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Confirmatory Factor Analysis of the Revised Peer Experience Questionnaire (RPEQ) in Assessing Peer Victimization Among Nigerian Sample.

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ABSTRACT

This study has four primary objectives. First, it examined the latent structure of the peer experience questionnaire which has two independent scales: victimization of others (VO) and victimization of self (VS). Second, it explored the inter-item correlation and internal consistency of RPEQ. Third, it assessed the construct validity of the RPEQ. Fourth, it examined the discriminant validity of the scale. The RPEQ was administered with an aggression and a callousness scale to a sample of the Nigerian adolescence (N = 1200; 606 boys and 594 girls). Their mean age was 15.77years, and *SD* was 1.26. Three models of the latent structure of RPEQ Scales (VO and VS) were tested using confirmatory factor analysis (CFA). The RMSEA, NNFI, CFI and IFI for the three models had a relatively good fit. The result of the item-total correlation reached accepted values. Also, the result showed better Cronbach's alphas for the Two-factor model, VO =. 81; VS =.78. The convergent validity showed that the VO scale of RPEQ has a significant amount of variance in common with aggression and callousness scales than VS. The result also showed ethnic variations in the reaction to the VO and VS. Similarly, boys scored higher in VO than girls, but no important gender difference was found in VS. The report confirmed that one to three factors models of VO or VS is adequate in understanding the construct of peer victimization.

Introduction

Studies have shown that peer victimization (Victimization of Other: VO and Victimization of Self: VS) have multiple negative implications for an individual's social and psychological well-being (Durso, & Symonds, 2021; Onyekuru & Ugwu, 2017; Slee & Skrzypiec, 2016). One of the major breakthroughs in the studies of peer victimization (Victimization of Other: VO and Victimization of Self: VS) is the ability of researchers to transcend beyond theories and further the understanding of the characteristics, prevalence, and effects of peer victimization via the development of authentic and valid measures that advanced the assessment of the phenomenon (Dake, Price & Telljohana, 2003; Hamburger, Basile & Vivolo, 2011; Mynard & Joseph, 2000; Vernberg et al., 1999). Efforts in this direction have contributed to many lines of thoughts. While some researchers have favoured the fact that three individuals may be involved in every act of peer victimization: the Bully, the Victim, and the By-Standers (Olweus, 1993;1997; Rigby, 1996), others believed that peer victimization occur within the peer group context and may involve and affect multiple individuals such as: the aggressor, the assistant, the reinforcer, the outsider, the defender and the victim (Casper,et al., 2017; Salmivalli, et al., 1996).

Scholars (e.g., Durso, & Symonds, 2021; Craig, et al., 2009; De Los Reyes & Prinstein, 2004; Slee & Skrzypiec, 2016; Vernberg et al., 1999) also proposed that within the categories of peer victimization there may be two major modes of operations: (i) Direct or Overt and (ii) Indirect or Relational. Some findings suggested that within the direct victimization, there may be physical and verbal dimensions (De Los Reyes & Prinstein, 2004; Kulesza, 2006; Mynard & Joseph, 2000; Price, Chin, Higa-MC Millan, Kim & Frueh, 2013). However, no single study can answer all the questions raised about peer victimization. Therefore, different researchers limit the scope of their works within some dimensions of peer victimization and some of the studies have focused exclusively on the bullies and the victims (Dake, et al., 2003; Dempsey, Sulkowski, Nichols & Storch, 2009; Pearce, Boergers & Prinstein, 2002; Olweus, 1984; Vernberg, et al., 2000; Vernberg et al., 1999).

So far, the common denominators found across scales developed to measure peer victimization (VO and VS) are the existence of the two sub-scales: Overt and Relational domains (De Los Reyes & Prinstein, 2004; Hamburger, et al., 2011; Prinstein et al., 2001). Other defining features of peer victimization include the fact that: (i) It is a negative act of aggression or oppression to either others: VO or self: VS, (ii) It is unprovoked and deliberately intended to cause harm, (iii) It is carried out repeatedly, over time, (iv) It involves an actual and perceived imbalance of power in which the aggressor or a group of aggressors are physically or psychologically more powerful than the victim (Olweus, 1997; Vernberg, et al., 1999).

Some studies (Biggs et al., 2010; Dake, et al., 2003; Hamburger et al. 2011; Kaltiala-Heino, et al., 1999; Kaltiala-

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Heino, et al., 2000; Salmon, et al., 1998) have shown the different characteristics and consequences of those involved in the various forms of peer victimization (VO and VS). But most significantly, they stated that both take in the following consequences: dropping out of school, low academic performance, mental health problems, loneliness, negative self-esteem, depression, anxiety, suicidal ideation, internalizing and externalizing disorders. Specifically, Dake, et al. (2003) in an extensive reassessment of the nature and extent of bullying in school indicated that there may be a need for further research to verify the characteristics of bullies and victims in terms of physical features, psychological characteristics, and behavioural characteristics given some contrasting evidence provided by some research they reviewed. However, it can be concluded that peer victimization has adverse effect on the present and future physical, social, and psychological wellbeing of the individuals who were involved either as VO or VS.

Peer victimization had been identified to be common and with more consequences among children and adolescence (Biggs et al., 2010; Olweus, 1993; Vernberg, et al., 1999; Rigby, 2000). The prevalence of peer victimization in Europe and United State of America has been found to be significantly higher, ranging from 4.8% to 35.8% for girls and 5% to 45.2% for boys (Craig, et al., 2009; Stassen Berger, 2007; Modecki, et al., 2014; National Centre for Educational Statistics, 2016). In Sub-Saharan Africa, the incidence of peer victimization may even be higher given the cultural elements that appear to condone peer victimization especially victimization of others as desirable and victimization of self as undesirable (Nwafor et al., 2015).

The patriarchal culture makes matters worse for both VO and VS, since the VOs were reinforced while the VSs were allowed to suffer or is encouraged to be aggressive too **(**Onyeizugbo, 2006). Rigby (2004) suggested that VO and VS behaviour may be a part of the existence of multiple social groups with differing degrees of ability. These differential levels of ability may be due to differences in ethnicity, acculturation, socioeconomic position, religion, and gender. Similarly, different theoretical perspectives (social cognitive theory and social ecological diathesis stress model) give some insights into the various possible factors and domains that may be involved in the development of VO and VS.

The social cognitive perspective (Swearer, Wang, Berry & Myers, 2014) suggested that VO and VS develop and manifest because of how the individuals make attributions (beliefs about the causes of events around them) which then influence how they respond to the events. For instance, they assumed that those who make self-blaming attributions may end up being VS, while those that have hostile attribution may end up being VO. However, to capture the whole contexts and domains involved in development of VO and VS, Swearer and Shelley (2015) proposed a social ecological diathesis-stress model. In this theory, they integrated social ecological theory (Bronfenbrenner, 1994) and social cognitive theory and proposed that VO and VS may involve complex and dynamic process which cut across multiple settings (home, school, and community) and over time. Thus, VO and VS are results of the nature of interconnections in an individual world (social ecology) and the complexity of how the individual attribute and react to the stressors and risk/protective factors that influence both engagement and prevention of VO and VS.

In Nigeria, some studies suggested a very high incidence of peer victimization ranging between 67.2% and 85% among adolescents (Egbochukwu, 2007; Federal Ministry of Education and UNICEF, 2007; Omoteso, 2010; Popoola, 2005). However, a critical reevaluation of these studies revealed some lacuna because the factor fits of existing measures of victimization have not been explored in Nigeria and some of the measures used did not exhibit sound psychometric properties. Given the importance of understanding the facts about peer victimization and catching-up with the current pattern of thoughts and research with the rest of the world, there is an extant need to ensure that the scales used in assessing peer victimization in Nigeria have sound psychometric properties.

Measurement of Peer Victimization

Globally, there may be no consensus on a best measure of peer victimization. Nevertheless, to ensure reliable and valid empirical outcomes, there have been demands to always use measures that cut through the theoretical and conceptual description of the phenomenon. Hamburger et al., (2011) reviewed many measures which have been used in assessing the different forms of peer victimization and classified these measures into: (i) Bully-only scales, (ii) Victim only scale, (iii) Bully and/or victim scales (Hamburger et al., 2011). The present study evaluated the utility of Revised Peer Experience Questionnaire (RPEQ), the self-report version which assesses the bullying and victim scales of Peer Victimization (Kulesza, 2006; Vernberg et al., 1999; Prinstein et al., 2001) using a Nigerian sample.

Robinson et al. (1991) stated that a good measure is rated based on its parameters in the following categories: (i) Inter-item correlation, (ii) Alpha-Coefficient, Test-retest reliability, Convergent Validity and Discriminant Validity. In addition to evaluating these psychometric parameters, the present study also assessed the Confirmatory Factor Analysis (CFA) of the RPEQ.

Revised Peer Experience Questionnaire (RPEQ)

The Revised Peer Experience Questionnaire was carefully designed to tap into two major components and individuals involved in Peer Victimization: Overt and Relational victimization of others and Overt and Relational victimization of self. This makes it easier for researchers to identify those who are bullies; victims; bully-victims and none. This knowledge is necessary for understanding of the trajectories of peer victimization and ensuring appropriate intervention for individuals within each category. Specifically, Vernberg et al. (1999) stated that the items for original PEQ were adapted from previous works on peer victimization (Cairns et al., 1989; Olweus, 1991; Vernberg, et al., 1992, Whitney & Smith, 1993). The scale covers verbal and physical direct victimization such as: threats, taunts, hitting and grabbing; and

indirect or relational victimization such as spreading rumours and excluding someone from an activity. Vernberg et al. (1999) reported two nine-item scales: victimization of other (VO) and victimization of self (VS).

Furthermore, Prinstein et al. (2001) assessed the factor structure of a revised version of the scales and found that the scale loaded well in two-factor solutions (overt and relational) for VO and VS respectively. Nevertheless, the present study adopted Kulesza (2006) revised version of PEQ. Kulesza (2006) modified wordings of some of the original items from Vernberg s et al. 1999 and Prinstein et al. (2001) studies and added an extra item (Other students ganged up against me and were mean to me as a group). This modified version by Kulesza (2006) was rated highly on clarity, less difficult to understand and reflected behavioural actions in Nigeria than the other two by 10 experts and 20 adolescents in a preliminary assessment during the present study. Therefore, each of the scales of Kulesza's Revised Peer Experience Questionnaire (PEQ) used in the present study contained ten items. Kulesza (2006) model of PEQ suggested that the overt subscale of the VO and VS is subdivided into physical and verbal victimization.

Several studies have reported good psychometric parameters ranging from Cronbach's alphas of .70 to .85 for VO and VS, respectively (Kulesza, 2006; Mitsopoulou & Giovazolias, 2013; Prinstein et al., 2001; Pearce et al., 2002; De Los Reyes & Prinstein,2004; Dempsey, 2009; Vernberg et al., 1999). Studies that utilized PEQ have shown that the scales have a good criterion related validity (predictive and concurrent validity) (e.g. Kulesza; 2006; De Los Reyes & Prinstein, 2004; Pearce et al., 2002; Prinstein et al., 2001, Vernberg et al., 1999).

Measurement of Peer Victimization in Nigeria

Only a few studies conducted using Nigerian samples to the best of our knowledge focused on peer victimization. We observed that the few published and accessible studies involving Nigerian samples used different questionnaire forms to measure peer victimization of their participants. While some (e.g., Adefunke, 2015; Balogun, Olapegba & Opayemi, 2006; Onyekuru & Ugwu, 2017; Popoola, 2005) used standardized scales, such as Multidimensional peer-victimization scale (Mynard & Joseph, 2000), others developed their own scales (e.g. Egbochukwu, 2007; Asiyai, 2015; Owuamanam, & Makinwa, 2015; Ometeso, 2010). Nevertheless, none had reported using any of the versions of PEQ and none of these studies conducted CFA to confirm the structure fits of the measures they used in their studies. Nigeria is a multi-ethnic country with three major ethnic groups: Igbo, Hausa, and Yoruba. These groups need to be represented in a good nationwide study and none of these studies to the best of our knowledge considered nationwide assessment of these ethnic groups given the religious and other cultural differences.

The Present Study

Identifying and understanding the characteristics of individuals involved in peer victimization needs a universal commitment. While many scales have been developed in the past to measure peer victimization, the work of Vernberg, et al., (1999) evolved a scale that tapped into the two major aspects of peer victimization (Overt: verbal and physical and Relational) and two key individuals involved in peer victimization (aggressor and victim). Subsequently, researchers have revised and used the RPEQ in different empirical studies to measure peer victimization (e.g., Dempsey et al., 2009; Kulesza, 2006; Mitsopoulou & Giovazolias, 2013; Prinstein et al., 2001; De Los Reyes & Prinstein, 2004). However, the structure of the construct may not have been fully explored as most of the studies including its first published use (Kulesza, 2006; Prinstein, et al., 2001; Vernberg et al., 1999) did not have the construct confirmation as the primary objectives of their studies. Thus, efforts may not have been made towards exploring the CFA of the scale, hence Prinstein et al (2001) found two-factor solution and Kulesza proposed three-factor solution for the scales.

Similarly, within Nigeria, empirical studies on peer victimization have not explored the utility of RPEQ among Nigerian sample. In other words, studies have not really explored the construct validity, such as CFA of the RPEQ or any other scales used in the various studies. Therefore, to key into the universal best practices on research on peer victimization, there is a need to assess the construct fit of the scales that can be used to measure peer victimization. In addition to the criteria presented by Robinson et al. (1991) for rating a good scale, the present study first, conducted CFA for the various factor models of VOa and VSb (see Table 2 below): model 1a & 1b = one-factor (Vernberg et al., 1999); model 2a & 2b = two-factor (Prinstein et al., 2001); and model 3a & 3b = three-factor (Kulesza, 2006). Second, the study explored the inter-item correlation of the RPEQ and the internal consistency of the RPEQ (Cronbach's α). Third, to test the scale for convergent and discriminant validity. Finally, the participants were drawn from the three major ethnic groups in Nigeria (Igbo, Hausa, and Yoruba) in order to increase the external validity of the scale, a factor most studies in Nigeria rarely consider in their studies.

Method

Participants and procedure

The participants were 1200 adolescent students (Senior Secondary School II: SSS2; Mean age = 15.77 years; *SD* = 1.26; 50.5% girls). These participants were selected from three of the five geopolitical zones in Nigeria: South-West (Abeokuta: Yoruba ethnic group); South-East (Awka: Igbo ethnic group); and North-West (Kaduna: Hausa ethnic group). Four hundred students were selected from four schools in each selected state capitals of the geopolitical zones. Among the participants, 80% from north-west were Muslims, 100% of the Southeast were Christians, and in the southwest 70% were Christians and 30% were Muslims.

Instruments

Self-Report Revised Peer Experience Questionnaire (RPEQ)

PEQ was initially developed by Vernberg et al. (1999) and it has two scales with 9 items for each scale (VO and VS). However, a revised version of PEQ which has 10 items for each scale was used for this study. Kulesza (2006) modified some items from initial Prinstein et al., (2001) and Vernberg et al. (1999) and added one item to the VO and VS respectively. The items were reported on a 5-points Likert scale based on the frequency of the occurrence for each behaviour ranging from 1 = never to 5 = a few times a week. The internal consistencies of the scales were found to be good ranging from Cronbach's alpha of .70 to .85 for VO and VS respectively (De Los Reyes & Prinstein, 2004; Kulesza, 2006; Mitsopoulou & Giovazolias, 2013; Prinstein et al., 2001; Pearce et al., 2002; Dempsey, et al., 2009; Vernberg et al., 1999). Studies that utilized PEQ have shown that the scales have a good criterion related validity (predictive and concurrent validity) (e.g., Kulesza; 2006; De Los Reyes & Prinstein, 2004; Pearce et al., 2002; Prinstein et al., 2001, Vernberg et al., 1999).

Aggression Scale (AS)

This scale was developed by Orpinas and Frankowski (2001), as a self-report measure for aggression among youths. It has two subscales: physical/verbal and anger scales. Aggression Scale contains 11 items arranged in a 7-point scale from 0 (times) to 6 (times). Orpinas and Frankowski (2001) showed the internal consistency of the scale was α =. 88. The Cronbach's α for the present study was .78

Inventory of Callous-Unemotional traits (ICU)

Callousness Trait was measured utilizing 8 item subscales of the developed by (Frick, 2004). The 8 items measure callousness trait: (e.g., "I do not care if I get into trouble") and the inventory was rated on a four-point scale ranging from 0 = (*not at all true*) to 3 = (*definitely true*). Nwafor et al. (2015) reported Cronbach's α of .71 for the scale. The Cronbach's α for the present study was .73.

Procedure

Appropriate permission was obtained from the participants' caregivers (Parent and school authority) who completed a consent form. The Form teachers (a teacher who coordinates a class) for each class that was selected to participate administered and collected the questionnaires after completion. Uniform instructions were given to all participants and for the PEQ scales there were different instructions for form A: VO and form B: VS. The instructions required the participants to indicate how frequently each of the ten actions happened to them in school since the past 4 months. It also emphasized that participants were not to report occurrences when these actions were done in a friendly and playful way. The RPEQ was administered simultaneously with Aggression Scale (Orpinas & Frankowski, 2001) and callousness subscale of the ICU (Frick, 2004).

Analyses

The statistical analysis was conducted using SPSS and LISREL 8.80. The following parameters were assessed: CFA and internal consistency. The CFA was conducted with LISREL 8.80. The parameters and cutoffs include Root Mean Sequence Error of Approximation (RMSEA) range < .05 to .08 (although RMSEA between .06 and .08 is considered poor, see Hu & Bentler, 1998). Hooper et al. (2008) stated that the RMSEA tries to avoid the issues of sample size by analysing the discrepancy between the hypothesized model with optimally chosen parameter estimates, and the population covariance matrix. Comparative Fit Index (CFI), Non-Normed Fit Index (NNFI) and Incremental Fit Index (IFI), analyse the model fit by examining the discrepancy between the data and the hypothesized model. Larger values indicate better fit, all of which sought a range of .90 to .99 (see Bentler, 1990). Another parameter considered in CFA is the chi-square, the critical ratio (X^2/DF; Bollen, 1989). Although usually influenced by the sampling size, the Chi-square test may be invalid when distributional assessment is violated often this may lead to the rejection of good models. Critical ratio (X^2/DF) values closer to zero (≤ 2) indicate a better fit.

Internal consistency was assessed through items-total correlation and Cronbach's alpha. Robinson et al. (1991) described Cronbach's α of .80 as exemplary; .70 to .79 as extensive; .6 to .69 as moderate and less than .6 as minimal. Schmitt (1996) also suggested that alpha values of .70 and above should be considered acceptable.

Results

Table 1: Skewness, kurtosis, Standard Error (*SE*) and values of the Item-total correlation (*ITC*) of the RPEQZ

VO	Skewness	*SE*	Kurtosis	*SE*	*ITC*
1. I hit, kicked, or pushed a student in a mean way.	1.45	.07	1.4	.14	.42
2. I told put-downs or rumors about another student	1.49	07	1.7	.14	.47
3. I threatened to hurt or beat me up another student.	1.45	07	1.4	.14	.56
4. I left a student out of an activity or conversation she/he wanted to be included in to make her or him feel bad	1.37	07	.99	.14	.52
5. I chased a student like I was trying to hurt him or her.	1.31	07	.89	.14	.50
6. I played a mean trick to try and scare or hurt another student.	1.19	07	.41	.14	.51
7. I grabbed, held or touched a student in a way he or she did not like.	1.08	07	.26	.14	.54
8. I ganged up with other student and we did mean things to another student	1.73	07	1.98	.14	.56
9. I ignored another student on purpose to hurt his or her feelings.	1.19	07	.49	.14	.52
10. I teased a student in a means way, called him or her bad names, or said rude things to him or her	.88	07	-.43	.14	.50

VS					ITC
11. A student hit, kicked, or pushed me in a mean way	.92	.07	-.03	.14	.37
12. A student told put-downs or rumors about me.	.93	.07	-.01	.14	.42
13. A student threatened to hurt or beat me up.	.97	.07	.01	.14	.46
14. A student left me out of an activity or conversation I wanted to be included in to make me feel bad	.99	.07	.16	.14	.44
15. A student chased me like he or she was trying to hurt me	.97	.07	-.05	.14	.49
16. A student played a mean trick to try and scare or hurt me	.89	.07	-.17	.14	.46
17. A student grabbed, held, or touched me in a way I did not like.	.65	.07	-.67	.14	.47
18. Other students ganged up against me and were mean to me as a group.	1.29	.07	.57	.14	.44
19. A student ignored me on purpose to hurt my feelings.	.79	.07	-.33	.14	.48
20. A student teased me in a mean way, called me bad names, or said rude things to me.	.53	.57	-.93	.14	.50

VO items: Overt (physical: 1, 5, 7; verbal: 3 &10); Relational 2, 4, 6, 8 & 9; VS items: Overt (physical: 11, 15, 17; verbal: 13 & 20); Relational 12, 14, 16, 18 & 19

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Confirmatory Factor Analysis (CFA)

Table 2: Model fit for the one factor, two factors and three-factors solutions for the Confirmatory Factor Analysis (CFA) of the RPEQ

Model	VO a	X^2	X^2/df	NNFI	CFI	IFI	RMSEA
1a	One factor	149.98**	4.25	.97	.98	.98	.05
2a	Two factors	140.84**	4.11	.98	.98	.98	.05
3a	Three factors	127.63**	3.90	.98	.98	.98	.05
	VSb						
1b	One factor	164.26**	4.68	.96	.97	.97	.06
2b	Two factors	161.28**	4.73	.96	.97	.97	.06
3b	Three factors	157.75**	4.90	.96	.97	.97	.06

**P<.001

Generally, the critical ratios ranging from 3.90 to 4.90 emerged from the results (see Table 2). These showed that the chi-square values were above the acceptable level (≤ 2). Research has shown that when the sample size is large, the chi-square values for a self-report data are always significant (Byrne, 1994). However, if the skewness and kurtosis are within the range of ±2, the significant may be attributed to the large sample used in the study (Field, 2009; Gravetter & Wallnau, 2014; Trochim & Donnelly, 2006). This is because the distributional assessment was not violated. In the present study the skewness ranged from .53 to 1.73 and the kurtosis ranged from -.01 to 1.98 (see Table 1).

However, the model fit using other parameters that are not particularly influenced by sample size provided good results. Models 1a, 2a, 3a and models 1b, 2b, 3b which tested the one factor solution, two-factor solutions, and three-factor solutions for the VOa and VSb independently, all provided acceptable ranges of RMSEA -.05 for models 1a, 2a & 3a and .06 for 1b, 2b & 3b (see Table 2). The fit indices NNFI, CFI and IFI for each model ranged from .96 to .98 (see: Table 2 models 1a, 2a, 3a & 1b, 2b, 3b). Bentler (1990) stated the values between .90 and. 99 is acceptable and good fit indices. This indicates that practically RPEQ scales can be used as one-factor or two-factor or three-factor scale.

Internal consistency of RPEQ

Table 3: Cronbach's Alpha Coefficient PEQ by Ethnicity and Gender

RPEQ	Yoruba	Hausa	Igbo	Boys	Girls	TOATAL
VO	.82	.84	.78	.83	.81	.81
VS	.79	.84	.72	.76	.80	.78

The Cronbach's alphas for the 10-item VO and VS scales were α = .81 and .78 respectively. The values of the alphas for the various ethnic groups in the geo-political regions were presented in Table 3. Similarly, the values of the Cronbach's alphas for gender can be seen in Table 3. The results for Cronbach's alphas for the subscales are for VO-overt α = .70, VO-relational α = .71; VS-overt α =.70, VS-relational α = .70. The Cronbach's Alphas for VO-overt-verbal and physical are .46 and .55 respectively and VS-overt- verbal and physical are .44 and .50 respectively. The values of the item-total correlations ranged from .42 to .56 for VO and .37 to .49 for VS (See Table 1: *ITC*)

Table 4: Correlation of within and between RPEQ scales and subscales

S/NO.	Factors	1	2	3	4	5	6	7	8	9	10
1	VO	-									
2	VS	.19	-								
3	VO-0vert	**.92****	.16	-							
4	VS-overt	.14	**.85****	.14	-						
5	VO-physical	**.83****	.16	.91	.13	-					
6	VO-verbal	**.80****	.14	**.86****	.11	**.58****	-				
7	VO-relational	**.91****	.19	**.67****	.12	**.61****	**.59****				
8	VS-physical	.21	**.76****	.12	**.91****	.12	.09	.10	-		
9	VS-verbal	.21	**.72****	.12	**.84****	.11	.10	.14	**.53****	-	
10	VS-relational	.28	**.84****	.17	**.62****	.15	.15	.23	**.56****	**.53****	-

**p<.001. Note all the values in bold are evidence of convergent validity. While the once not on bold are divergent validity.

*C*orrelations for VO subscales are VO and overt, physical, verbal, relational r =.92, .83, .80 and .91 p < .001 respectively. For VS subscales r = .85, .76, .72 and .84 p < .001 for overt, physical, verbal, and relational respectively. All values that are not in bold are values of inter-scale and subscales correlation (Table 1). The values are relatively low. For instance, the correlation coefficient between VO and VS scales is r = .19, p < .01.

Correlation between RPEQ, Aggression and Callousness

The correlation coefficient between VO and aggression is r = .51 p < .01; VO and callousness r = .43, p < .01, these provided evidence for convergent validity. Also, between VS and aggression r = .18 p < .05; VS and callousness, r = .12, p =.09.

RPEQ by Ethnicity and Gender

Table 5 Total Means and Standard deviations of Revise Peer Experience Question broken down by Ethnicity

Ethinicity	Victimization of Other *M(SD)*	Victimization of Self *M(SD)*
Yoruba	18.01(7.05)	20.60(7.14
Hausa	20.16(7.71	22.20(7.95)
Igbo	17.38(6.12)	22.16(6.12)

Ethnicity and gender difference in VO and VS were tested using analysis of variance. The results show that there were significant report of VO and VS based on ethnicity, for VO, $F(2, 1197) = 17.34$, $p<.01$. Bonferroni post hoc test for mean difference (*MD*) and standard error (*SE*) shows that differences exist between Yoruba and Hausa $MD = 2.14$, $SE = .49$, $p<.01$; Hausa and Igbo $MD = 2.78$, $SE = .49$, $p<.01$; Yoruba and Igbo $MD = .64$, $SE = .49$, $p = .59$. As indicated in Table 5, Hausa reported being more involved in VO than Yoruba and Igbo. For VS, $F(2, 1197) = 6.51$, $p < .01$. Bonferroni post hoc test for mean difference (*MD*) and standard error (*SE*) shows that difference exist between Yoruba and Hausa $MD = -1.59$, $SE = .50$, $p<.01$; Hausa and Igbo $MD = .04$, $SE = .50$, $p = .99$; Yoruba and Igbo $MD = -1.55$ $SE = .50$, $p<.01$. Hausa and Igbo reported being involved in VS than Yoruba

Table 6 Means and Standard Deviations PEQ scales items by gender

Items s/no.	Victimization of Other			Victimization of Self	
	Boys (606)	Girls (594)	Items s/no.	Boys (606)	Girls (594)
	M(SD)	*M(SD)*		*M(SD)*	*M(SD)*
1	1.89(1.13)	1.66(1.02)	11.	2.25(1.24)	2.20(1.23)
2	1.78(1.10)	1.66(.94)	12.	2.13(1.19)	2.10(1.20)
3	1.83(1.09)	1.64(1.01)	13.	2.20(1.26)	1.89(1.09)
4	1.87(1.16)	1.72(1.08)	14.	2.02(1.14)	1.98(1.14)
5	1.89(1.16)	1.77(1.09)	15.	2.01(1.24)	1.97(1.18)
6	2.07(1.28)	1.81(1.15)	16	2.16(1.25)	2.11(1.19)
7	2.08(1.17)	1.87(1.15)	17	2.49(1.28)	2.32(1.32)
8	1.63(1.08)	1.57(1.03)	18	1.81(1.16)	1.86(1.21)
9	1.93(1.17)	1.85(1.10)	19	2.23(1.21)	2.16(1.24)
10	2.3(1.32)	2.16(1.36)	20	2.53(1.39)	2.43(1.37)
Total	19.27(7.31)	17.73(6.77)		21.97(6.98)	21.32(7.30)

Mean scores based on 5-point scale with values of 1(never), 2(once or twice), 3(a few times), 4 (about once a week), 5(a few times a week)

The result by gender for VO indicated a significant F-value: $F(1, 1198) = 14.51$, $p < .01$. On the average boys scored higher than girls (see Table 5). For VS there was no significant F-value: $F(1, 1198) = 2.42$, $p = .12$

Discussion

This study examined four basic objectives. First, we observed that the CFA for each of the scales VO and VS showed that the model fits for the three factors reached the acceptable parameter (see: Table 2). In other words, the CFA suggested that the scales (VO or VS) reliably fits as either one-factor model or two-factor model or three factor model. This result is in accord with the earlier studies (Kulesza, 2006; Prinstein et al., 2001; Vernberg et al., 1999) which have utilized the scales as both one-factor model, two-factor model, and three-factor model. Nevertheless, the selection of which model to be applied in a particular field may depend on how the study's variables were operationally defined and the value of the internal consistency for the population of interest.

For the second objective, we found that the inter-item total corrections reached acceptable parameters and were within the category described as exemplary (Robinson et al., 1991). Similarly, we found that the Cronbach's α by ethnicity and gender reached acceptable parameter and could be described as exemplary and extensive. More so, the values we obtained were comparable to the values held by previous surveys (e.g. Dempsey et al., 2009; Kulesza, 2006; Mitsopoulou & Giovazolias, 2013; Prinstein et al., 2001; Vernberg, 1999). However, the Cronbach s α for subscales cannot all be described as exemplary or even extensive. While the result of the VO (overt and relational) reached the level described as extensive, overt: physical and verbal was at the level described as minimal. Similarly, while VS (Overt and relational) can be described as moderate, overt: physical and verbal can be described as minimal. From the foregoing, although the CFA for the three models reached acceptable fits, the two-factor models seem to be the best fit for the population when the support from the Cronbach's α of the subscales are taken into consideration.

The third objective was to assess the convergent and divergent validities of the scales. We found that VO correlated higher with a measure of the participants' aggression and callous trait than VS. This is similar to the finding of Frick, Cornell, Barry, Bodin & Dane (2003) that the correlation between callousness and various forms of aggression were significantly high. The VO studied is a form of aggression and correlation result is not unexpected. Although scholars (Espelage & Holt, 2001; Parada, 2000; Hamburger et al., 2011) have noted that some individuals are bully-victim, but theoretically, callousness trait characteristics are more related to VO than VS. Some individual characteristics of VO and callousness are similar, examples include aggression towards their peers, teachers, parents, siblings and others, impulsive, positive attitude to violence, higher need to dominate other of their peers (Essua, Sasasgawa & Frick 2006; Olweus, 1991). According to Stephenson and Smith (1989) VOs are generally easily provoked, have little empathy, and show no remorse about their actions. On the other hand, VS individuals are characterized as passive, anxious, weak, lacking self-confidence and low self-esteem (Olweus, 1991). Considering, these varying characteristics we assume that callous trait will have different pattern of variability with VO and VS. Similarly, within VO or VS subscales, correlations converged but between VO and VS correlations

diverged (see Table 4).

The study also assessed the ability of the scales to discriminate ethnicity and gender groups. We found that the participants sampled in the north-west (Hausa) reported significantly higher VO than southwest (Yoruba) and southeast (Igbo). But such significant difference was not observed between the participants tested in the southwest and southeast. For the VS, there was no significant difference between the north-west and south-east. While there was significant difference between south-west and north-west, south-west and southeast. Scholars (Rigby, 2004; Vervoort, Scholte & Overbeek, 2010) suggested that explanation for this type of finding should be done with caution. For instance, Rigby (2004) stated that peer victimization behavior maybe a function of the existence of multiple social groups with differing levels of power. These levels of power may refer to such differences in ethnicity, religion, and gender.

However, ethnic concern may depend on regional characteristics particularly with respect to the ethnic distribution (minority versus majority) of the population residing in a particular region of study. In the present study, each region has unique characteristics in terms of religion, culture, values and language and their score were compared with their cohorts in other regions. Some studies that found ethnic difference in peer victimization (Graham & Juvonen, 2002; Graham, Bellmore & Mize, 2006; Vervoort, Scholte & Overbeek, 2010) utilized the peer nomination technique in a multiethnic sample. On the other hand, some other studies failed to support ethnicity differences in VO and VS (Seal and Young, 2003; Siann et al. 1994; Wong, 2009). Perhaps, more studies in a multi-ethnic context adapting peer nomination technique are needed to see if difference in ethnicity will be observed.

The result of the present study confirmed gender difference in VO but did not show gender difference for VS. Previous studies have also shown that boys are more involved in VO than girls (Adefunke, 2015; **Card, et al.**, 2008; Nwafor, et al. 2015). However, the result is contrary to the study of Veroort et al., (2010) which utilized peer nomination technique and found that girls were less victimized than boys.

Limitations and suggestions for further studies

The participants were selected from cities and middle-class secondary schools only. Some subjects who indicated interest to participating in the study were declined because they were not literate in English language, a problem common in regions where western education is not fully welcomed, such as the northern part of Nigeria. We could have translated the scale into a local language to enable them to participate but we discover that some of them have problem of reading even in their local languages. However, future studies could explore translating the scale to local language version. We are now aware that there are parent and teacher's version of RPEQ these were not used in the present study but could also be used in future study for other types of validation.

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