
Measuring the Goodness-Fit of Problem Solving Strategies, and Communication Skills among Secondary School Teachers in Delta State, Nigeria

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Abstract

This study aimed to investigate the goodness-fit of problem solving strategies, and communication skills among secondary school teachers in Delta state, Nigeria. The population comprises of all married secondary school teachers in Delta state Nigeria. Purposive sampling technique was used to arrive at sample size of Two hundred and sixty five (265) respondents, which were used in this survey. Each variable has four constructs with twenty (20) items for each variable to measuring the goodness fit of problem solving strategies, and communication skills among secondary school teachers in Delta state Nigeria. Confirmatory factor analysis (CFA) was used for factor analysis as well as structural equation modelling (SEM) using Smart PLS. The results from the CFA showed that problem solving strategies, showed loadings 0.7 and above except for items PS4, PS6, and PS8, which showed loadings index of 0.346, 0.174 and 0.217. While Communication skills showed loadings 0.7 and above except for item MC1, MC4, MC7, MC10 and MC12, which showed loadings index of 0.19, 0.19, 0.17, 0.20 and 0.31, respectively. Based on The findings from the responses, it indicated that therapists, counsellors, Ministry of social welfare, Religious leaders, and researchers can adopt those Problem solving strategies, and that of communication skills to resolve marital problems among couples; both new and existing ones.

Keywords: Problem-solving strategies, Communication skills, Secondary school teachers

According to UNODC (2018), across the globe, Africa has been recognized as a continent where women run the highest risk of being killed by their spouse or a family member. It occurs at a rate of 3.1% deaths per 100,000 people compared to continents like the Americas, Oceania, Asia, and Europe with 1.6%, 1.3%, 0.9%, and 0.7% deaths per 100,000 populations, respectively with depicts the rate of domestic violence across continents.

Literatures revealed that 25% of women in Dakar and Caucasia in Senegal suffer from physical violence from their partners, and very few admit that their spouses beat them. The reports also shows that laws passed under the Senegalese Penal Code that punish domestic violence with imprisonment and fines which is not adequately implemented because of religious and cultural opposition. In Ghana, the top marital assault is on the list of domestic violence (Lukman et al., 2020). In Nigeria, reports show a high level of violence against women (Animashaun R A, 2015). According to the Immigration and Refugee Board of Canada, about 20 per cent of Nigerian women experience physical, sexual, or psychological violence from their spouse (Spanish Refugee Aid Commission (CEAR), 2019). Husband abuse is prevalent in polygamous families, and polygamy is widely practised in Nigeria, Aroyewun B. A et al added that more women experience physical violence in Nigeria than men do. Amadi, U. P. N. & Amadi, F. N. C. (2014).) added that most cases in Nigerian customary courts related to domestic violence against women and that a 60% increase in incidence may occur each year. Some of the reasons for divorce, conflict, and violence in marriage are the age of marriage. It seems to be best not to get married at a young age or to wait too long before getting married. Abdul Hamid & Sanusi (2016) stated that, married women in their teens are twice as likely to get divorced than women in their thirties however, those who are married in their thirties are more likely to get divorced than those who are married in their twenties. The worst marital issues that this couple rarely discuss is sexual relations; it can break up the marriage if not handled properly, and lack of communication between the depressed couple Amato, P. R., & Previti, D. (2003). Reported that marriage counsellors have associated this development with a lack of fear of God, intolerance, lack of effective communication, inadequacy, increased social and economic pressure on the family. The argument is that, changes in family life have weakened family ties and the quality of family relationships, which, in turn, threatens the growth and development of society. In this regard, the couple needs to develop effective ways to resolve the conflict for the sake of marriage. According to Mahtab. G (2018) effective conflict management in marriage is critical to overall relationship satisfaction, marital function, and longevity for couples.

According to the literature, variables for marital satisfaction are problem-solving strategies, communication skills, and negotiation styles (Mahtab G, 2018 Amato, P. R., & Previti, D. (2003). ; Lukman et al., 2019, 2020; Raimi 2000). It believed that these variables determine the outcome of a relationship. Makinde, B. O., & Ayeyika, F. (2014). reports that communication is an intrinsic feature of conflict and is a significant concern in understanding conflict management. Troubleshooting strategies are the skills of overcoming communication style barriers. Couples may not be able to resolve their conflicts if they do not understand how to communicate effectively. Lukman et al (2019). states that, some couples end the conflict by giving in to resentment, thus imposing their will on the other, thus provoking bitterness, blaming each other, using

sarcasm, and avoiding each other, described as less productive problem-solving strategies. On the contrary. According to Samson & Meidinyo (2016), more positive and productive problem-solving strategies are a compromise, agreement, affirmation, reasoning, and negotiation as well as providing needed support to a spouse, engaging in rational arguments, and actively listening when there is a demand for it.

It is imperative that couples have differing beliefs, interests, and needs in competing family issues, and that problem-solving strategies are relevant to decision-making in healthy negotiations. Negotiations work best when couples are open about their interests and need to reach a common goal. The study of Moyo, N. (2013). reported that counselling skills training has a significant effect on resolving marital conflicts between spouses. By understanding, the dynamics of problem solving, communication, and negotiation in areas such as parenting, sexual relationships, and conflict management, couples will increase their marital stability and satisfaction. Salabifard, A. et al., (2015). observed that effective conflict management between couples in a positive way and avoiding negative interactions would create an atmosphere of more significant opportunity for self-disclosure and agreement on family conflict. There is a lot of heart-breaking information about marital dissatisfaction among couples in Nigeria, which is the reason for this study.

One of the significant success keys for a functional family is the ability of partners to solve problems confronting the family. The intensity, range, and frequency of a problem vary from family to family based on the individuals concerned and the environment (Lukman et al 2020). While some problems are concerned with emotions and feelings of family members, others require daily decisions, or some may even involve both. However, a significant number of ways exist for handling conflicts by the individuals. Among the three peculiar responses to conflict are fights, flight, or constructive ways of solving the problem Abayomi A A (2014). Flight reaction involves problem avoidance and stress, while the fight reaction involves aggressiveness. Problems rarely solved through these two reactions as they mostly result in other problems. The concept of Vuchinich's constructive approach to problem solving involves people attempting to solve problems through the act of collaboration, negotiation compromise, as well as other approaches. Couples expected to arrive at practical approaches to attain at a resolution in the event of an encountered problem considering their experience from long relationships in raising families. Adeleke G. F (2017).

Statement of the Problem

Every couple desire blissful and fulfilling marriage, but many are not ready and equipped enough to sacrifice the resources (such as love, patience, commitment, tolerance, understanding, and empathy), which required to achieve a stable and adjusted home. In the face of conflict, which is often inevitable in any relationship particularly a marriage relationship formed by two strange heterosexual individuals who are different in any respect. The differences between the husband and wife (in terms of marital expectations, interests, attitude, habits, character, behavior, economic background, age, educational status, upbringing and perhaps, culture) will unavoidably bring about conflict in marriage, the ability of the couple in maintaining such relationship, however, depends mainly on their level of proficiency in problem-solving, communication skills

and negotiation style. These indicate that the success or failure of marriage is a predictor of communication.

Several marriages in Nigeria have broken up due to inadequate problem-solving strategies, communication, and negotiation styles of couples. For example, a civil servant in Nigeria divorced his wife due to some questions over the paternity of the two children out of his three children (Thomas, K. 2011). The Daily Post (2017) reported a case of a woman who pleaded with an Agege Customary Court, Lagos, to dissolve her nine-year-old marriage because her husband was irresponsible and in the habit of threatening her life with charms. Another report was a woman (of three children) who filed a divorce suit (for 19 years of marriage) over alleged battering by her husband for her refusal to have more children.

Though there are infinite explanations for conflicts, they mostly surround the fundamental wants of all human beings, which includes emotional, physical, intellectual, social, and spiritual Starak, Z. (2010). Besides, financial issues, barrenness of the couple, and problems of relatives may generate acrimony and misunderstanding within the family. It may not be far from the truth that many of the crises that rock most families were caused by the inability of couples to manage conflicts successfully. Therefore, the most reliable channels for resolving conflicts are communication and negotiation styles because communication is a step towards effective negotiation and problem-solving strategies in a marriage relationship.

Research Questions

1. What is goodness fit of Problem solving strategies among secondary school teachers in Delta state Nigeria?
2. What is goodness fit of Communication skills among secondary school teachers in Delta state Nigeria?

Methodology

The population of this study comprised of all secondary schools teachers in Delta state, Nigeria. purposive sampling technique was used to arrive at the sample size of two hundred and sixty five (265) who responded to the 4-point Likert's type questionnaire which validated by three (3) experts in the field of counselling psychology. After the review of the completed questionnaires for missing data omission and other errors, two hundred and fifty two (252), which signifies the return rate of ninety-point seven per cent (90.70%), retained. Confirmatory factor analysis (CFA) was used for factor analysis as well as structural equation modelling (SEM) using Smart PLS.

Data Analysis

1. What is the goodness-of-fit of problem-solving strategies?

The Measurement model of the Problem-Solving Strategies construct evaluated by items loading, composite reliability (CR), and average variance extracted (AVE). Items loading of at least 0.7 showed satisfactory indicator reliability for the measurement model. The item/factor loadings of the 20 items measuring five (5) sub-constructs of Problem-Solving Strategies assessed as order constructs. The measurement model presented in Figure 1

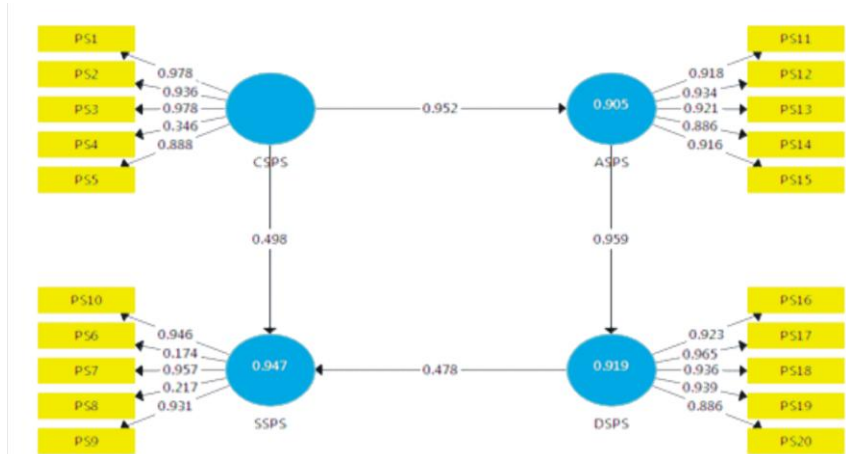


Figure 1 Measurement model of Problem solving strategies

Based on the first-order construct analysed results, the 20 items measuring the problem-solving strategies through five (5) sub-constructs, showed loadings 0.7 and above except for item PS4, PS6, and PS8, which showed loadings index of 0.346, 0.174 and 0.217, respectively (see Figure 1). Consequently, these items with low loadings dropped to form the valid measurement model used in the construction of the pooled measurement model. The model assessed again for second order, and all indicators showed acceptable loading. The loading output after omitting distortion trait from the measurement model presented in Table 1

Table 1 Measurement Model of Problem-Solving Strategies

Construct	Sub-Constructs	Item	Factor Loadings	AVE	CR
Problem-solving Strategies	Compromise Strategies	PS1	0.98	0.97	0.90
		PS2	0.94		
		PS3	0.98		
		PS5	0.89		
		PS4	0.346		
	Avoidance Strategies	PS7	0.96	0.96	0.84
		PS9	0.94		
		PS10	0.95		
	Domination Strategies	PS11	0.92	0.97	0.87
		PS12	0.94		
		PS13	0.93		
		PS14	0.88		
		PS15	0.92		
	Submission Strategies	PS16	0.92	0.96	0.89
		PS17	0.97		
		PS18	0.94		
		PS19	0.94		
		PS20	0.89		

Similarly, all the four (4) sub-constructs achieved satisfactory reliability with the composite reliability (CR) of more than 0.7, an indication that the CR for the measurement model is above the recommended minimum value of 0.7, as presented in

Table 1. Thus, the outcomes specify that the items represent the constructs with adequate reliability and internal consistency. Convergent validity assessed through investigating average variance extracted (AVE) value; in cases where constructs have an AVE value equal or greater than 0.5, convergent validity is acceptable. Table 1 shows that all sub-constructs in the problem-solving strategies have AVE ranging from 0.5 to above. This exhibits that the proposed measurement model had satisfactory convergent validity.

To arrive at the goodness-of-fit of problem-solving strategies, the AVE and R² values from the bootstrapping result from the sub-constructs utilized. Goodness-of-Fit (GOF) is applied as an index for the complete model fit to verify that the model sufficiently explains the empirical data (Hair et al., 2011). To this effect, the GOF obtained by using the geometric mean value of the AVE and the average R² as shown in table 2

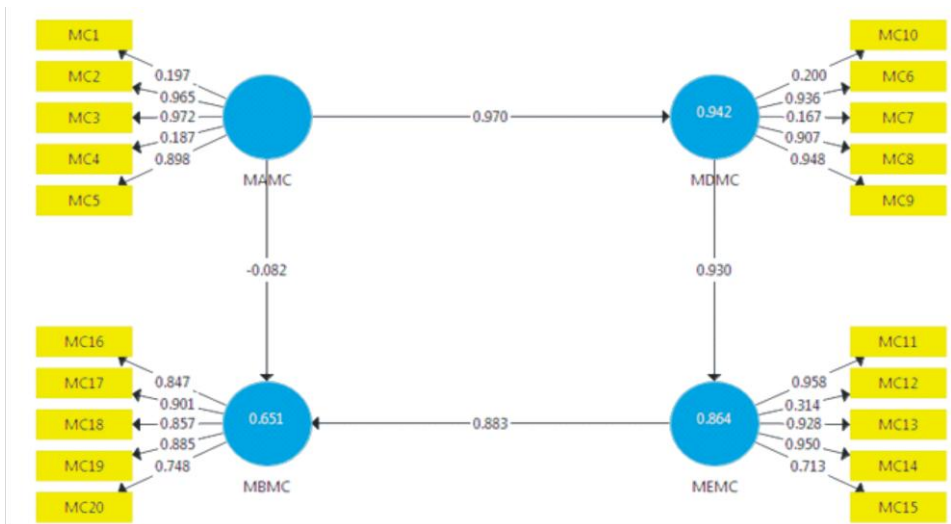
Table 2 Goodness-of-fit of Problem-Solving Strategies

Sub-construct	AVE	R²
Compromise Strategies	0.973	0.746
Avoidance Strategies	0.964	
Domination Strategies	0.971	
Submission Strategies	0.963	
Average AVE & R ²	0.968	0.746
AVE × R ²		0.722
GOF = $\sqrt{(AVE \times R^2)}$		0.850

As shown in Table 2, the GoF index for Problem-Solving Strategies measured as 0.850, which shows that empirical data fits the model satisfactory and has substantial predictive power in comparison with baseline values.

2. What is the goodness-of-fit of communication skills?

The Measurement model of the Marital Communication Skills construct evaluated by items loading, composite reliability (CR), and average variance extracted (AVE). Items loading of at least 0.7 showed satisfactory indicator reliability for the measurement model. The item/factor loadings of the 20 items measuring five (5) sub-constructs of Marital Communication Styles assessed as first-order constructs. The initial measurement model presented in Figure 2.



Based on the analysis results the-order constructs, the 20 items measuring the marital communication skills through five (5) sub-constructs showed loadings 0.7 and above except for items MC1, MC4, MC7, MC10 and MC12, which showed loadings index of 0.19, 0.19, 0.17, 0.20 and 0.31, respectively (see Figure 2). Consequently, these items with low loadings dropped to form the valid measurement model used in the construction of the pooled measurement model. The model assessed again for second order, and all indicators showed acceptable loading. The loading output after omitting distortion trait from the measurement model presented in Table 3.

Table 3 Measurement Model of Marital Communication Styles

Construct	Sub-Constructs	Item	Factor Loadings	AVE	CR	
Marital Communication Styles	Mutual Avoidance Styles	MC1	0.968	0.964	0.900	
		MC2	0.975			
		MC3	0.903			
	Mutual Discussion Styles	MC4	0.938	0.953	0.871	
		MC5	0.909			
		MC6	0.952			
	Mutual Expression Style	MC7	0.962	0.941	0.803	
		MC8	0.930			
		MC9	0.954			
	Mutual Blame Styles		MC10	0.715	0.928	0.721
			MC11	0.847		
			MC12	0.902		
			MC13	0.857		
			MC14	0.885		
			MC15	0.748		

Similarly, all the four (4) sub-constructs achieved satisfactory reliability with the composite reliability (CR) of more than 0.7, an indication that the CR for the measurement model is above the recommended minimum value of 0.7, as presented in Table 3. Thus, the results specify that the items represent the constructs with adequate reliability and internal consistency. Convergent validity assessed through investigating average variance extracted (AVE) value; in cases where constructs have an AVE value equal or greater than 0.5, convergent validity is acceptable. Table 4 shows that all sub-constructs in the problem-solving strategies have AVE ranging from 0.5 to above. This exhibits that the proposed measurement model had satisfactory convergent validity.

The goodness-of-fit of Marital Communication Styles obtained from the average values of AVE and R² from the results. The GoF, according to Hossain et al. (2012).is applied as an index for the complete model fit to verify that the model sufficiently explains the empirical data. As shown in Table 4.6 the GOF obtained by using the geometric mean value of the AVE and the average R².

Table **Error! No text of specified style in document.** Goodness-of-fit Communication Skills

Sub-construct	AVE	R²
Mutual Avoidance Styles	0.964	0.785
Mutual Expression Style	0.953	
Mutual Expression Style	0.941	
Mutual Blame Styles	0.928	
Average AVE & R ²	0.947	0.785
AVE × R ²		0.743
GOF = $\sqrt{(AVE \times R^2)}$		0.862

The GoF index for communication skills as shown in Table 4. Measured as 0.862, which shows that empirical data fits the model satisfactory and has substantial predictive power in comparison with baseline value.

Findings and Discussion

The Measurement model of the Problem-Solving Strategies construct evaluated by items loading, composite reliability (CR), and average variance extracted (AVE). The entire model indicators showed acceptable loading, and the sub-constructs in the problem-solving strategies have AVE ranging from 0.5 to above. This exhibits that the problem-solving strategies measurement model fit had satisfactory convergent validity. The measurement model of problem-solving strategies having obtained the adequate model parameter according to Hair et al. (2011) used to assess problem-solving strategies of married couples in the present study. Similarly, Thomas, K. (2011). aligned that the measurement model with adequate CR, AVE as set out by Hair et al. (2011) are the best measurement tools to establishing cause, effect, or relationship with another similarly validated measurement model. This finding agrees with the supposition of Anahita et al. (2016) that a valid measurement model or instruments assure the researchers that the utilized scale is measuring what it is intended to measure. Thus, the

measurement model of problem-solving strategies used in this study provides valid and reliable results.

The measurement model of the marital communication skills construct evaluated by items loading, composite reliability (CR), and average variance extracted (AVE). All the model indicators showed acceptable loading and sub-constructs in the problem-solving strategies have AVE ranging from 0.5 to above. This exhibits that the proposed measurement model had satisfactory convergent validity. The measurement model of communication styles having obtained the acceptable model parameter, these parameters are in line with the recommendations by Hosseini, S. Set al. (2015), Aghdam G. F et al (2012) that showed the measurement model is adequate used in measuring the communication styles of married partners in the present study. Studies established that the measurement model with satisfactory CR, AVE, as recommended by Byrne (2010) are the best measurement tools to establishing cause, effect, or relationship with another similar validated measurement model (Oliseh, K. (2018). This finding is in line with many experts validated assertions that a valid measurement instrument assures the researchers that the employed scale is measuring what it is intended to measure. Thus, the measurement model of communication styles used in this study provides valid and reliable results, and they equally be adopted in similar studies.

Practical Implications for Practitioners

The findings of this study have important practical implications for professionals and practitioners in the field of research, particularly, to the marriage institutions in Nigeria, thus:

- a) The study established valid evidence that problem-solving strategies have a significant effect on marital satisfaction among secondary school teachers in Delta state, Nigeria. These results further confirmed that problem-solving strategies could introduced as an effective method of reducing marital dissatisfaction among married couples. Thus, all practitioners in marriage counselling can utilize problem-solving strategies in their marital counselling to help a couple increase their marital satisfaction and reduces the level of marital disharmony.
- b) The findings of this study have important implications for practice, counsellors, and clinicians as conflicts in marital relationships are inevitable and unavoidable. Helping couples to resolve their disagreement became necessary. Thus, practitioners could use the different dimensions of problem-solving strategies to deal with marital issues of disagreement and conflict among couples in their marital affairs. Similarly, the individuals can use it to create a healthy marital life by applying the principles in solving their marital disagreement through mutual understanding and thus improving their satisfaction and happiness in marriage.
- c) This research implies that effective communication relates well with marital satisfaction and that with sound marital communication style improves marital satisfaction and reduces the level of conflicts and disharmony among married couples. Similarly, practitioners can guide the married couple to utilize effective communication using different communication approaches or channels in relating well with their partners. In a situation like conflict, which is a typical relationship issue, using effective communication styles can help reduce the rate of occurrence

of conflict. This is can likely reduce harmful communication during conflict among married couples and increase marital satisfaction.

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