

VALIDATION OF THE QUESTIONNAIRE ON PARENTING SKILL READINESS IN PREVENTING ADOLESCENTS' SEXUAL HEALTH RISK BEHAVIOR

Aimi Nazri Mahat
Department of Community Medicine
UKM Medical Center, 56000 Kuala Lumpur, Malaysia
Email: aimi_nazri@yahoo.com

Rosnah Sutan
Department of Community Medicine
UKM Medical Center, 56000 Kuala Lumpur, Malaysia
Email: rosnah_sutan@yahoo.com

ABSTRACT

Assessment of parenting skills in preventing adolescent sexual health risk behavior by using Transtheoretical Model (TTM) staging will give a new paradigm in the application of TTM model. Present study aims to develop and validate an instrument (questionnaire) to assess parenting skill readiness in preventing adolescents' sexual health risk behavior by applying TTM staging. Four steps involved in this validation study which were 1) Defining the content / construct validity 2) Item development and judgment 3) Conducting a study 4) Finalizing the instrument. A structured focus group discussion that was most appropriate to evaluate on parenting skill in prevention of adolescents' sexual health risk behavior was form. Panel experts were selected to validate the face and content validation. After securing the face and content validity, the questionnaire with close-ended Likert-scale questions on TTM assessment of parenting skill is analyzed. The exploratory factor analysis was used to develop construct validity for this new questionnaire. The assessment of the item correlation matrix indicated that the matrix was not an identity matrix; Bartlett's test of sphericity was significant ($\chi^2 = 10731.882$, $df = 171$, $P < 0.001$). Measures of sampling adequacy were acceptable (KMO = 0.904). Varimax rotation was used to rotate the factors and determine items for retention in the final questionnaire. The final questionnaire contained 19 items with four factors of parenting skill which are parental involvement, reward, parental monitoring and discipline/punishment. We selected a final solution with four factors accounting for 80.72% of the total variance explained by the questionnaire. The first factor (Parental Monitoring) accounted for 30.65% of the variance with loading factor of 0.546 - 0.826. The second factor (Parental Involvement) accounted for 22.6% of the variance, and items loading ranged from 0.634 - 0.812. The third factor (Rewards) accounted for 14.63% of the variance, and items loading ranged from 0.637 - 0.723. Factor 4 (Discipline/Punishment) accounted for 12.84% of the variance, and items loading ranged from 0.556 - 0.791. For reliability analysis, the overall Internal Consistency Reliability (Cronbach's Alpha) of total 19 items is 0.949. The Internal Consistency Reliability (Cronbach's Alpha) for each factors in the questionnaire were 0.892 (Parental Involvement), 0.816 (Rewards), 0.960 (Parental Monitoring) and 0.828 (Discipline/Punishment). Following the development and validation process, a valid questionnaire on TTM assessment of parenting skill readiness in preventing adolescents' sexual health risk behavior has been produced. This questionnaire will able to help researcher to identify the level of parenting skill among parents in preventing adolescents' sexual health risk behavior.

Introduction

Parenting skills is an important element that affects parents in educating their children and ensuring excellence of all aspects in their life. The best parenting skills approached is something that must be learned and practiced by every parent to ensure the excellence of their children. The positive relationship between appropriate parenting skills and good adolescents' behavior has been proven by previous research in terms of academic achievement, problem solving skills, risky behavior, mental health, self-esteem and depression (Russell et al., 2010; Cripps & Zyromski, 2009; Driscoll et al., 2008; Goldenberg & Goldenberg, 2008).

Parenting skills is one of the crucial needs that parent must have in caring adolescent sexual health risk behavior. Improving the sexual and reproductive health development of adolescent is a global priority that needs a systematic and targeted approach in facing the challenges. However, efforts to promote this healthy sexual development have frequently targeted adolescents through school or community-based programs but less effort has been focused on enhancing the role parents should play in raising sexually healthy adolescents. In fact, parents do have a strong influence on their adolescents' sexual and reproductive health and risk behaviors.

Therefore, parenting skills is very important to focus on ensuring the excellence of their adolescents. They should be made aware of the enormity of their roles and responsibilities in generating future generation by providing excellent parenting skills. In fact parenting skills must be equipped with relevant knowledge and practical preparations to deal with health-related issues and foster self-esteem practice in prevention of adolescents' sexual health risk behavior. Governments need to identify those who do not practice appropriate parenting skills and helping them in achieving the goal of establishing a future generation of excellence, glory and distinction. Keep in mind, parent do have a strong influence on the behavior of risky adolescent sexual and reproductive health.

There are many instrument tools that have been use by previous researchers for assessment of parenting skills in preventing adolescent sexual and reproductive health risk. The tools identified used to measure the various dimensions of parenting skills and had been applied and validated by the previous researches. However, previous studies has mainly focusing on adolescents perception in getting the information on family influence especially the parenting skills in identifying the risk and protective factors of sexual risk behavior among them. The development of tools also has been heavily targeting the adolescent as respondent in capturing the information. Parents are seldom been involved as the respondent and not been able to contribute their own perception in practicing best parenting skills for their adolescent. This parents' perspective information is actually very important in recognizing the patterns, identifying the risk factor, developing parenting skills module and conducting the necessary intervention to improve parenting skills in promoting adolescent sexual and reproductive health. It is much valuable for future use and gives benefit to the adolescent, parents, health care provider, society, community and the nation.

As overall, there is availability of study tools (questionnaires) in measuring parental skills from the perspective of the parents itself. These questionnaires have been developed by previous researches to quantify the different dimensions of parenting skills. Many of it has intended to look at the parents' attitude in raising their children in the best growth development of all aspect. Few of the questionnaires such as Alabama Parenting Skills, Adult Adolescent Parenting Inventory (AAPAI), Inventory of Parent and Peer Attachment (IPPA) and Parental Practices has been designed to measured few dimensions of parental such as degree of parental monitoring, parent child communication and parent child connectedness.

Other questionnaire such as Parent-Adolescent Communication Scale (PACS) and Parent Teen Sexual Risk Communication (PTSRC) are specifically look into the degree of parent child communication. The Parenting Style Questionnaire is designed specifically to identify the type of parenting style which is authoritarian, authoritative or permissive parenting style. Parental Knowledge Questionnaire is more intended to look at the monitoring skill by the parents in raising their children. The Behavioral Affect Rating Scale (BARS) and How is your Family Questionnaire can be said looking much of connectedness among the family members.

Although each of these questionnaires has been designed differently from each other in developing of the questions and way of presentation, all of it was intended to measure any dimension of parenting skills. Other than that, the quantifiable dimension of parenting skill is also not specified to any risk behavior of their children in exception of the Parent Teen Sexual Risk Communication (PTSRC) that is designed for sexual risk behavior among adolescent. Therefore, these questionnaires can be used to associate with any possible outcome of their children depending on the preferred selection by the researchers. However, the use of these questionnaires is subjected to the validation in the population study. None of these questionnaires has been able to be accepted cross culturally and widely accepted in any population without validation.

A promising approach of Transtheoretical Model (TTM) of behavior change developed by Prochaska & DiClemente (1984) in assessing health behaviors of people have been shown across at least forty-eight behaviors and populations from many countries. The TTM emerged from a comparative analysis of leading theories of psychotherapy and behavior change in an effort to integrate a field that had fragmented into more than 300 theories of psychotherapy (Prochaska, 1984). It uses stages of change to integrate processes and principles of change across major theories of intervention. Many researches have provided strong support for the reliability and validity of the TTM core constructs, including Stages of Change (McConaughy, Prochaska, & Velicer, 1983). The stage of change is the central organizing construct of the TTM, representing the temporal and readiness dimension.

As people make a behavior change, they progress through a series of stages but rather than involving a linear movement, the change is usually cyclical in pattern. From initial studies of smoking, the TTM with its stage model rapidly has expanded to include investigations and applications to a broad range of health and mental health behaviors, including alcohol and substance abuse, anxiety and panic disorders, bullying, delinquency, depression, eating disorders and obesity, high-fat diets, HIV/AIDS prevention, mammography and other cancer screening. Therefore, assessment on parenting skills in preventing adolescent sexual risk behavior by using this TTM staging will give a new paradigm in the application of this model. Present study aims to develop and validate an instrument (questionnaire) to assess parenting skills in preventing adolescents' sexual health risk behavior by using Transtheoretical Model (TTM) staging.

Methodology

For this validation process, a method use by Netemeyer et al. (2003) in validating a survey was used. There were four step involved in this validation study which were 1) Defining the content / construct validity 2) Item development and judgment 3) Conducting a study 4) Finalizing the instrument.

Step One: Defining The Content / Construct Validity

Utilization of experts' panel is an important step in developing a new questionnaire to ensure an appropriate content and cover all aspects needed for this questionnaire. Therefore, a structured focus group discussion that was most appropriate to evaluate on parenting skill in prevention of adolescents' sexual health risk behavior was conducted to meet this purpose. Members of this focus group include public health physician, family medicine specialist and psychologist who have a background in adolescents' sexual and reproductive health.

This focus group discussion focus on the dimension needs to include in the parenting skill questionnaire based on previous questionnaire that measured on parenting skills. Among the questionnaire used in developing the content of this TTM

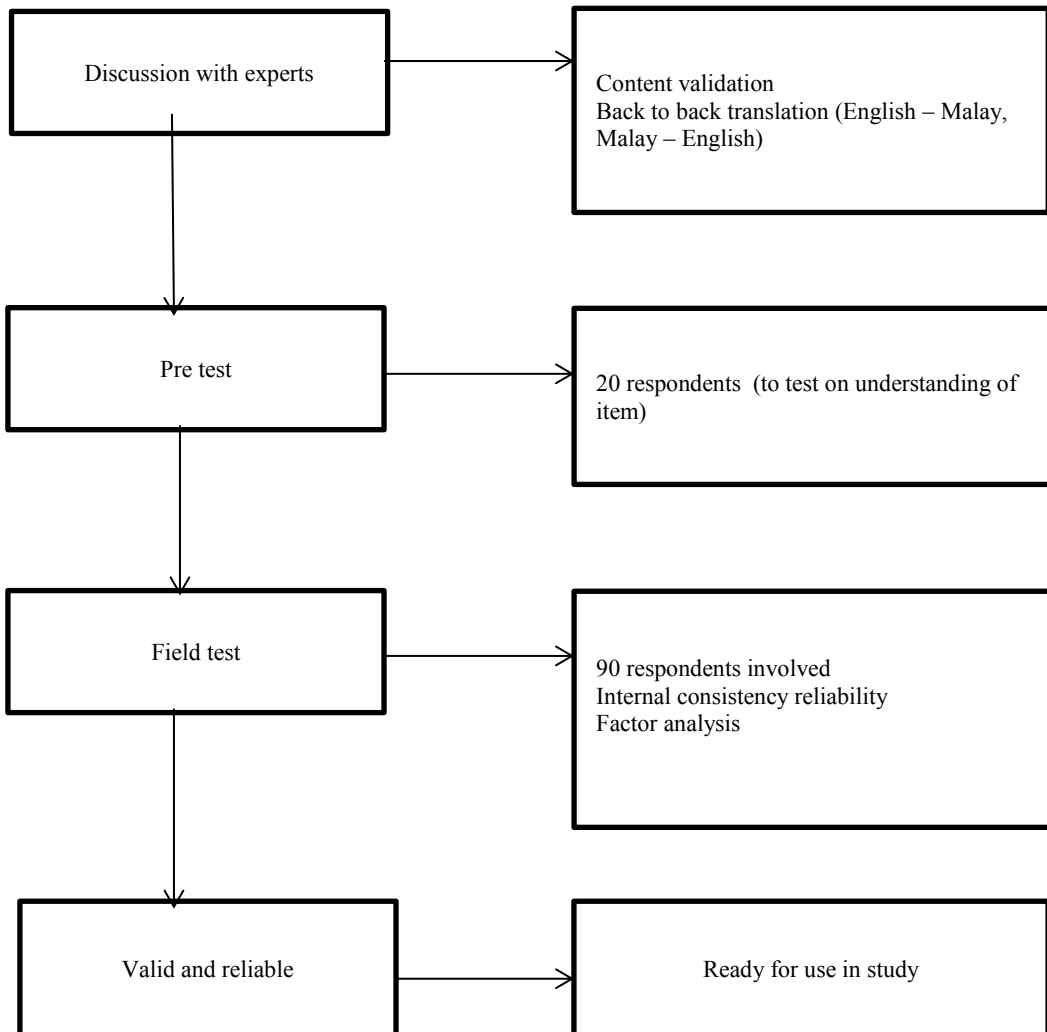
questionnaire were Alabama Parenting Questionnaire, Adult Adolescent Parenting Inventory (AAPI), Inventory of Parent and Peer Attachment (IPPA) and Parental Practices. The panel have agreed and defined the main content of this questionnaire which is parental involvement, rewards, parental monitoring and discipline / punishment. Table 1 showed the main four construct and its definition that will be used in questionnaire on TTM assessment of parenting skill in preventing adolescents' sexual health risk behavior.

Table 1: Initial construct defined for parenting skill

Construct	Definition
Parental involvement	Parental involvement refers to the amount of participation a parent has when it deals with adolescents' sexual and reproductive health
Rewards	Rewards is defined as the extent to which adolescent were seen as satisfying in any particular need related to sexual and reproductive health
Parental monitoring	Parenting behaviors involving attention to and track of the adolescents' whereabouts, activities, and adaptations related to sexual and reproductive health
Discipline / Punishment	Guidance, help and control of adolescents' activities related to sexual and reproductive health

For the flow of this validation study, Figure 1 has illustrated the flow chart on validation process of TTM questionnaire on parenting skill in preventing adolescents' sexual health risk behavior as shown below.

Figure 1: Flow chart on validation process of TTM questionnaire on parenting skill in preventing adolescents' sexual health risk behavior



Step 2: Item Development And Judgement

The second step in this validation study is item development and judgement. From the item development outlined by Netemeyer et al. (2003), there is two distinct procedures which need to be done which are item drafting and judgment. This panel group has drafted the questions to be included in this TTM of parenting skill questionnaire by taking into consideration the existing literature, question style, data analysis and development of our initial constructs. After a thorough review, our panel of experts collectively agreed to develop a set of Likert scale questions and adapted it into five stages of Transtheoretical model. We scaled all questions within each of the four main constructs using the most commonly employed 5-level Likert scale namely No desire (Pre contemplation), Want to do (Contemplation), Ready to do (Readiness), Have done (Action) and Always do (Maintenance). We also selected this style of questioning because Likert scales is the most suitable scale that can be matched with the stage of changes accordance to Transtheoretical Model.

It is important to note that the selection of a qualified panel of experts is a significant part of the instrument development process because the panel will also determine the appropriate number of instrument questions to fully explore each construct. As a rule of thumb, the panel should attempt to develop a minimum of ten questions for each construct. Therefore, our expert panel has decided to get a minimum of ten questions representing each of the four main construct. From that, they have selected around three to five questions to represents each of the construct.

After completed the item development process, a set of judges is selected, independent to the panel that established the questions, to assess the instrument's content and face validity. The judges (n = 10) included a public health physician, family health specialist, student of doctorate in public health and medical doctor in health clinic. These judges were excluded from study participation, but they did complete the survey in its entirety. The judges need to determine whether the items "represented" the constructs and if the items were understandable. Each panel member took notes of the judges' feedback, comments, and concerns as they completed the survey. Panel members also noted the time needed to complete the survey. All of the judges' criticisms and common concerns were taking into considerations and the questionnaire was further revised prior to pilot testing. For this step in the validation process, almost all judges defined "common concerns/feedback." The judges raised no major concerns regarding face or content validity of the survey; however, the judges provided consistent suggestions to improve grammar and the time to complete the survey. Table 2 showed the Likert scale questions on TTM assessment of parenting skill questionnaire.

Table 2: Likert scale questions on TTM assessment of parenting skill questionnaire

Construct	Statements
Parental involvement	<ul style="list-style-type: none"> a) You have a friendly talk with your adolescent related to risky sexual behavior b) You ask your adolescent regarding his/her sexual concern c) You help your adolescent in solving his/her sexual concern d) You send your adolescent to attend any extra training / course / motivation session in preventing risky sexual behavior
Rewards	<ul style="list-style-type: none"> a) You let your adolescent know when he/she is doing a bad or good things related to risky sexual behavior b) You praise your adolescent if he/she obeying you related to sexual risk behavior c) You reward with something to your adolescent if he/she obeying you related to sexual risk behavior
Parental monitoring	<ul style="list-style-type: none"> a) You don't let your adolescent go out with friends you don't know b) You make sure your adolescent ask permission every time he/she go for activities c) You tend to know every activities of your adolescent in term of : <ul style="list-style-type: none"> i. Time ii. Location iii. Person involved iv. Type of activity d) You check your adolescent activity if he/she go out with friends that you suspect related to risky sexual behavior
Discipline / Punishment	<ul style="list-style-type: none"> a) You threaten to punish your adolescent if he/she engage in sexual risk behavior b) You set rules for your adolescent for activity related to sexual risk behavior c) You give punishment to your adolescent if he/she did something wrong related to risky sexual behavior d) The punishment you give to your adolescent is not influence by your mood status e) You let your adolescent out of a punishment early if he/she show remorse on his/her risky sexual behavior

*The Likert scale is categorized into 5 level which were No desire (Pre contemplation), Want to do (Contemplation), Ready to do (Readiness), Have done (Action) and Always do (Maintenance).

Step 3: Designing And Conducting Pre Test Study

After securing face and content validity, the instrument contained a 19 close-ended Likert-scale questions on TTM assessment of parenting skill. The 5-level Likert scale was selected and it is been labeled as 1. No desire (Pre contemplation), 2. Want to do (Contemplation), 3. Ready to do (Readiness), 4. Have done (Action) and 5. Always do (Maintenance) in answering the question. A demographic item is put at the start of the questionnaire.

For this validation purposes, a pre test study was done on 95 respondents who attended the Kuala Selangor Health Clinic. They were selected purposively and subsequently analyzed to determine the scale of the validity and reliability. A validity and reliability test was conducted using SPSS version 22. It is intended to ensure that the questionnaire is reliable and valid before it can be used for actual data collection. Analysis of the validity of the questionnaire is done by using confirmatory factor analysis test. KMO value exceeding 0.6 is accepted for this validation study (Naing 2010). For the reliability analysis, internal consistency reliability testing was done using the value of "Cronbach Alpha". Cronbach Alpha value of 0.7 was taken as the cut of point and item-total correlation value where the correlation value exceeding 0.7 is adopted (Naing 2010).

Step 4: Finalizing The Instrument

In finalizing the instrument, the reliability and validity analysis has been carried out. The final iteration of exploratory factor analysis (EFA) consisted of 19 close-ended Likert scale questions 1. No desire (Pre contemplation), 2. Want to do (Contemplation), 3. Ready to do (Readiness), 4. Have done (Action) and 5. Always do (Maintenance) that assessed the initial constructs (Table 1). Principle component analysis (PCA) was choose as the method of factor analysis. After selecting PCA, we entered all 19 items into the software SPSS version 22 and analyzed the correlation matrix for the items. After evaluating the matrix, it was shown that it is not an identity matrix as expected (there is no relationship among the items) by evaluating Bartlett's test of sphericity, which was significant ($\chi^2 = 10731.882$, $df = 171$, $P < 0.001$). Bartlett's test of sphericity provides information regarding whether items in the correlation matrix are sufficiently correlated, which indicates the items have some relationship and will support the purpose of the instrument (refer Table 3).

According to Pett MA al. (2003), for the correlation matrix, it will help in determine the uni dimensionality among the items. Therefore, all the inter-item correlations for items intended to measure the same construct should be moderate but not high (ie, between 0.30 - 0.60) (Kraiser H 1958). The inter-item correlations that are high suggest that the items are contributing something unique to the construct, and therefore, they are not unidimensional. Initial inspection of the item correlation matrix indicated that all the items in the proposed factor were related (approximately 0.30) but were not significantly high (approximately 0.60).

Following inspection of the item correlation matrix, it is needed to determine if the questionnaire reached sample adequacy in order to continue for factor analysis. Measures of sampling adequacy evaluate how strongly an item is correlated with other items in the correlation matrix and help researchers assess whether the items used in the survey are related. Researchers can assess sampling adequacy by examining the KMO output provided in the factor analysis. A KMO correlation above 0.60 is considered adequate to move forward with an analysis of the EFA output (Naing 2011). The calculated KMO in this study was 0.904; therefore the analysis of the EFA can be preceded. A varimax rotation method was selected as it is the most common form of orthogonal rotation for EFA and provides clear information regarding which items best correlate with a particular factor (Pett MA et al. 2003). The rotation method (ie, varimax rotation) provides researchers with information regarding the items to retain or delete from the instrument. In this questionnaire, no item has been deleted.

After that, factor retention was conducted to move forward with the analysis. Based on the Kaiser criterion (Kraiser H 1958), it is recommended to retain factors with eigenvalues greater than 1.0 and by examination of the scree plot. Eigenvalues represent the amount of variance in all of the items that can be explained by a particular factor. In this study, four factors had eigenvalues greater than 1.0 and the scree plot indicated a drop off following the fourth factor. Table 6 and Figure 2 explained the above findings. After selecting these four factors for retention (based on a prior theory, eigenvalues, and scree test), we used item trimming and item retention to get this questionnaire into its final form. Following that, the factor loadings on the varimax rotated component matrix is evaluated to determine which items should remain in the questionnaire and which items should be review for deletion. Based on this inspection, there was no item need to be removed.

Lastly, a reliability consistency analysis was conducted to get the Cronbach Alpha value. For this reliability analysis, the overall Internal Consistency Reliability (Cronbach's Alpha) of total 19 items is 0.949. The Internal Consistency Reliability (Cronbach's Alpha) for each factors in the questionnaire were 0.892 (Parental Involvement), 0.816 (Rewards), 0.960 (Parental Monitoring) and 0.828 (Discipline/Punishment). Therefore, no item deleted from this questionnaire. Table 7 summarized the reliability test on this questionnaire.

After this thorough validation (face, content, construct validation, reliability test), it has showed that this TTM assessment of parenting skill questionnaire is ready for use in actual data collection.

Table 3: KMO and Bartlett's Test

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.904
Bartlett's Test of Sphericity	Approx. Chi-Square
	df
	Sig
	10731.882
	171
	< 0.001

Table 4: Item statistic

Item	Description	Mean ± sd
1	You have a friendly talk with your adolescent related to risky sexual behavior	2.90 ± 1.183
2	You ask your adolescent regarding his/her sexual concern	2.85 ± 1.069
3	You help your adolescent in solving his/her sexual concern	2.83 ± 1.033
4	You send your adolescent to attend any extra training / course / motivation session in preventing risky sexual behavior	2.46 ± 1.040
5	You let your adolescent know when he/she is doing a bad or good things related to risky sexual behavior	2.82 ± 1.033
6	You praise your adolescent if he/she obeying you related to sexual risk behavior	2.81 ± 1.115
7	You reward with something to your adolescent if he/she obeying you related to sexual risk behavior	2.41 ± 1.020
8	You don't let your adolescent go out with friends you don't know	3.62 ± 1.338
9	You make sure your adolescent ask permission every time he/she go for activities	3.99 ± 1.249
10	You tend to know every activities of your adolescent in term of :	
	a) Time	3.95 ± 1.137
	b) Location	3.94 ± 1.125
	c) Person involved	3.94 ± 1.138
	d) Type of activity	3.94 ± 1.123
11	You check your adolescent activity if he/she go out with friends that you suspect related to risky sexual behavior	3.33 ± 1.143
12	You threaten to punish your adolescent if he/she engage in sexual risk behavior	2.97 ± 1.262
13	You set rules for your adolescent for activity related to sexual risk behavior	2.58 ± 1.130
14	You give punishment to your adolescent if he/she did something wrong related to risky sexual behavior	2.52 ± 1.000
15	The punishment you give to your adolescent is not influence by your mood status	2.55 ± 1.066
16	You let your adolescent out of a punishment early if he/she show remorse on his/her risky sexual behavior	2.78 ± 1.110

Table 5: Component Matrix

Item	Component			
	1	2	3	4
1		.812		
2		.754		
3		.694		
4		.634	.426	
5			.723	
6			.744	
7			.637	
8	.546			.452
9	.786			
10A	.840			
10B	.839			
10C	.836			
10D	.841			
11	.826			
12				.791

13			.541	.576
14				.584
15				.699
16				.556

*Extraction Method: Principal Component Analysis
 *Rotation method: Varimax with Kaiser Normalization
 *Factor loading < 0.4 not included in this table
 *4 components extracted

Table 6: Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Eigenvalue	% of variance	Cumulative %
1	5.824	30.653	30.653
2	4.293	22.596	53.248
3	2.780	14.633	67.881
4	2.439	12.835	80.715

*Extraction Method: Principal Component Analysis.

Figure 2: Scree plot

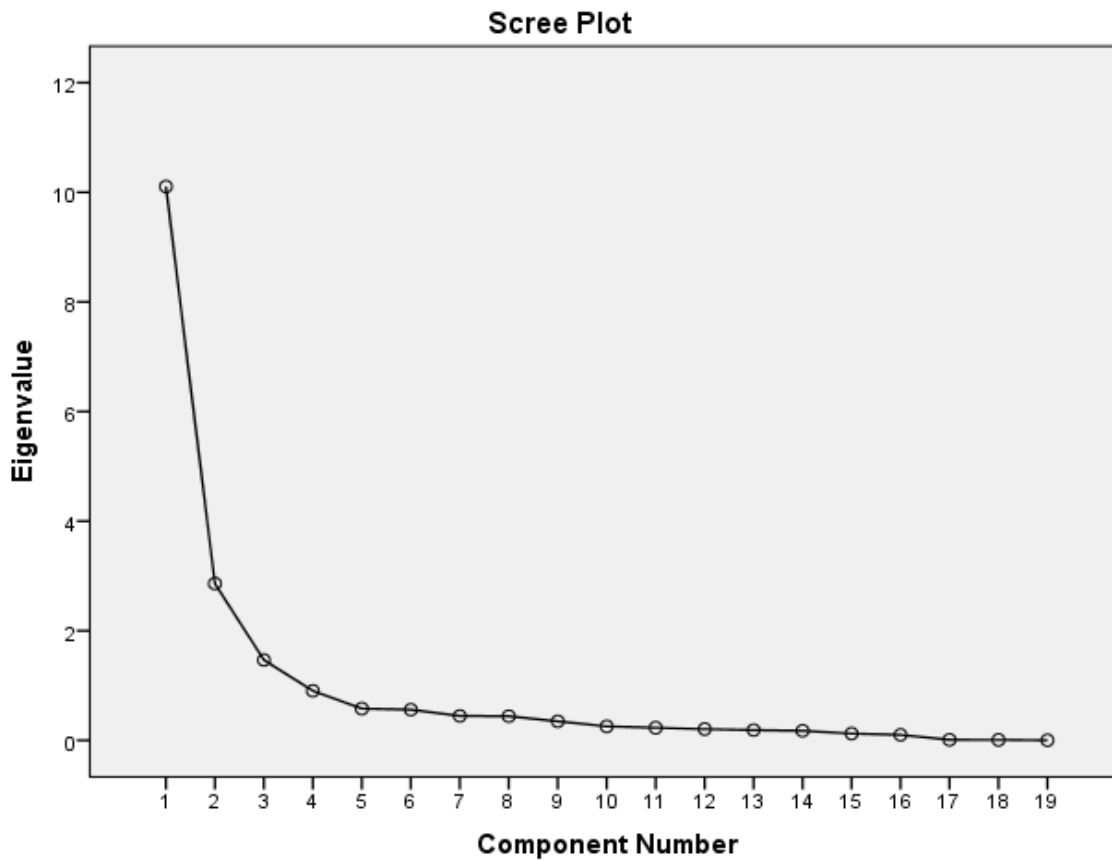


Table 7: Internal Consistency Reliability (Cronbach's Alpha) Test

Cronbach's Alpha Based on Standardized Items	Value
All item (19 items)	0.949
Parental involvement factor	0.892
Rewards factor	0.816
Parental Monitoring factor	0.960
Discipline / Punishment factor	0.828

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 1	56.29	209.895	.780	.803	.945
Item 2	56.35	214.306	.721	.779	.946
Item 3	56.37	217.091	.653	.691	.947
Item 4	56.73	218.690	.593	.600	.948
Item 5	56.38	216.077	.688	.690	.946
Item 6	56.38	213.939	.701	.712	.946
Item 7	56.79	218.821	.602	.683	.947
Item 8	55.58	216.717	.496	.552	.950
Item 9	55.21	209.428	.748	.870	.945
Item 10A	55.25	210.126	.807	.989	.944
Item 10B	55.25	210.437	.806	.997	.944
Item 10C	55.26	210.276	.802	.996	.944
Item 10D	55.25	210.411	.809	.992	.944
Item 11	55.87	210.417	.793	.728	.944
Item 12	56.23	209.015	.751	.757	.945
Item 13	56.61	218.577	.544	.662	.949
Item 14	56.68	220.511	.556	.719	.948
Item 15	56.64	216.071	.664	.668	.947
Item 16	56.42	219.673	.520	.599	.949

Conclusion

In conclusion, following the development and validation process, finally a valid questionnaire on TTM assessment of parenting skill in preventing adolescents' sexual health risk behavior has been produced and ready for use in actual data collection. The four step of survey development and validation as outlined by Netemeyer et al (2003) which include defining the constructs of the survey, developing items to measure each construct, designing and conducting studies and finalizing the survey using EFA is able to help in developing this validated questionnaire. This validated questionnaire can be used by researcher in identifying the level of parenting skill among parents in preventing adolescents' sexual health risk behavior.

Acknowledgement

The authors thank the UKMMC ethical committee for giving us approval and budget to conduct this study. We thank our respondents who sincerely participated in this study. Any opinions, conclusion and recommendations expressed in this manuscript are those of the authors.

Conflict Of Interest

None

References

- Driscoll, A., Russell, S. & Crockett, L. (2008). Parenting styles and youth well-being across immigrant generations. *Journal of Family Issues* 29(2): 185-209.
- Elgar, F. J., Waschbusch, D. A., Dadds, M. R., & Sigvaldason, N. (2007). Development and Validation of a Short Form of the Alabama Parenting Questionnaire. *Journal of Child and Family Studies*, 16(2), 243-259. DOI: 10.1007/s10826-006-9082-5
- Goldenberg, H. & Goldenberg, I. (2008). *Family therapy an overview*. USA: Brookscole, Cengage Learning.
- Hutchinson, M. K. (2007). *The Parent-Teen Sexual Risk Communication Scale (PTSRC-III): Instrument Development and Psychometrics*. Nursing Research
- Kraiser H. The varimax criterion for analytic rotation in factor analysis. *Psychometrika*. 1958;23:187-200.
- Netemeyer RG, Bearden WO, Sharma S. *Scaling Procedures: Issues and Applications*. London: Sage; 2003.
- Pett MA, Lackey NR, Sullivan JJ. *Making Sense of Factor Analysis: The Use of Factor Analysis for Instrument Development in Health Care Research*. Thousand Oaks, California: Sage; 2003.
- Prochaska, J. O., and DiClemente, C. C. "Stages and Processes of Self-Change of Smoking: Toward an Integrative Model of Change." *Journal of Consulting and Clinical Psychology*, 1983,
- Prochaska, J. O., DiClemente, C. C., and Norcross, J. C. "In Search of How People Change: Applications to the Addictive Behaviors." *American Psychologist*, 1992, 47, 1102-1114.
- Prochaska, J. O., et al. "Initial Efficacy of MI, TTM Tailoring and HRI's with Multiple Behaviors for Employee Health Promotion." *Preventive Medicine*, 2008, 46, 226-231.
- Robinson, C., Mandlco, B., Olsen, S. F., & Hart, C. H. (1995). Authoritative, authoritarian, and permissive parenting practices: Development of a new measure. *Psychological Reports*, 77, 819-830