: 14-Dec-2022 Copyright: © 2023 Andra Kurnianto,

Deni Kurniadi Sunjaya, Fedri Ruluwedrata Rinawan,

Dany Hilmanto Funding: The authors would like to thank to Indonesia

Endowment Fund for Education (Lembaga Pengelola Dana Pendidikan) for supporting this study. Competing Interests: The authors have declared that no competing interests exist

Open Access: This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0) BACKGROUND: There are lifestyle changes among adolescents in this modern era, such as less physical activities, because many activities can be carried out using modern technology, unhealthy food habits such as eating junk food, canned food and beverages, and preserved fruits and vegetables, poor sleeping habits, stress, and smoking behavior. These lifestyles are harmful and lead to cardiometabolic diseases such as obesity and hypertension. especially in adolescents with hypertension history in the family.

AIM: This study aimed to assess the validation and reliability of healthy lifestyle instruments for Indonesian adolescents with a family history of hypertension.

METHODS: This study is a survey research conducted from July 2021 to February 2022 in South Sumatera, Indonesia. The subjects were adolescents with a family history of hypertension and recruited using purposive random sampling. Adolescents aged 10-18 years old who returned signed parental consent forms, gave written assent to participate, and completed the questionnaire were included in the study. The questionnaire was consisted of three sections, Section I contained internal factors, Section II related to external factors, and Section III related to healthy lifestyle. The study was approved by the Research Ethics Committee Universitas Padiadiaran Bandung. Winsteps software was used to analyze the validity, reliability, unidimentionality, and rating scale

RESULTS: Obtained 103 valid question items with OUTFIT values 0.5 < mean square < 1.5; -2.0 < ZSTD < 2.0; and the point measure correlation (Pt Mean Corr) value is in the range of 0.32 < Pt Measure Corr < 0.85. The reliability value of respondents and instruments is 0.88, with a 'Cronbach's alpha value of 0.95. The raw variance explained by the measured value is 72.3%, and all unexplained variance values are <15%

CONCLUSIONS: Healthy lifestyle instruments are valid and reliable, so it is feasible to measure the healthy lifestyle of Indonesian adolescents with a family history of hypertension. This instrument can measure the success of a program or intervention in changing a lifestyle in adolescents at risk of developing hypertension, especially adolescents with a family history of hypertension. We suggest further research involving more participants in a broader area. We hope the healthy lifestyle instruments can be used in a standardized manner for all regions of Indonesia.

Introduction

Lifestyle has been recognized as an essential determinant of health status in recent decades and has become a focus of increasing research interest worldwide [1]. There are lifestyle changes among adolescents in this modern era, such as less physical activities because many activities can be carried out using modern technology, unhealthy food habits such as eating junk food, canned food and beverages, and preserved fruits and vegetables, poor sleeping habit, stress, and smoking behavior [2], [3]. These lifestyles are harmful and lead to cardiometabolic diseases such as obesity and hypertension [4].

Hypertension and elevated blood pressure prevalence among Indonesian adolescents in Palembang, South Sumatera, are currently high, 8% and 12.2%, respectively [5]. Particularly, adolescents with a family history of hypertension had a higher risk than those without a family history of hypertension [5], [6]. Adolescents usually imitate the unhealthy lifestyles of their parents, teachers, friends, and public figures [7], [8]. Although it is difficult to change unhealthy lifestyles, many effects of health risk factors are avoidable if these behaviors are identified and changed at an early stage [8], [9]. Therefore, concerned about healthy lifestyle among adolescents with a family history of hypertension should be given. This study aimed to assess the validation and reliability of healthy lifestyle instruments for Indonesian adolescents with a family history of hypertension.

Methods

This study is a survey research conducted from July 2021 to February 2022 in South Sumatera, Indonesia. The subjects were adolescents with a family history of hypertension and recruited using purposive random sampling. The study was approved by the Research Ethics Committee Universitas Padiadiaran Bandung, Researchers introduce themselves and explain the purpose of the study before the questionnaires were distributed. Each participant was asked to read the instructions before answering the questionnaire and answered individually. A written informed consent and verbal ascent of each study participant was obtained before recruitment. Adolescents aged 10-18-yearsold who returned signed parental consent forms, gave written assent to participate, and completed the questionnaire were included in the study. In filling out the instrument, the researcher accompanies the respondent so that the respondent can understand the questions in the questionnaire to avoid the possibility that the respondent does not understand the question item.

There were three sections in the questionnaire. Section I contained 35 items related to the internal factors that affect healthy lifestyles in Indonesian adolescents with a family history of hypertension, such as comprehension, awareness, intention, religion and belief, and self-control. Section II relates dimensional constructs external factors that involve physical and social environment, such as peer groups, family conditions, school situations, local circumstances, and health services, which contains 37 items. For Section III, 48 items were related to healthy lifestyles (physical activity, food and sleep habit, stress, and smoking behavior). Likert scale of five options used for adolescents stated degree of agreement with each item submitted. In Sections I and II, adolescents were asked to state either strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4), and strongly agree (5). Adolescents were asked to state either never (1), rarely (2), sometimes (3), often (4), and always (5) in Section III. The operational definitions of the instrument are listed in Table 1. Winsteps software was used to analyze the validity, reliability, unidimensionality, and rating scale (10).

The Rasch model also has several advantages, because it fulfills the five principles of the measurement model, namely, (1) being able to provide equal intervals on a linear scale; (2) have the ability to predict the missing data; (3) can provide a more precise estimate because it does not only depend on the number of correct answers; (4) identification of error responses and guesses so as to detect model inaccuracies; and (5) produce replicable measurements [10], [11]. Therefore, analysis using the Rasch model can evaluate the strengths and weaknesses of the instrument properly [12].

Results and Discussion

The study included 82 adolescents with a family history of hypertension. The participant characteristics

Table 1: Operational definition of healthy lifestyle formation instrument

Number	Variable	Operational definition	Measuring scale
1.	Comprehension	Adolescent's understanding of	Likert rating
		healthy lifestyle	
2.	Awareness	Self-influence leading to healthy	Likert rating
		lifestyle	
3.	Self-intention	Self-desire to live healthy	Likert rating
4.	Religion and belief	The influence that comes from	Likert rating
		religion and beliefs that are believed	
		in adolescents regarding a healthy	
		lifestyle	
5.	Self-control	Self-ability to maintain healthy	Likert rating
		lifestyle	
6.	Peer group	Factors outside of adolescents come	Likert rating
		from peers and the environment	
		that affect the formation of a healthy	
		lifestyle	
7.	Family condition	Factors from parents and family	Likert rating
		which contribute to lifestyle	
8.	School situation	Factors from teachers and education	Likert rating
		which contribute to the formation of a	
		healthy lifestyle	
9.	Community condition	Factors from community and	Likert rating
		neighborhood which contribute to	
		lifestyle	
10.	Youth health service	Factors from health service and	Likert rating
		facilities which contribute to healthy	
		lifestyle	
11.	Exercise	Factors that reflect a healthy lifestyle	Likert rating
		by assessing daily physical activities	
12.	Dietary habit	Factors that reflect a healthy lifestyle	Likert rating
		by assessing daily food	
13.	Sleeping habit	Factors that reflect a healthy lifestyle	Likert rating
		by assessing daily sleeping habit	
14.	Emotional stress	Factors that reflect a healthy lifestyle	Likert rating
		by assessing emotional stress	
15.	Smoking behavior	Factors that reflect a healthy lifestyle	Likert rating
		by assessing daily smoking habit	

are presented in Table 2. There were 39 (47.6%) males and 43 (52.4%) females. Most of the participants were in the late-adolescence (40.2%), senior high school students (41.5%), lived in urban areas (64.6%) and had family history of hypertension from their mother (50%).

Table	2:	Participant	characteristics
-------	----	-------------	-----------------

Characteristics	n (%)
Age (years old)	
10–13	23 (28)
14–16	26 (31.7)
17–18	33 (40.2)
Gender	
Male	39 (47.6)
Female	43 (52.4)
Education level	
Elementary school	21 (25.6)
Junior high school	27 (32.9)
Senior high school	34 (41.5)
Domicile	
Urban	53 (64.6))
Rural	29 (35.4)
Family history of hypertension	
Father	37 (45.1)
Mother	41 (50)
Both	4 (4.9)

In the validity test, there were 103 valid question items with OUTFIT values 0.5 < mean square (MNSQ) < 1.5 and -2.0 < standardized fit statistics (ZSTD) < 2.0; and the point measure correlation (Pt. measure corr.) value is in the range of 0.32 < Pt. Measure Corr. < 0.85. The results of the instrument validity test are shown in Table 3.

In the reliability test, the respondent's reliability value is 0.88 with a respondent separation value of 2.69, which is rounded up to 3. The instrument reliability value is 0.88 with an instrument separation value of 2.65, which is rounded up to 3. Cronbach's alpha value

Table 3: Instrument validity analysis

Under the spratie heatly lifely is appendix heatly lifely is appendix promotion as any possible 4.6 0.0 0.0 0.0 A Luncestand the beatly lifely is appendix promotion as any possible 6.8 0.0	Item code	e Statement		Fit statistic		
Constrained Understand have by placed on leading likely in Value A3 Landerstand have begin likely in any any post in 1.88 0.6 0.14 Value A3 Landerstand have begin likely in any any post in 1.88 0.6 0.14 Value A4 Landerstand have begin likely in any any post in 0.88 0.2 0.44 Value A4 Landerstand have begin likely in any any post in 0.88 0.2 0.44 Value A4 Landerstand have begin likely in any any post in 0.5 0.4 0.3 Value A4 Landerstand have begin likely in any post in 0.5 0.4			MNSQ	ZSTD	Pt. Measure Corr.	
A1 Lunderstand not be grantice healthy lifes/ei 1.48 0.80 0.35 Wald A3 Lunderstand not be grantice healthy lifes/ei 1.02 0.2 0.31 Wald A4 Lunderstand not healthy lifes/ei 1.02 0.2 0.31 Wald A4 Lunderstand not healthy lifes/ei 1.02 0.2 0.31 Wald A4 Lunderstand not healthy lifes/ei 1.02 0.2 0.31 Wald A4 Lunderstand not healthy lifes/ei 1.03 0.42 0.43 Wald A7 Lunderstand not hyperterson risk 0.65 0.42 0.43 Wald A6 Lifes/ei 1.06 0.1 0.35 Wald A6 Lifes/ei 1.06 0.1 0.35 Wald B6 Lifes/ei 1.06 0.1 0.35 Wald	Comprehension					
Add 1 understands the justice in a postable 1.44	A1	I understand how to practice healthy lifestyle	1.46	0.9	0.35	Valid
Adv Lunderstand unkersty integrip can invest in production 1.20 0.20 0.31 Void Adv Lunderstand the heating life on the part of a for Anny or Adv 0.88 -0.70 0.44 Void Adv Lunderstand the heating life on the part of a for Anny or Adv 0.88 -0.70 0.44 Void Adv Lunderstand the heating life on the part of a for Anny or Adv 0.88 -0.20 0.44 Void Advectment Link heating life on the part of anny operation medicine every day 0.86 -0.20 0.42 Void Advectment Link heating life on the part of anny operation medicine every day 0.86 -0.5 0.43 Void Advectment Doit Doit Note 0.66 -0.3 0.40 Void Advectment Doit Doit Doit Void 0.66 -0.3 0.40 Void Advectment Doit Doit Doit Void 0.66 -0.5 0.41 Void Advectment Doit Doit Doit Doit <	A2	I understand that healthy lifestyle should be practiced as soon as possible	0.99	0.0	0.05	Valid
Add i uncentand that leastly life is not seep in a local money 0.88 -0.70 0.49 Wild Add i uncentand that heatify lifes/local on appoint 10.8 0.4 0.33 Wild Add i uncentand that heatify lifes/local on appoint 0.57 -0.8 0.42 Wild Add i uncentand that heatify lifes/loca on all on take hypertension medicine overyday 0.33 -0.2 0.42 Wild Bd have to do heatify lifes/loca on all on take hypertension medicine overyday 0.8 -0.5 0.44 Wild Bd i have to do heatify lifes/loca on all on take hypertension 0.88 -0.5 0.44 Wild Bd i appet a heatify lifes/local on take hypertension 0.88 -0.5 0.44 Wild Bd i appet a heatify lifes/local on take hypertension 0.88 -0.5 0.44 Wild Bd i appet a heatify lifes/local on take hypertension 0.88 -0.5 0.48 Wild Cd I do not feel weed weed weed hypertension 0.84 -0.2 0.38 Wild Cd	Α3 Δ4	Lunderstand that healthy lifestyle can prevent hypertension	1.00	0.0	0.14	Valid
Adv Lunderstand to the advance filters be an or brand to appy OBS O-2 O-4 Understand to understand to understand to an orbital (field on or practice head) (field on orbital (field on orbit	A5	I understand that healthy life do not spend a lot of money	0.88	-0.7	0.49	Valid
A7 I understand about spreadments in Kill don prediction leading years 1.05 0.44 0.33 Wald Ammonia Interest do about spreadments in Kill don about years 0.37 -0.28 0.42 Wald B3 I have to do heading if encirculate a heading theory 1.00 0.36 Wald B3 I have to do heading if encirculate a heading theory 0.08 0.43 Wald B3 I have to do heading if encirculate a heading theory 0.08 0.43 Wald B3 My have the do heading if encirculate a heading theory 0.08 0.42 0.44 Wald B4 I apply a heading theory the oper temp or temp	A6	I understand that healthy lifestyle is not hard to apply	0.96	-0.2	0.44	Valid
AB understand alout hypeferionion risk if a loc of practice hearing tile style 0.87 0.80 0.42 Wald BB Inverse to a boasing with registerions or neglistice screen style 1.00 0.1 0.03 Wald BB Inverse to a boasing with registerions or neglistice screen style 1.00 0.2 0.44 Wald BB Inverse to a boasing with registerions 0.80 0.2 0.44 Wald BB Inverse to a boasing with registerions 0.60 0.2 0.44 Wald BB Inverse to a boasing with registerions 0.60 0.25 0.40 Wald BB Inverse to a boasing with registerions 0.60 0.60 0.03 Wald BB Inverse to a boasing with registerion 0.60 <td>A7</td> <td>I understand that unhealthy lifestyle lead to hypertension risk</td> <td>1.05</td> <td>0.4</td> <td>0.13</td> <td>Valid</td>	A7	I understand that unhealthy lifestyle lead to hypertension risk	1.05	0.4	0.13	Valid
Averantesis	A8	I understand about hypertension risk if I do not practice healthy lifestyle	0.87	-0.8	0.42	Valid
B1 Inside to the healthy lifestyle so it will not take hyperfermion medicine veryday 0.03 -0.2 0.42 Valid B3 I are ware to the improvement of healthy lifestyle 0.08 -0.5 0.43 Valid B4 I are ware to practice a healthy life 0.08 -0.5 0.43 Valid B4 I apply a healthy lifestyle on in shape 0.06 -0.2 0.40 Valid B51 I are ware to practice a healthy lifestyle 0.02 0.40 Valid B51 I regular healthy lifestyle on in shape 0.02 0.40 Valid B61 I regular healthy lifestyle on in shape 0.02 0.02 Valid C3 I do not feel weard wear practice a healthy lifestyle 0.04 -0.8 0.03 Valid C3 I hea that my frestyle not be abattyle fifestyle 0.64 -0.8 0.03 Valid C4 I head that my frestyle abattyle fifestyle 0.67 -0.8 0.02 Valid C3 I head that my frestyle abattyle fifestyle 0.67 -0.8 Valid	Awareness					
B2 Insist is on the start from hyperformance 1.0 1.1 1.0.3 Valid B4 is a wate is practice a healthy life 0.8 0.4 Valid Valid B5 is a wate is practice a healthy life 0.8 0.3 Valid B5 is a wate is practice a healthy lifestyle 0.6 -0.3 0.3 Valid B6 is practice is a healthy lifestyle 0.6 -0.8 0.63 Valid C1 is not locat is a healthy lifestyle 0.6 -0.8 0.63 Valid C2 If each tarry friends will healthy lifestyle 0.6 -0.8 0.63 Valid C3 In wate I can in weak view will how is healthy lifestyle 0.6 -0.8 0.63 Valid C3 In wate I can in weak view will have healthy lifestyle 0.6 -0.8 0.6 Valid C3 In wate I can inthe weak view will have head w	B1	I have to do healthy lifestyle so I will not take hypertension medicine everyday	0.93	-0.2	0.42	Valid
B4 1 and avaece of the migraphics () nong 1.08 0.08 0.04 voide B5 My healthy lifesty can improve my performance 0.09 0.25 Void B6 1 apply a healthy lifesty can improve my performance 0.09 0.25 Void B6 1 apply a healthy lifesty can improve my performance 0.08 -0.2 0.48 Void Settimetrin non for cord is apply a healthy lifesty 0.08 -0.5 0.0 0.05 Void Settimetrin non for cord is apply a healthy lifesty 0.01 0.02 0.05 Void C1 do not be kind why my period concer m for adoping a healthy lifesty 0.03 0.2 0.01 Void C3 Inter that my findsty lifesty 0.01 0.02 Void Void 0.00 0.02 Void C3 Inter that my findsty lifesty 0.01 0.02 Void Void 0.01 0.02 Void C3 Inter that my findsty lifesty 0.01 0.02 Void Void 0.02 Void 0.	B2	I have to do healthy lifestyle so I will not suffer from hypertension	1.00	0.1	0.35	Valid
BB Input healthy life shapes and monow any performance 0.09 0.00 0.35 Wald BB Input healthy life shapes 0.06 0.02 0.49 Wald BF Input healthy life shapes 0.06 0.02 0.49 Wald BF Input healthy life shapes 0.06 0.02 0.35 Wald BF Input healthy life shapes 0.06 0.08 0.03 0.34 Wald C2 Infer start ny find shapes 0.06 0.08 0.03 Wald C3 The start ny find shapes 0.06 0.02 0.04 Wald C3 The start ny find shapes 0.07 0.08 0.02 Wald C4 The start ny find shapes 0.07 0.08 0.02 Wald C4 The start ny find shapes 0.07 0.08 0.02 Wald C4 The start ny find shapes 0.07 0.08 Wald C6 0.08 Wald C4 The start ny find shapes 0.01<	B3 D4	I am aware of the importance of healthy living	1.08	0.0	0.03	Valid
BB i apply a heatity iffeto keep my kocky in shape 0.65 -0.3 0.35 Valid BB my and noncos a heatity iffetyke 0.65 -0.3 0.35 Valid BB i no fi hod wick with my being process a heatity iffetyke 0.63 -0.8 0.53 Valid GC i feel hart my finnds will no be ingrore ms for ackging a heatity iffestyke 0.64 -0.8 0.54 Valid GC i feel hart my finnds will no be ingrore ms for ackging a heatity iffestyke 0.84 -0.8 0.52 Valid GC i feel onfilent wind is heat anally iffestyke 0.84 -0.8 0.52 Valid GC i fi hea heatity iffestyke anally iffestyke 0.87 -0.1 0.34 Valid GC i fi hea heatity iffestyke anally iffestyke 0.67 -0.6 0.30 Valid GC i fi hea heatity iffestyke anally iffestyke 0.67 -0.6 0.30 Valid GC i fi hea heatity iffestyke anally iffestyke 0.67 -0.6 0.30 Valid GC i fi hea heatity iffestyke anally iffest	B5	My healthy lifestyle can improve my performance	0.99	0.0	0.35	Valid
http 1 min of tonce is a basing lifestyle 0.65 -0.5 0.40 Walid Self-inettro -0.6 -0.5 0.40 Walid Self-inettro -0.6 0.20 0.55 Walid Self-inettro -0.6 0.20 0.55 Walid G3 -0.61 0.20 0.55 Walid G4 field crifted train with one bargene met for stacing a healthy lifestyle 0.20 0.55 Walid G3 -0.61 0.80 Walid 0.55 -0.22 0.41 Walid G3 -0.61 have the will be a healthy lifestyle 0.85 -0.22 0.41 Walid G3 -0.61 have the will be a healthy lifestyle 0.62 Walid 0.62 Walid G4 healthy lifestyle suite my robody 0.00 0.0 0.22 Walid G4 healthy lifestyle suite my robody notabal shiftstyle suite my robody 0.65 0.63 Walid G4 healthy lifestyle my robody notabal shiftstyle my robody	B6	I apply a healthy life to keep my body in shape	0.95	-0.2	0.49	Valid
B8 Impact Access a heality lifesty is a selection of the work of years and the select years of the second proteins a heality lifesty is a selection of the second years of the second year	B7	I am not forced to adopt a healthy lifestyle	0.95	-0.3	0.35	Valid
Self-Interior Use of a cont perior with the practice a healthy lifetyle 0.68 -0.68 -0.6 0.83 Wald C3 Interaction into a healthy lifetyle 1.60 0.63 Wald C3 Interaction into a healthy lifetyle 1.60 0.63 Wald C4 Interaction into a healthy lifetyle 0.64 0.62 Wald C5 Interaction into a healthy lifetyle 0.64 0.62 Wald C6 Interaction into a healthy lifetyle 0.67 0.72 0.64 Wald C6 Interaction into a healthy lifetyle 0.67 0.72 0.74 Wald C6 Interaction into a healthy lifetyle 0.67 0.72 Wald Wald C7 Interaction into a healthy lifetyle 0.67 0.72 Wald C7 Interaction into a healthy lifetyle 0.67 0.62 Wald C8 Interaction intoo int	B8	I myself choose a healthy lifestyle	0.92	-0.5	0.40	Valid
C1 I do not les wind when practice a healthy lifestyle 0.68 -0.68 0.63 Valid C2 I test harthy finesty wind not be given or adopting a healthy lifestyle 0.24 1.24 0.35 Valid C3 I have no doubts about a healthy lifestyle 0.84 -0.8 0.50 Valid C3 I have no doubts about a healthy lifestyle 0.97 -0.1 0.34 Valid C3 I have no doubts about a healthy lifestyle 0.87 -0.8 0.52 Valid C3 I have no doubts about a healthy lifestyle 0.87 -0.8 0.62 Valid C3 I have a healthy life socurasi to bey the religion 1 follow 0.88 -0.1 0.0 0.22 Valid C3 I in I adogt an unbestily lifestyle 0.85 -0.4 0.32 Valid C4 I get ment from my Capit I about headthy lifestyle 0.95 -0.4 0.32 Valid C4 I ach nebus fibrit for hist formorization about a headthy lifestyle 0.85 -0.4 0.32 Valid C4 I ach nebus fibrit f	Self-intention					
1 1.10 1.02 0.15 Valid C4 Inter Inter My memory will note a history will only a heating will be a history will be a history will be a heating will be a heat	C1	I do not feel weird when practice a healthy lifestyle	0.66	-0.8	0.63	Valid
C4 Instance.termsety memory 1.2 0.38 valid C5 Inser the well to into the membry lifestyle 0.84 1.2 0.34 valid C5 Inser the well to into the membry lifestyle 0.95 1.02 0.41 Valid C6 Inser the well to into the membry lifestyle 0.97 -0.1 0.24 Valid C7 I love to do healthy lifestyle 0.97 -0.8 0.62 Valid C1 I love to do healthy lifestyle 0.87 -0.8 0.62 Valid C3 I into into any control to the theighty lifestyle 0.84 -0.8 0.52 Valid C4 I get ment from my God I i lodgy a healthy lifestyle 0.96 -0.8 0.39 Valid C6 The religion that lifestyle 0.96 -0.7 Valid Valid C6 I can not get pressift moniton a south a healthy lifestyle 0.83 -1.1 0.35 Valid C6 I can not get pressift moniton a south a healthy lifestyle 0.85 -1.0 Valid Valid V	C2	I feel that my friends will not be ignore me for adopting a healthy lifestyle	1.03	0.2	0.15	Valid
C5 Insure than will be in a sheading lifetypie 1.84 -1.68 0.50 Wald C6 Insure than will be in a sheading lifetypie 0.67 -0.1 0.44 Wald C7 I love to do healthy lifetypie uny hobty 0.87 -0.8 0.62 Wald C8 Healthy lifetypie uny hobty 0.87 -0.8 0.62 Wald C8 Healthy lifetypie uny hobty 0.87 -0.8 0.62 Wald C1 I live a healthy lifetypie units my hobty 0.87 -0.8 0.52 Wald C3 Healthy lifetypie units my hobty 0.87 -0.8 0.52 Wald C4 I ministry instructure 0.87 -0.8 0.52 Wald C4 I ministry instructure 0.87 -0.8 0.52 Wald C5 Healthy lifetypie analty lifetypie 0.87 -0.8 0.52 Wald C5 Healthy lifetypie mathetypie instructure 0.87 -0.4 0.37 Wald C6 Tran stop mynamic for folowing an un	C3	I ni sule i can live a healthy lifestyle	0.90	-0.6	0.39	Valid
C6 I have in doubts about a healthy lifestyle 0.67 0.64 Valid C7 I love to do healthy lifestyle suits my hobby 0.67 0.64 Valid C8 Neathy lifestyle suits my hobby 0.67 0.64 Valid C9 I live a healthy lifestyle suits my hobby 0.67 0.62 Valid C9 I live a healthy lifestyle suits my hobby 0.67 0.62 Valid C9 I live a healthy lifestyle suits my chilgon 1 follow 0.63 0.62 Valid C9 Test meet from my Codi I li adopta healthy lifestyle 0.64 0.63 Valid C8 Test meet from my Codi I li adopta healthy lifestyle 0.65 -0.4 0.57 Valid C8 Test monitonig for the mealthy lifestyle 0.53 -0.1 0.53 Valid C8 Test monitonig for the mealthy lifestyle 0.53 -0.7 0.61 Valid C8 Test mealthy lifestyle 0.54 Valid 0.54 Valid C8 Test mealthy lifestyle 0.54 Valid 0.54 <td>C5</td> <td>I have the will to live a healthy lifestyle</td> <td>0.84</td> <td>-0.8</td> <td>0.50</td> <td>Valid</td>	C5	I have the will to live a healthy lifestyle	0.84	-0.8	0.50	Valid
C7 How to obtainly iffestyle introduction 0.97 -0.5 0.54 Valid Religion and belief How a healthy iffestyle is my hobby 0.83 -0.1 0.27 Valid D1 Hive a healthy iffestyle anthrow integration 0.83 -0.1 0.24 Valid D2 Hive a healthy iffestyle anthrow integration 0.81 -0.1 0.25 Valid D2 Hive a healthy iffestyle anthrow integration 0.81 -0.1 0.33 Valid D3 Healthy iffestyle anthrow integration 0.01 0.1 0.33 Valid D4 Healthy iffestyle anthrow integration 0.05 -0.4 0.57 Valid SetE-contol Healthy iffestyle anthrow integration 0.83 -1.1 0.85 Valid E5 L can retuse if someone persuades an unhealthy iffestyle that i received 0.83 -1.1 0.85 Valid E5 L can retuse if someone persuades an unhealthy iffestyle that i received 0.81 -1.1 0.85 Valid E5 L can retuse if someone persuades an unhealthy iffestyle t	C6	I have no doubts about a healthy lifestyle	0.95	-0.2	0.41	Valid
C3 Healthy life subcording to the religion 1 foliow 0.7 0.82 Valid D1 I live a healthy life according to the religion 1 foliow 0.3 0.0 0.2 2 Valid D2 I live a healthy life according to the religion 1 foliow 0.57 0.22 Valid D3 I sin if 1 adopt an unhealthy life style 0.57 0.62 Valid D4 I gain multicom to cold I adopt a nuchealthy life style 0.56 0.57 Valid D5 I gain nucleanthy life style 0.56 0.57 Valid D5 I gain nucleanthy life style in the nucleanthy life style 1.55 1.7 0.42 Valid D6 I can stops of smoone persuades an unhealthy life style that I received 1.55 1.7 0.42 Valid D5 I can judge the life style healthy life style in the ceived 1.51 0.72 Valid D5 I can style s smooth a nucleanthy life style in the ceived 0.52 -0.3 0.66 Valid D5 I can style s smooth a stathy life style in ceived 0.52 -0.2 Valid <td< td=""><td>C7</td><td>I love to do healthy lifestyle</td><td>0.97</td><td>-0.1</td><td>0.34</td><td>Valid</td></td<>	C7	I love to do healthy lifestyle	0.97	-0.1	0.34	Valid
Fields Use a healthy life according to the religion I follow 0.83 -0.1 0.27 Valid D1 I live a healthy life because I obey the religion I follow 0.00 0.23 Valid D2 I live a healthy life because I obey the religion I follow 0.07 0.62 0.52 Valid D5 Healthy life by earlies may religion 0.01 0.1 0.35 Valid D6 The religion that I follow traches a healthy lifestyle 0.55 -0.6 0.57 Valid Self-corrot Tain reliang if someone persuades an unhealthy lifestyle that I received 0.53 1.1 0.35 Valid E1 L can retuse if someone persuades an unhealthy lifestyle that I received 0.51 1.0 Valid E5 I can retuse if someone persuades an unhealthy lifestyle that I received 0.51 Valid Valid E5 I can retuse if someone persuades an unhealthy lifestyle that I received 0.61 Valid Valid E6 I can retuse if someone persuades an unhealthy lifestyle 0.62 0.63 Valid F1 My finiorids approxid an transity or u	C8	Healthy lifestyle suits my hobby	0.87	-0.8	0.62	Valid
D1 I live a healthy life according to the religion 1 follow 0.83 -0.1 0.27 Valid D2 I live a healthy life according to the religion 1 follow 0.7 -0.8 0.52 Valid D3 I sin f1 adopt an unhealthy lifestyle 0.44 -0.3 0.53 Valid D4 Expland the construction of the religion 1 follow leaches a healthy lifestyle 0.90 -0.6 0.39 Valid Self-control 0.51 I can stop myself from following an unhealthy lifestyle that I received 1.8 -0.7 Valid E1 I can stop myself from following an unhealthy lifestyle that I received 1.8 -1.1 0.35 Valid E3 I can idge for the truth of the information about a healthy lifestyle that I received 1.8 -1.1 0.35 Valid E3 I can idge the lifestyle that I apply is healthy or unhealthy 0.8 -0.7 0.63 Valid E3 I can idge the lifestyle that I apply is healthy or unhealthy 1.80 -0.4 0.42 Valid E3 I can idge the lifestyle that I apply is healthy or unhealthy 1.80 -0.5 <td>Religion and bel</td> <td>ief</td> <td></td> <td></td> <td></td> <td></td>	Religion and bel	ief				
D2 I live a healthy life because I obey the religon Tollow 1.00 0.0 0.26 Valid D3 I ain I adopt a muelthy lifestyle 0.47 -0.8 0.52 Valid D4 1.94 met iff mom my Cad If adopt a healthy lifestyle 0.60 -0.30 Valid D5 maintering 0.50 -0.4 0.57 Valid D5 maintering 0.55 -0.4 0.57 Valid D5 maintering 0.55 -0.4 0.57 Valid D5 I can stop myself monolohyng an unhealthy lifestyle 1.0 0.40 0.52 Valid D5 L can refuse f someone persuades an unhealthy lifestyle that 1 received 0.83 -1.1 0.57 Valid D5 L can ydge the lifestyle that 1 agoly is healthy or unhealthy 0.89 -0.5 0.45 Valid D6 D1 D.3 0.61 Valid Can dettering the adopt the lifestyle is the adopt the soluta addity if lifestyle is the addity ad	D1	I live a healthy life according to the religion I follow	0.83	-0.1	0.27	Valid
D3 Is in fl adopt a unheattry lifestyle 0.84 -0.8 0.52 Valid D4 Iget merift form vice (or lar days the heattry lifestyle 0.64 -0.3 0.50 Valid D5 Heattry lifestyle suits my religion 1.01 0.1 0.35 Valid D4 I get merift form vice (from follow lacentes a heattry lifestyle 0.55 -0.4 0.57 Valid D4 I an looking for the truth of the information about a heattry lifestyle that I received 1.35 1.7 0.42 Valid E3 I an looking for the truth of the information about a heattry lifestyle that I received 1.31 0.7 0.10 Valid E4 I rechecked the information about a heattry lifestyle 0.92 -0.5 0.45 Valid E5 I can judge the lifestyle that I apply is heattry or unheattry 0.8 -0.7 0.63 Valid E4 Heattry lifestyle that I apply is heattry or unheattry 0.8 -0.7 0.63 Valid E5 My finds parsuade me to follow heattry lifestyle 0.92 -0.3 0.66 Valid E4 Heattry lifestyle strut 0.8 -0.7 0.	D2	I live a healthy life because I obey the religion I follow	1.00	0.0	0.26	Valid
1.9 1.9 1.9 1.0 <td>D3</td> <td>I sin if I adopt an unhealthy lifestyle</td> <td>0.87</td> <td>-0.8</td> <td>0.52</td> <td>Valid</td>	D3	I sin if I adopt an unhealthy lifestyle	0.87	-0.8	0.52	Valid
Ddi Ddi <thdi< th=""> <thdi< th=""> <thddi< th=""></thddi<></thdi<></thdi<>	D4 D5	Healthy lifestyle suits my religion	0.94	-0.3	0.50	Valid
Self-control Not Registration Results in Reach and reachy integription Disc Disc <thdisc< th=""> Disc<</thdisc<>	D5 D6	The religion that I follow teaches a healthy lifestyle	0.90	-0.6	0.35	Valid
En Lan stop myself from following an unhealthy lifestyle 0.85 -0.4 0.57 Valid E2 Lan retuse if normation about a healthy lifestyle 0.83 -1.1 0.35 Valid E3 Lan indusing for the truth of the information about a healthy lifestyle that l received 0.83 -1.1 0.35 Valid E4 Lean-judge the lifestyle that l apply is healthy or unhealthy 0.89 -0.5 0.45 Valid Social circle 0.89 -0.5 0.45 Valid Social circle 0.89 -0.5 0.45 Valid F1 My fiendos apply a healthy lifestyle 0.86 -0.7 0.53 Valid F2 My followers in social media apply a healthy lifestyle 0.91 -0.5 0.43 Valid F3 Healthy lifestyle is trending todday 1.06 0.4 .72 Valid F6 My dialo practice a healthy lifestyle at home 0.77 -0.6 0.51 Valid G1 Lan used to living a healthy lifestyle at home 0.77 -0.6 0.51 Valid <td>Self-control</td> <td>The religion that hollow leadings a healthy indstyle</td> <td>0.50</td> <td>0.0</td> <td>0.00</td> <td>vanu</td>	Self-control	The religion that hollow leadings a healthy indstyle	0.50	0.0	0.00	vanu
E2 1 can relixe if someone persuades an unheality lifestyle 1.35 1.7 0.42 Valid E3 1 an looking for the truth of the information about a healthy lifestyle that I received 0.35 Valid E4 I rechecked the information about a healthy lifestyle that I received 0.11 0.7 0.10 Valid Social circle	E1	I can stop myself from following an unhealthy lifestyle	0.85	-0.4	0.57	Valid
E3 1 am looking for the truth of the information about a healthy lifestyle that I received 1.1 0.7 0.10 Valid E4 1 can judge the lifestyle that I apply is healthy or unhealthy 0.89 -0.5 0.45 Valid Social circle 0.87 0.81 0.31 0.61 Valid F1 My frends apply a healthy lifestyle 0.22 -0.3 0.66 Valid F2 My followers in social media apply a healthy lifestyle 0.88 -0.7 0.63 Valid F3 Healthy lifestyle is tending today 1.06 0.4 0.72 Valid F6 My doils practice a healthy lifestyle is cool in my social circle 0.91 -0.43 Valid G1 I am used to living a healthy lifestyle at home 0.97 -0.6 0.51 Valid G2 I other meming parents to adopt a healthy lifestyle 0.97 -0.1 0.24 Valid G3 My parents understan about a healthy lifestyle 0.97 -0.6 0.51 Valid G4 My parents understan about a healthy lifestyle 0.97 -0.1 0.24 Valid G5 My	E2	I can refuse if someone persuades an unhealthy lifestyle	1.35	1.7	0.42	Valid
E4 Irechecked the information about a healthy lifestyle that I received 1.11 0.7 0.10 Valid Social circle Ican judge the lifestyle that I apply is healthy lifestyle 0.42 0.3 0.61 Valid F1 My friends persuade me to follow healthy lifestyle 0.92 -0.3 0.66 Valid F3 My followers in social media apply a healthy lifestyle 0.91 -0.5 0.43 Valid F4 Healthy lifestyle is trending today 0.86 -0.7 0.63 Valid F5 My daily activities support healthy lifestyle 0.86 -0.8 0.62 Valid F6 My daily activities support healthy lifestyle 0.86 -0.7 -0.6 0.51 Valid F7 Healthy lifestyle at home 0.77 -0.6 0.51 Valid G3 My parents tod bort a healthy lifestyle is healthy lifestyle 0.97 -0.1 0.24 Valid G4 My parents and wort a healthy lifestyle is healthy or not 0.93 -0.6 0.43 Valid G5 My parents prov	E3	I am looking for the truth of the information about a healthy lifestyle that I received	0.83	-1.1	0.35	Valid
Ecs Ican judge the lifestyle that I apply is healthy or unhealthy 0.89 -0.5 0.45 Valid F1 My friends apply a healthy lifestyle 1.04 0.3 0.61 Valid F2 My followers in social media apply a healthy lifestyle 0.88 -0.7 0.63 Valid F3 My followers in social media apply a healthy lifestyle 0.81 0.75 0.43 Valid F4 Healthy lifestyle is trending todday 0.86 -0.6 0.62 Valid F6 My dolb practice a healthy lifestyle 0.91 -0.4 0.48 Valid F7 Healthy lifestyle is cool in my social circle 0.95 -0.2 0.61 Valid G1 I am used to living a healthy lifestyle at home 0.77 -0.6 0.51 Valid G2 I often remind parents to adopt a healthy lifestyle 0.91 -0.4 0.48 Valid G3 My parents androta supervisem y lifestyle is healthy or not 0.93 -0.4 0.28 Valid G4 My parents are avare of the importance of a healthy lifestyle <td>E4</td> <td>I rechecked the information about a healthy lifestyle that I received</td> <td>1.11</td> <td>0.7</td> <td>0.10</td> <td>Valid</td>	E4	I rechecked the information about a healthy lifestyle that I received	1.11	0.7	0.10	Valid
Social circle 1.04 0.3 0.61 Valid F2 My friends persuade me to follow healthy lifestyle 0.82 -0.3 0.66 Valid F3 My followers in social media apply a healthy lifestyle 0.82 -0.3 0.66 Valid F4 Healthy lifestyle is trending today 1.06 0.4 0.72 Valid F5 My dialy activities support healthy lifestyle 0.86 -0.8 0.62 Valid F6 My dialy activities support healthy lifestyle is cool in my social circle 0.86 -0.8 0.62 Valid F7 Healthy lifestyle is cool in my social circle 0.85 -0.2 0.61 Valid G3 My parents to adopt a healthy lifestyle 0.91 -0.4 0.48 Valid G4 Hy parents are aware of the importance of a healthy lifestyle 0.97 -0.1 0.24 Valid G5 My parents thorotan diffestyle is healthy or not 0.93 -0.4 0.26 Valid G6 My parents provide facilities so that 1 can adopt a healthy lifestyle 0.85	E5	I can judge the lifestyle that I apply is healthy or unhealthy	0.89	-0.5	0.45	Valid
r1 My media spipy a healiny lifestyle 1.04 0.3 0.61 Valid F2 My finding spinuade me to follow healthy lifestyle 0.82 -0.3 0.66 Valid F3 My followers in social media apply a healthy lifestyle 0.88 -0.7 0.63 Valid F4 Healthy lifestyle is rending today 0.61 -0.5 0.43 Valid F6 My dolds practice a healthy lifestyle 0.86 -0.8 0.62 Valid F6 In used to living a healthy lifestyle at home 0.77 -0.6 0.51 Valid G1 Lam used to living a healthy lifestyle 0.91 -0.4 0.48 Valid G2 Loften remin develstand about healthy lifestyle 0.97 -0.1 0.24 Valid G4 My parents are aware of the importance of a healthy lifestyle 0.33 0.4 0.26 Valid G6 Parents control and supervise athly no not 0.99 0.0 0.22 Valid G6 My parents are able to meet my needs so that 1 can adopt a healthy lifestyle 0.89	Social circle	M. Stands and the backless that	4.04	0.0	0.01) (- 1: -1
rz my initia persuade mit o local media apply a healthy lifestyle 0.82 -0.3 0.03 Valid F3 My followers in social media apply a healthy lifestyle 0.88 -0.7 0.63 Valid F4 Healthy lifestyle is trending today 1.06 0.4 0.72 Valid F5 My daily activities support healthy lifestyle 0.88 -0.8 0.62 Valid F6 My daily activities support healthy lifestyle is cool in my social circle 0.85 -0.2 0.61 Valid F7 Healthy lifestyle is cool in my social circle 0.95 -0.3 -0.03 Valid G1 Lam used to living a healthy lifestyle at home 0.77 -0.6 0.51 Valid G3 My parents to adopt a healthy lifestyle 0.97 -0.1 0.24 Valid G4 My parents to advertime to my attention to my lifestyle is healthy or not 0.93 -0.0 0.22 Valid G6 My parents provide facilities so that 1 can adopt a healthy lifestyle 0.85 -0.9 0.45 Valid G1 In	F1 F2	My friends apply a healthy lifestyle	1.04	0.3	0.61	Valid
F4 Healthy lifestyle is trending today 0.06 0.4 0.72 Valid F5 My daily activities support healthy lifestyle 0.91 -0.5 0.43 Valid F6 My daily activities support healthy lifestyle 0.91 -0.5 0.43 Valid F7 Healthy lifestyle is cool in my social circle 0.95 -0.2 0.61 Valid G1 Larn used to living a healthy lifestyle at home 0.77 -0.6 0.51 Valid G2 Loften remind parents to adopt a healthy lifestyle 0.91 -0.4 0.48 Valid G4 My parents understand about their hypertension disease 0.95 -0.3 -0.03 Valid G5 My parents understand about their hypertension disease 0.95 -0.2 0.22 Valid G6 Parents control and supervise so that 1 can adopt a healthy lifestyle 0.93 -0.4 0.43 Valid G6 Parents control and supervise so that 1 can adopt a healthy lifestyle 0.86 -0.9 0.45 Valid G10 I have a good relationship wi	F2 F3	My followers in social media apply a healthy lifestyle	0.92	-0.3	0.00	Valid
F5 My daily activities support healthy life style 0.91 -0.5 0.43 Valid F6 My idols practice a healthy lifestyle 0.86 -0.8 0.62 Valid Family condition Valid Valid G1 Lan used to living a healthy lifestyle at home 0.77 -0.6 0.51 Valid G2 Loften remind parents to adopt a healthy lifestyle 0.91 -0.4 0.48 Valid G3 My parents toid me about theithy hypertension disease 0.91 -0.3 -0.03 Valid G4 My parents torule at supervise my lifestyle is healthy or not 0.93 -0.4 0.26 Valid G6 Parents control and supervise my lifestyle is healthy or not 0.93 -0.4 0.26 Valid G10 I have a good relationship with my parents 1.13 0.6 0.02 Invalid G11 Hy parents are able to meet my meeds so that L can adopt a healthy lifestyle 0.94 -0.3 0.27 Valid G14 My parents encourge an healthy lifestyle </td <td>F4</td> <td>Healthy lifestyle is trending today</td> <td>1.06</td> <td>0.4</td> <td>0.72</td> <td>Valid</td>	F4	Healthy lifestyle is trending today	1.06	0.4	0.72	Valid
F6 My idois practice a healthy lifestyle Order Order Valid F7 Healthy lifestyle is cool in my social circle 0.95 -0.2 0.61 Valid Family condition	F5	My daily activities support healthy life style	0.91	-0.5	0.43	Valid
F7 Healthy lifestyle is cool in my social circle 0.95 -0.2 0.61 Valid Family condition Iam used to living a healthy lifestyle at home 0.77 -0.6 0.51 Valid G2 I often remind parents to adopt a healthy lifestyle 0.91 -0.4 0.48 Valid G3 My parents to iddopt a healthy lifestyle 0.97 -0.1 0.24 Valid G4 My parents are aware of the importance of a healthy lifestyle 0.93 -0.4 0.26 Valid G5 My parents are aware of the importance of a healthy lifestyle 0.89 -0.6 0.42 Valid G6 Parents control and supervise my lifestyle is healthy or not 0.99 0.0 0.22 Valid G8 My parents are able to meet my needs so that 1 can adopt a healthy lifestyle 0.88 -0.6 0.43 Valid G10 I have a good relationship with my parents 1.13 0.6 0.02 Invalid G14 My parents lifestyle isalthy lifestyle 0.94 -0.3 0.27 Valid G14	F6	My idols practice a healthy lifestyle	0.86	-0.8	0.62	Valid
Family condition Use of a larm used to living a healthy lifestyle at home 0.77 -0.6 0.51 Valid G2 I often remind parents to adopt a healthy lifestyle 0.91 -0.4 0.48 Valid G3 My parents understand about a healthy lifestyle 0.97 -0.1 0.24 Valid G4 My parents are aware of the importance of a healthy lifestyle 0.97 -0.1 0.24 Valid G5 My parents have time to pay attention to my lifestyle is healthy or not 0.93 -0.4 0.22 Valid G8 My parents provide facilities so that 1 can adopt a healthy lifestyle 0.86 -0.6 0.43 Valid G10 I have a good relationship with my parents 1.13 0.6 0.02 Invalid G10 I have a good relationship with my parents 1.11 0.7 0.01 Valid G11 My parents give me advice about healthy lifestyle 0.91 -0.5 0.28 Valid G14 My parents give me advice about healthy lifestyle 0.91 -0.5 0.28 Valid G14	F7	Healthy lifestyle is cool in my social circle	0.95	-0.2	0.61	Valid
G1 I am used to living a healthy lifestyle at home 0.77 -0.6 0.51 Valid G2 I often remind parents to adopt a healthy lifestyle 0.91 -0.4 0.48 Valid G3 My parents told me about their hypertension disease 0.95 -0.3 -0.03 Valid G4 My parents understand about a healthy lifestyle 0.97 -0.1 0.24 Valid G5 My parents have time to pay attention to my lifestyle is healthy or not 0.93 -0.4 0.22 Valid G7 My parents are able to meet my needs to so that 1 can adopt a healthy lifestyle 0.89 -0.6 0.43 Valid G9 My parents are able to meet my needs to so that 1 can adopt a healthy lifestyle 0.89 -0.6 0.43 Valid G10 I have a good relationship with my parents 1.13 0.6 0.02 Invalid G11 My parents encourage mee to live a healthy lifestyle 0.94 -0.3 0.27 Valid G12 My parents give me advice about healthy lifestyle 0.98 0.1 0.26 Valid	Family condition					
G2 Inter remind parents to adopt a healthy lifestyle 0.91 -0.4 0.48 Valid G3 My parents to dim e about their hypertension disease 0.95 -0.3 -0.03 Valid G4 My parents understand about a healthy lifestyle 0.97 -0.1 0.24 Valid G5 My parents are aware of the importance of a healthy lifestyle 0.93 -0.4 0.26 Valid G6 Parents control and supervise my lifestyle is healthy or not 0.99 0.0 0.22 Valid G8 My parents provide facilities so that I can adopt a healthy lifestyle 0.88 -0.6 0.43 Valid G10 I have a good relationship with my parents 1.13 0.6 0.02 Invalid G11 My parents live a healthy lifestyle is healthy or unhealthy 1.11 0.7 0.01 Valid G12 My parents is encourage me to live a healthy lifestyle 0.94 -0.3 0.27 Valid G13 My parents upport healthy lifestyle 0.94 -0.1 0.35 Valid G14 My parents	G1	I am used to living a healthy lifestyle at home	0.77	-0.6	0.51	Valid
G3 My parents toic me about their hypertension disease 0.95 -0.3 -0.03 Valid G4 My parents are aware of the importance of a healthy lifestyle 0.97 -0.1 0.24 Valid G5 My parents are aware of the importance of a healthy lifestyle 0.93 -0.4 0.26 Valid G6 Parents control and supervisem y lifestyle is healthy or not 0.99 0.0 0.22 Valid G8 My parents are able to meet my needs to that 1 can adopt a healthy lifestyle 0.89 -0.6 0.43 Valid G9 My parents are able to meet my needs to that 1 can adopt a healthy lifestyle 0.81 -0.3 0.27 Valid G11 My parents are able to meet my needs to that 1 can adopt a healthy lifestyle 0.84 -0.3 0.27 Valid G11 My parents are able to meet my needs to that 1 can adopt a healthy lifestyle 0.94 -0.3 0.27 Valid G11 My parents are able to meet my needs to that 1 can adopt a healthy lifestyle 0.94 -0.3 0.27 Valid G14 My parents inve healthy lifestyle 0.94 <td< td=""><td>G2</td><td>I often remind parents to adopt a healthy lifestyle</td><td>0.91</td><td>-0.4</td><td>0.48</td><td>Valid</td></td<>	G2	I often remind parents to adopt a healthy lifestyle	0.91	-0.4	0.48	Valid
G4 My parents since stand a locality lifestyle 0.1 0.14 Valid G5 My parents are aware of the importance of a healthy lifestyle 1.03 0.2 0.28 Valid G6 Parents control and supervise my lifestyle is healthy or not 0.93 -0.4 0.26 Valid G7 My parents have time to pay attention tor my lifestyle is healthy or not 0.99 0.0 0.22 Valid G8 My parents have time to pay attention tor my lifestyle is healthy or not 0.99 -0.6 0.43 Valid G10 I have a good relationship with my parents 1.13 0.6 0.02 Invalid G12 My parents live a healthy lifestyle 1.11 0.7 0.01 Valid G13 My parents live a healthy lifestyle 0.94 -0.3 0.27 Valid G14 My parents give an backty lifestyle 0.91 -0.5 0.28 Valid G14 My parents give an backty lifestyle 0.94 0.1 0.25 Valid G14 My parents give aneativie a backthy lifestyle 0.98	G3	My parents told me about their hypertension disease	0.95	-0.3	-0.03	Valid
Code Parents control and supervise my lifestyle is healthy or not D3 D-24 D-25 Valid G6 Parents control and supervise my lifestyle is healthy or not 0.99 0.0 0.22 Valid G7 My parents have time to pay attention to my lifestyle is healthy for not 0.99 0.0 0.22 Valid G8 My parents provide facilities so that I can adopt a healthy lifestyle 0.85 -0.9 0.45 Valid G10 I have a good relationship with my parents 1.13 0.6 0.02 Invalid G11 My parents care whether my lifestyle is healthy or unhealthy 1.11 0.7 0.01 Valid G12 My parents ince an encourage me to live a healthy lifestyle 0.91 -0.5 0.28 Valid G14 My parents give me advice about healthy lifestyle 1.08 0.4 0.14 Valid School situation	G4 G5	My parents are aware of the importance of a healthy lifestyle	1.03	0.1	0.24	Valid
G7 My parents have time to pay attention to my lifestyle is healthy or not 0.99 0.0 0.22 Valid G8 My parents provide facilities so that I can adopt a healthy lifestyle 0.89 -0.6 0.43 Valid G9 My parents are able to meet my needs so that I can adopt a healthy lifestyle 0.89 -0.6 0.43 Valid G10 I have a good relationship with my parents 1.13 0.6 0.02 Invalid G11 My parents care whether my lifestyle is healthy or unhealthy 1.11 0.7 0.01 Valid G12 My parents live a healthy lifestyle 0.94 -0.3 0.27 Valid G14 My parents encourage me to live a healthy lifestyle 0.94 -0.5 0.28 Valid School situation 1.08 0.4 0.14 Valid Valid H2 My tacentes live a healthy lifestyle 0.98 0.1 0.25 Valid H3 Healthy lifestyle is one of the topics of study in school 0.97 -0.1 0.35 Valid H4 Schools make rules that en	G6	Parents control and supervise my lifestyle is healthy or not	0.93	-0.4	0.26	Valid
G8My parents provide facilities so that I can adopt a healthy lifestyle0.89-0.60.43ValidG9My parents are able to meet my needs so that I can adopt a healthy lifestyle0.85-0.90.45ValidG10I have a good relationship with my parents1.130.60.02InvalidG11My parents care whether my lifestyle is healthy or unhealthy1.110.70.01ValidG12My parents encourage me to live a healthy lifestyle0.94-0.30.27ValidG13My parents encourage me to live a healthy lifestyle0.91-0.50.28ValidG14My parents encourage me to live a healthy lifestyle0.980.10.26ValidG14My parents encourage and the parents encourage a healthy lifestyle0.980.10.26ValidSchool situationItachers ive a healthy lifestyle0.980.10.26ValidH2My teachers live a healthy lifestyle0.980.00.35ValidH3Healthy lifestyle is one of the topics of study in school0.97-0.10.36ValidH4Schools provide facilities that support a healthy lifestyle0.94-0.30.33ValidH5Schools make rules that encourage a healthy lifestyle0.94-0.10.36ValidI1The government makes regulations that support a healthy lifestyle0.90-0.60.42ValidI2The people around me care about a healthy lifestyle0.90-0.60	G7	My parents have time to pay attention to my lifestyle is healthy or not	0.99	0.0	0.22	Valid
G9 My parents are able to meet my needs so that I can adopt a healthy lifestyle 0.85 -0.9 0.45 Valid G10 I have a good relationship with my parents 1.13 0.6 0.02 Invalid G11 My parents care whether my lifestyle is healthy or unhealthy 1.11 0.7 0.01 Valid G12 My parents encourage me to live a healthy lifestyle 0.94 -0.3 0.27 Valid G14 My parents give me advice about healthy lifestyle 0.91 -0.5 0.28 Valid G14 My parents give me advice about healthy lifestyle 0.91 -0.5 0.28 Valid School situation	G8	My parents provide facilities so that I can adopt a healthy lifestyle	0.89	-0.6	0.43	Valid
G10I have a good relationship with my parents1.130.60.02InvalidG11My parents care whether my lifestyle is healthy or unhealthy1.110.70.01ValidG12My parents inve a healthy lifestyle is healthy or unhealthy0.94-0.30.27ValidG13My parents encourage me to live a healthy lifestyle0.91-0.50.28ValidG14My parents give me advice about healthy lifestyle0.980.10.26ValidSchool situation0.980.10.26ValidH1Teachers tell me about healthy lifestyle0.980.00.35ValidH2My teachers live a healthy lifestyle is one of the topics of study in school0.97-0.10.35ValidH4Schools provide facilities that support a healthy lifestyle0.94-0.30.33ValidH5Schools provide facilities that support a healthy lifestyle0.94-0.10.36ValidH2The government makes regulations that support a healthy lifestyle0.94-0.10.36ValidH3There are facilities that support a healthy lifestyle0.94-0.10.36ValidH4Schools provide facilities that support a healthy lifestyle0.90-0.60.42ValidI2The people around me care about a healthy lifestyle0.90-0.60.54ValidI3There are facilities that support a healthy lifestyle0.90-0.60.54Valid <t< td=""><td>G9</td><td>My parents are able to meet my needs so that I can adopt a healthy lifestyle</td><td>0.85</td><td>-0.9</td><td>0.45</td><td>Valid</td></t<>	G9	My parents are able to meet my needs so that I can adopt a healthy lifestyle	0.85	-0.9	0.45	Valid
G11My parents care whether my lifestyle is healthy or unhealthy1.110.70.01ValidG12My parents live a healthy lifestyle0.94-0.30.27ValidG13My parents encourage me to live a healthy lifestyle0.91-0.50.28ValidG14My parents give me advice about healthy lifestyle1.080.40.14ValidSchool situation	G10	I have a good relationship with my parents	1.13	0.6	0.02	Invalid
G12My parents live a healthy lifestyle 0.94 -0.3 0.27 ValidG13My parents encourage me to live a healthy lifestyle 0.91 -0.5 0.28 ValidG14My parents give me advice about healthy lifestyle 1.08 0.4 0.14 ValidSchool situation 1.08 0.4 0.14 ValidH1Teachers tell me about healthy lifestyle 0.98 0.1 0.26 ValidH2My teachers live a healthy lifestyle 0.98 0.0 0.35 ValidH3Healthy lifestyle is one of the topics of study in school 0.97 -0.1 0.35 ValidH4Schools provide facilities that support a healthy lifestyle 0.94 -0.3 0.33 ValidH5Schools make rules that encourage a healthy lifestyle 0.94 -0.1 0.36 ValidI1The government makes regulations that support a healthy lifestyle 0.94 -0.1 0.36 ValidI2The people around me care about a healthy lifestyle 1.12 0.7 0.34 ValidI3There are facilities that support a healthy lifestyle 0.90 -0.6 0.42 ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle 0.86 -0.9 0.33 ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle 0.84 -0.4 0.51 ValidJ2Health workers teach me a healthy lifestyle 0.91 -0.6 0.44 Valid<	G11	My parents care whether my lifestyle is healthy or unhealthy	1.11	0.7	0.01	Valid
G13My parents encourage me to live a healthy lifestyle0.91-0.50.28ValidG14My parents give me advice about healthy lifestyle1.080.40.14ValidSchool situation1.080.40.26ValidH1Teachers tell me about healthy lifestyle0.980.10.26ValidH2My teachers live a healthy lifestyle is one of the topics of study in school0.97-0.10.35ValidH4Schools provide facilities that support a healthy lifestyle0.94-0.30.33ValidH5Schools make rules that encourage a healthy lifestyle0.94-0.10.36ValidNeighborhood situation11The government makes regulations that support a healthy lifestyle0.94-0.10.36ValidI2The people around me care about a healthy lifestyle0.94-0.10.36ValidValidI3There are facilities that support a healthy lifestyle1.120.70.34ValidI4The people around me live a healthy lifestyle0.90-0.60.42ValidI5My local traditions support a healthy lifestyle0.90-0.60.54ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle0.91-0.60.54ValidJ2Health workers teach me a healthy lifestyle0.91-0.60.41ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41Valid	G12	My parents live a healthy lifestyle	0.94	-0.3	0.27	Valid
School situation1.030.40.14ValidH1Teachers tell me about healthy lifestyle0.980.10.26ValidH2My teachers live a healthy lifestyle0.980.00.35ValidH3Healthy lifestyle is one of the topics of study in school0.97-0.10.35ValidH4Schools provide facilities that support a healthy lifestyle0.94-0.30.33ValidH5Schools make rules that encourage a healthy lifestyle0.94-0.70.37ValidNeighborhood situationI1The government makes regulations that support a healthy lifestyle0.94-0.10.36ValidI2The people around me care about a healthy lifestyle0.94-0.10.36ValidI3There are facilities that support a healthy lifestyle0.94-0.10.36ValidI4The people around me ive a healthy lifestyle in the neighborhood around me0.90-0.60.42ValidI3There are facilities that support a healthy lifestyle0.90-0.60.54ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle0.86-0.90.33ValidYouth health serviceJ1Health workers teach me a healthy lifestyle0.84-0.40.51ValidJ2Health workers teach me a healthy lifestyle0.91-0.60.41ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41Valid <td>G13</td> <td>My parents encourage me to live a nealthy lifestyle</td> <td>0.91</td> <td>-0.5</td> <td>0.28</td> <td>Valid</td>	G13	My parents encourage me to live a nealthy lifestyle	0.91	-0.5	0.28	Valid
H1Teachers tell me about healthy lifestyle0.980.10.26ValidH2My teachers tive a healthy lifestyle0.980.00.35ValidH3Healthy lifestyle is one of the topics of study in school0.97-0.10.35ValidH4Schools provide facilities that support a healthy lifestyle0.94-0.30.33ValidH5Schools provide facilities that support a healthy lifestyle0.89-0.70.37ValidNeighborhood situation </td <td>School situation</td> <td>my parents give me advice about healthy mestyle</td> <td>1.00</td> <td>0.4</td> <td>0.14</td> <td>valiu</td>	School situation	my parents give me advice about healthy mestyle	1.00	0.4	0.14	valiu
H2My teachers live a healthy lifestyle0.980.00.35ValidH3Healthy lifestyle is one of the topics of study in school0.97 -0.1 0.35ValidH4Schools provide facilities that support a healthy lifestyle0.94 -0.3 0.33ValidH5Schools make rules that encourage a healthy lifestyle0.94 -0.1 0.36ValidNeighborhood situation11The government makes regulations that support a healthy lifestyle0.94 -0.1 0.36ValidI2The people around me care about a healthy lifestyle1.120.70.34ValidI3There are facilities that support a healthy lifestyle in the neighborhood around me0.90 -0.6 0.42ValidI4The people around me live a healthy lifestyle0.90 -0.6 0.54ValidI5My local traditions support a healthy lifestyle0.90 -0.6 0.54ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle0.94 -0.4 0.51ValidJ2Health workers teach me a healthy lifestyle0.84 -0.4 0.51ValidJ3I get information dissemination about a healthy lifestyle0.91 -0.6 0.41ValidJ4I got health information dissemination about a healthy lifestyle0.91 -0.6 0.41ValidJ4I got health information about a healthy lifestyle from a health worker0.97 -0.1 0.38ValidJ4I got health informatio	H1	Teachers tell me about healthy lifestyle	0.98	0.1	0.26	Valid
H3Healthy lifestyle is one of the topics of study in school 0.97 -0.1 0.35 ValidH4Schools provide facilities that support a healthy lifestyle 0.94 -0.3 0.33 ValidH5Schools make rules that encourage a healthy lifestyle 0.94 -0.3 0.37 ValidNeighborhood situationI1The government makes regulations that support a healthy lifestyle 0.94 -0.1 0.36 ValidI2The people around me care about a healthy lifestyle 1.12 0.7 0.34 ValidI3There are facilities that support a healthy lifestyle in the neighborhood around me 0.90 -0.6 0.42 ValidI4The people around me live a healthy lifestyle 0.90 -0.6 0.42 ValidI5My local traditions support a healthy lifestyle 0.90 -0.6 0.54 ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle 0.86 -0.9 0.33 ValidYouth health serviceJ1Health workers teach me a healthy lifestyle 0.84 -0.4 0.51 ValidJ2Health workers teach me a healthy lifestyle 0.91 -0.6 0.41 ValidJ3I get information dissemination about a healthy lifestyle 0.91 -0.6 0.41 ValidJ4I got health information dissemination about a healthy lifestyle from a health worker 0.97 -0.1 0.38 ValidJ4I got health information about a healthy lifestyle from a health	H2	My teachers live a healthy lifestyle	0.98	0.0	0.35	Valid
H4Schools provide facilities that support a healthy lifestyle0.94-0.30.33ValidH5Schools make rules that encourage a healthy lifestyle0.89-0.70.37ValidNeighborhood situationI1The government makes regulations that support a healthy lifestyle0.94-0.10.36ValidI2The people around me care about a healthy lifestyle in the neighborhood around me0.90-0.60.42ValidI3There are facilities that support a healthy lifestyle in the neighborhood around me0.90-0.60.42ValidI5My local traditions support a healthy lifestyle0.86-0.90.33ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle0.86-0.90.33ValidYouth health serviceJ1Health workers teach me a healthy lifestyle0.84-0.40.51ValidJ2Health workers teach me a healthy lifestyle0.84-0.40.51ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41ValidJ4I got health information dissemination about a healthy lifestyle from a health worker0.97-0.10.35Valid	H3	Healthy lifestyle is one of the topics of study in school	0.97	-0.1	0.35	Valid
H5Schools make rules that encourage a healthy lifestyle0.89-0.70.37ValidNeighborhood situation11The government makes regulations that support a healthy lifestyle0.94-0.10.36ValidI2The people around me care about a healthy lifestyle1.120.70.34ValidI3There are facilities that support a healthy lifestyle in the neighborhood around me0.90-0.60.42ValidI4The people around me live a healthy lifestyle0.84-0.90.64ValidI5My local traditions support a healthy lifestyle0.86-0.90.33ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle0.86-0.90.33ValidYouth health serviceJ1Health workers teach me a healthy lifestyle0.84-0.40.51ValidJ2Health workers teach me a healthy lifestyle0.84-0.60.41ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41ValidJ4I got health information disout a healthy lifestyle from a health worker0.97-0.10.35Valid	H4	Schools provide facilities that support a healthy lifestyle	0.94	-0.3	0.33	Valid
Neighborhood situationI1The government makes regulations that support a healthy lifestyle0.94-0.10.36ValidI2The people around me care about a healthy lifestyle1.120.70.34ValidI3There are facilities that support a healthy lifestyle in the neighborhood around me0.90-0.60.42ValidI4The people around me live a healthy lifestyle0.84-0.90.64ValidI5My local traditions support a healthy lifestyle0.90-0.60.54ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle0.86-0.90.33ValidYouth health serviceJ1Health workers teach me a healthy lifestyle0.84-0.40.51ValidJ2Health workers encourage me to adopt a healthy lifestyle0.91-0.60.41ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41ValidJ4I got health information about a healthy lifestyle from a health worker0.97-0.10.38Valid	H5	Schools make rules that encourage a healthy lifestyle	0.89	-0.7	0.37	Valid
11The government makes regulations that support a healthy lifestyle0.94-0.10.36Valid12The people around me care about a healthy lifestyle1.120.70.34Valid13There are facilities that support a healthy lifestyle in the neighborhood around me0.90-0.60.42Valid14The people around me live a healthy lifestyle0.90-0.60.42Valid15My local traditions support a healthy lifestyle0.90-0.60.54Valid16The covid-19 pandemic encourages me to live a healthy lifestyle0.86-0.90.33ValidYouth health serviceJ1Health workers teach me a healthy lifestyle0.84-0.40.51ValidJ2Health workers encourage me to adopt a healthy lifestyle0.84-0.40.51ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41ValidJ4I got health information about a healthy lifestyle from a health worker0.97-0.10.38Valid	Neighborhood si	tuation				
12The people around me care about a healthy lifestyle1.120.70.34ValidI3There are facilities that support a healthy lifestyle in the neighborhood around me0.90-0.60.42ValidI4The people around me live a healthy lifestyle0.84-0.90.64ValidI5My local traditions support a healthy lifestyle0.90-0.60.54ValidI6The covid-19 pandemic encourages me to live a healthy lifestyle0.86-0.90.33ValidYouth health serviceJ1Health workers teach me a healthy lifestyle0.84-0.40.51ValidJ2Health workers encourage me to adopt a healthy lifestyle0.91-0.60.41ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41ValidJ4I got health information about a healthy lifestyle from a health worker0.97-0.10.38Valid	11	The people around me are about a healthy lifestyle	0.94	-0.1	0.36	Valid
13 The people around me live a healthy lifestyle 0.80 -0.9 0.64 Valid 14 The people around me live a healthy lifestyle 0.84 -0.9 0.64 Valid 15 My local traditions support a healthy lifestyle 0.86 -0.9 0.33 Valid 16 The covid-19 pandemic encourages me to live a healthy lifestyle 0.86 -0.9 0.33 Valid Youth health service 0.84 -0.4 0.51 Valid J2 Health workers encourage me to adopt a healthy lifestyle 0.84 -0.4 0.51 Valid J3 1 get information dissemination about a healthy lifestyle from a health workers 0.97 -0.6 0.41 Valid J4 1 got health information about a healthy lifestyle from a health worker 0.97 -0.1 0.38 Valid	12	The people around me care about a healthy lifestyle	1.12	0.7	0.34	Valid
In the population in the driving integring integr	13	The neonle around me live a healthy lifestyle	0.90	-0.0	0.42	Valid
16The covid-19 pandemic encourages me to live a healthy lifestyle0.86-0.90.33ValidYouth health serviceJ1Health workers teach me a healthy lifestyle0.84-0.40.51ValidJ2Health workers encourage me to adopt a healthy lifestyle1.100.10.44ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41ValidJ4I got health information from health workers1.060.40.55ValidJ5I was given an explanation about a healthy lifestyle from a health worker0.97-0.10.38Valid	15	My local traditions support a healthy lifestyle	0.90	-0.6	0.54	Valid
Youth health service 0.84 -0.4 0.51 Valid J1 Health workers teach me a healthy lifestyle 0.84 -0.4 0.51 Valid J2 Health workers encourage me to adopt a healthy lifestyle 1.10 0.1 0.44 Valid J3 I get information dissemination about a healthy lifestyle 0.91 -0.6 0.41 Valid J4 I got health information from health workers 1.06 0.4 0.55 Valid J5 I was given an explanation about a healthy lifestyle from a health worker 0.97 -0.1 0.38 Valid	16	The covid-19 pandemic encourages me to live a healthy lifestyle	0.86	-0.9	0.33	Valid
J1Health workers teach me a healthy lifestyle0.84-0.40.51ValidJ2Health workers encourage me to adopt a healthy lifestyle1.100.10.44ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41ValidJ4I got health information from health workers1.060.40.55ValidJ5I was given an explanation about a healthy lifestyle from a health worker0.97-0.10.38Valid	Youth health ser	vice				
J2Health workers encourage me to adopt a healthy lifestyle1.100.10.44ValidJ3I get information dissemination about a healthy lifestyle0.91-0.60.41ValidJ4I got health information from health workers1.060.40.55ValidJ5I was given an explanation about a healthy lifestyle from a health worker0.97-0.10.38Valid	J1	Health workers teach me a healthy lifestyle	0.84	-0.4	0.51	Valid
J3I get information dissemination about a healthy lifestyle0.91-0.60.41ValidJ4I got health information from health workers1.060.40.55ValidJ5I was given an explanation about a healthy lifestyle from a health worker0.97-0.10.38Valid	J2	Health workers encourage me to adopt a healthy lifestyle	1.10	0.1	0.44	Valid
J4I got health information from health workers1.060.40.55ValidJ5I was given an explanation about a healthy lifestyle from a health worker0.97-0.10.38Valid	J3	I get information dissemination about a healthy lifestyle	0.91	-0.6	0.41	Valid
Jo i was given an explanation about a nealtrly lifestyle from a health worker 0.97 -0.1 0.38 Valid	J4	I got health information from health workers	1.06	0.4	0.55	Valid
Physical activity	J5 Physical activity	i was given an explanation about a nealthy lifestyle from a health worker	0.97	-0.1	0.38	valio
K1 Lao to school by walking or cycling 116 0.7 0.77 Valid	K1	I go to school by walking or cycling	1 16	07	0 77	Valid
K2 During sport lessons, I am active in doing exercise $0.95 - 0.2 0.23$ Valid	K2	During sport lessons. I am active in doing exercise	0.95	-0.2	0.23	Valid
K3 During breaks at school, I do activities such as sports that make me sweat 0.86 -0.9 0.48 Valid	K3	During breaks at school, I do activities such as sports that make me sweat	0.86	-0.9	0.48	Valid
K4 During break time at school, I just sit around (talking, eating, doing tasks) 2.04 4.3 0.29 Invalid	K4	During break time at school, I just sit around (talking, eating, doing tasks)	2.04	4.3	0.29	Invalid
K5 I come home from school by walking or cycling 3.22 9.3 0.47 Invalid	K5	I come home from school by walking or cycling	3.22	9.3	0.47	Invalid
K6 After school, I do physical activities such as sports (running, cycling, football, badminton, etc.) 1.00 0.0 0.74 Valid	K6	After school, I do physical activities such as sports (running, cycling, football, badminton, etc.)	1.00	0.0	0.74	Valid
K7 During my holidays, I do physical activities such as sports (running, cycling, football, badminton, etc.) 0.96 –0.1 0.53 Valid	K7	During my holidays, I do physical activities such as sports (running, cycling, football, badminton, etc.)	0.96	-0.1	0.53	Valid
K8 On holidays, Haze around all day 1.45 2.5 0.23 Invalid	K8	Un nolidays, i laze around all day	1.45	2.5	0.23	Invalid

(Contd...)

Table 3: (Continued)

tem code Statement Fit statistic					Interpretation
		MNSQ	ZSTD	Pt. Measure Corr.	
K9	In my spare time, I do physical activities such as sports (running, cycling, football, badminton, etc.)	0.94	-0.1	0.61	Valid
K10	In my spare time, I spend my time playing games, watching TV, social media, and sleeping	0.73	-1.6	0.46	Valid
Dietary pattern					
L1	I eat on time	1.05	0.3	0.14	Valid
L2	I skip breakfast	0.80	-1.2	0.15	Valid
L3	l eat 3 times a day (breakfast, lunch, dinner)	0.99	0.1	0.16	Valid
L4	I stop eating when I'm full	0.90	-0.4	0.41	Valid
L5	I consume fruits everyday	1.15	0.9	0.39	Valid
L6	I eat vegetables everyday	0.93	-0.3	0.53	Valid
L7	I snack before meal	0.65	-2.1	0.57	Invalid
L8	I snack between meals (morning, afternoon or evening)	0.90	-0.5	0.45	Valid
L9	I avoid eating sweet foods (candy, cake, chocolate, etc.)	0.82	-0.8	0.61	Valid
L10	l avoid eating salty foods (fish cake, fried foods, etc.)	1.03	0.3	0.59	Valid
L11	l avoid eating fast food (pizza, burger, sausage, etc.)	0.90	-0.6	0.51	Valid
L12	I avoid snacking street food	1.22	1.1	0.19	Invalid
L13	I bring lunch to school	0.97	-0.1	0.33	Valid
Sleep habit					
Mİ	I sleep regularly every day	1.68	1.1	0.04	Invalid
M2	I sleep more than 8 h every day	0.82	-0.7	0.52	Valid
M3	I sleep well every day	1.03	0.2	0.08	Valid
M4	I easily fall asleep at night	0.96	-0.2	0.43	Valid
M5	I stay up late at night	0.83	-1.0	0.19	Valid
M6	I wake up easily when I sleep at night	0.67	-2.0	0.58	Invalid
M7	I easily wake up in the morning	0.79	-0.7	0.41	Valid
M8	I'm sleepy while studying at school	0.72	-1.6	0.28	Invalid
M9	I feel tired when doing activities at school	0.75	-1.4	0.28	Invalid
Emotional stres	s				
N1	I easily concentrate when studying	2.37	3.0	0.08	Invalid
N2	I easily memorize lessons	1.20	1.1	0.32	Valid
N3	I finished the homework	1.14	1.0	0.15	Invalid
N4	I finished the homework on time	1.5	2.7	0.18	Invalid
N5	I easily forget everything	1.19	1.0	0.34	Valid
N6	I live my life happily	0.96	0.0	0.19	Valid
N7	I easily feel nervous or restless	0.68	-1.7	0.48	Valid
N8	I get angry or upset easily	0.59	-2.3	0.50	Invalid
N9	I feel bored with my life	1.08	0.5	0.09	Invalid
N10	I feel bored with my daily activities	0.79	-1.1	0.19	Invalid
Smoking habit					
01	I am smoking	1.93	4.8	0.03	Invalid
02	I refuse when persuaded to smoke	1.06	0.4	0.06	Valid
O3	I avoid talking to people who are smoking	0.91	-0.5	0.20	Valid
O4	I avoid hanging out with friends who are smoking	1.03	0.2	0.08	Valid
O5	I feel disturbed when there is cigarette smoke	1.13	0.7	0.10	Valid
O6	I feel disturbed when close to smokers	0.93	-0.4	0.27	Valid
MNRO: Moon agus	2010. Obenderstand fit statistics. Dt. meanue come Deint meanue completion		÷		

is 0.95. The results of the reliability analysis are shown in Table 4.

Table 4: Reliability an	alysis and s	separation for	person and item
-------------------------	--------------	----------------	-----------------

Analysis	Person			Item						
	Logit	INFIT		OUTFIT		Logit	INFIT		OUTFIT	
	value	MNSQ	ZSTD	MNSQ	ZSTD	value	MNSQ	ZSTD	MNSQ	ZSTD
Mean	2.85	1.00	-0.2	1.01	-0.1	0.00	1.08	0.3	1.01	0.00
Separation	2.69					2.65				
Reliability	0.88					0.88				

MNSQ: Mean square, ZSTD: Standardized fit statistics, Pt. measure corr.: Point measure correlation.

Person-item map is used to describe the ability of respondents and the quality of the question items on the questionnaire. In Figure 1, it can be seen that respondents 04 are male, junior high school education level, and live in the city which are the respondents who have the most difficulty agreeing to the question items. In contrast, respondents 78 and 79 are male, elementary education level and residing in districts and cities, which are the two respondents who most readily agree with the question items. In Figure 2, it can be seen that codes A1, D1, L1, and M1 are the question items that are the easiest to agree with by respondents, while codes N7, N8, and N9 are the question items that are the most difficult for respondents to answer.

The Rasch model using principal component analysis showed that the raw variance explained by the measure was 20.1%, and the unexplained variance value did not exceed 15%. After the 17 invalid question items were removed, unidimensionality analysis was carried out again; the raw variance explained by measure value was 72.3%, and the unexplained variance value did not exceed 15%. This shows that the instrument is unidimensional, so it can measure the attributes that are intended to be measured, because the minimum requirement of 20% unidimensionality has been met.

In the instrument used, five answer choices were given in the form of a Likert rating for each question item (from a range of strongly disagree to agree strongly, and from a range of never to very often). From the analysis results, Table 5 shows that the observed average starts from a logit value of 1.15 for choice 1 (strongly disagree or never) and increases to logit 3.12 for choice 5 (strongly agree or very often). It can be seen that between choices 1, 2, and 3, there was no increase in the logit value, but it decreased, which showed that the respondent could not be sure of his choice and was supported by the Andrich Threshold value in an unordered table.

Table 5: Rating scale test value

Category label	Observed average	Andrich threshold
1	1.15	None
2	0.64	-0.57
3	0.53	0.10
4	2.36	-1.40
5	3.12	1.87







Figure 1: Person's map

The instrument in this study was a questionnaire consisting of 15 variables with 120 question items developed from three main elements of establishing a healthy lifestyle in adolescents with a family history of hypertension based on the results of the previous qualitative research. This instrument was developed to assess the factors for establishing a healthy lifestyle in adolescents with a family history of hypertension.

Based on the Rasch Model, the validity of the overall question items refers to fit items and misfits using the outlier-sensitive mean square (OUTFIT MNSQ) value, standard Z score (ZSTD), and Point Measure Correlation (Pt Mean Corr). The item is said to be fit if the OUTFIT value is 0.5 < MNSQ < 1.5; -2.0 < ZSTD < 2.0; and the Pt Mean Corr value is in the range of 0.32 < Pt Measure Corr < 0.85. There are 17 invalid question items. After consideration, these items were finally deleted, bringing the total number of question items to 103 [12], [13].

The reliability value of respondents and instruments above 0.8 means that the respondents who filled out the questionnaires have consistently provided answers, and the quality of the question items in the instrument is good. The respondent's separation value which is rounded up to 3 shows that there are three types of respondent groups ranging from the easiest

Figure 2: Item map

to agree with to the most difficult to agree to have represented this pilot test. Cronbach's alpha value is also outstanding, which is above 0.8, indicating that the interaction between respondents and the questions is very good [10], [12].

The unidimensionality of the instrument is an important measure to evaluate whether the developed instrument can measure what it is supposed to measure. The Rasch model analysis uses principal component analysis of the residuals, which measures the extent to which the diversity of the instrument measures what it is supposed to measure. The unidimensionality requirement is that the raw variance explained by the measure is at least 20%, and the unexplained variance value does not exceed 15% [11], [12].

Rating scale validity analysis is a test to verify whether the rating scale used is confusing for respondents. Rasch model analysis provides a verification process for the rating assumptions given in the instrument [14]. Andrich Threshold is to test whether the value of the polytomy used is correct or not [15], [16], [17]. The Andrich Threshold value, which moves from none to negative and continues to lead to positive sequentially, indicates that the given option is valid for the respondent. However, in Table 5, it looks not sequential. Therefore, the choice of options for this instrument should be simplified into three options, namely, choice 1 (disagree or never), choice 2 (undecided or sometimes), and choice 3 (agree or often).

Conclusions

We conclude that the healthy lifestyle instruments are valid and reliable, so it is feasible to measure the healthy lifestyle of Indonesian adolescents with a family history of hypertension. This instrument can measure the success of a program or intervention in changing a lifestyle in adolescents at risk of developing hypertension, especially adolescents with a family history of hypertension. We suggest further research involving more participants in a broader area. We hope the healthy lifestyle instruments can be used in a standardized manner for all regions of Indonesia.

References

- Budreviciute A, Damiati S, Sabir DK, Onder K, Schuller-Goetzburg P, Plakys G, et al. Management and prevention strategies for non-communicable diseases (NCDs) and their risk factors. Front Public Health. 2020;8:574111. https://doi. org/10.3389/fpubh.2020.574111
 PMid:33324597
- Khuwaja AK, Khawaja S, Motwani K, Khoja AA, Azam IS, Fatmi Z, et al. Preventable lifestyle risk factors for noncommunicable diseases in the Pakistan adolescents schools study 1 (PASS-1). J Prev Med Public Health. 2011;44(5):210-7. https://doi.org/10.3961/jpmph.2011.44.5.210
 PMid:22020186
- Akseer N, Mehta S, Wigle J, Chera R, Brickman ZJ, Al-Gashm S, et al. Non-communicable diseases among adolescents: Current status, determinants, interventions and policies. BMC Public Health. 2020;20(1):1908. https://doi.org/10.1186/ s12889-020-09988-5

PMid:33317507

- Ewald DR, Haldeman LA. Risk factors in adolescent hypertension. Glob Pediatr Health. 2016;3:2333794X15625159. https://doi.org/10.1177/2333794X15625159
 PMid:27335997
- Kurnianto A, Sunjaya DK, Rinawan FR, Hilmanto D. Prevalence of hypertension and its associated factors among Indonesian adolescents. Int J Hypertens. 2020;2020:4262034. https://doi. org/10.1155/2020/4262034

PMid:33014450

- Syah MN, Wahyuningsih U, Ardiansyah S, Asrullah M. Hypertension and related factors among female students at vocational high school Bekasi, Indonesia. Media Gizi Indones. 2020;15(3):219-24. https://doi.org/10.20473/mgi.v15i3.219-224
- Yang Y, Min J, Chang L, Chai J, Song Z, Zha S, et al. Prevalence trends of hypertension among 9-17 aged children and adolescents in Yunnan, 2017-2019: A serial cross-sectional surveillance survey. BMC Public Health. 2021;21(1):338. https:// doi.org/10.1186/s12889-021-10258-1 PMid:33579239
- Tirosh A, Afek A, Rudich A, Percik R, Gordor B, Ayalon N, et al. Progression of normotensive adolescents to hypertensive adults: A study of 26,980 teenagers. Hypertension. 2010;56(2):203-9. https://doi.org/10.1161/hypertensionaha.109.146415 PMid:20547973
- Soua S, Ghammam R, Maatoug J, Zammit N, Fredj SB, Martinez F, *et al.* The prevalence of high blood pressure and its determinants among Tunisian adolescents. J Hum Hypertens. 2022;476:1. https://doi.org/10.1038/s41371-022-00677-x PMid:35396537
- An M, Yu X. A Rasch analysis of emerging adults' health motivation questionnaire in higher education context. PLoS One. 2021;16(3):e0248389. https://doi.org/10.1371/journal. pone.0248389

PMid:33720940

- Darmana A, Sutiani A, Nasution HA, Ismanisa I, Nurhaswinda N. Analysis of Rasch model for the validation of chemistry national exam instruments. J Pendidikan Sains Indones. 2021;9(1):329-45. https://doi.org/10.24815/jpsi.v9i3.19618
- Boone WJ. Rasch analysis for instrument development: Why, when, and how? CBE Life Sci Educ. 2016;15(4):rm4. https://doi. org/10.1187/cbe.16-04-0148
 PMid:27856555
- Daher AM, Ahmad SH, Winn T, Selamat MI. Impact of rating scale categories on reliability and fit statistics of the Malay spiritual well-being scale using Rasch analysis. Malays J Med Sci. 2015;22(3):48-55.
 PMid:26715896
- Ningrum E, Evans S, Soh SE. Validation of the Indonesian version of safety attitudes questionnaire: A Rasch analysis. PLoS One. 2019;14(4):e0215128. https://doi.org/10.1371/ journal.pone.0215128
 PMid:30970024
- Yazdani K, Nedjat S, Karimlou M, Zeraati H, Mohammad K, Fotouhi A. Developing a shortened quality of life scale from Persian version of the WHOQOL-100 using the Rasch analysis. Iran J Public Health. 2015;44(4):522-34.
 PMid:26056671
- Adams RJ, Wu ML, Wilson M. The Rasch rating model and the disordered threshold controversy. Educ Psychol Meas. 2012;72(4):547-73. https://doi.org/10.1177/0013164411432166
- Menold N. Rating-scale labeling in online surveys: An experimental comparison of verbal and numeric rating scales with respect to measurement quality and respondents' cognitive processes. Sociol Methods Res. 2017;49(1):79-107. https://doi. org/10.1177/0049124117729694