

# **Can subjective perceptions of trauma differentiate between ICD-11 PTSD and Complex PTSD? A Cross – cultural Comparison of Three African Countries**

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**Keywords:** ICD-11; Complex PTSD; Africa; Subjective; Perception; Trauma

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2 **Complex PTSD? A Cross – cultural Comparison of Three African Countries**

3

4 **Abstract**

5 **Background:** The primary aim of the current study was to establish the cut-offs scores for the  
6 Subjective Traumatic Outlook (STO), a relatively new tool that examines the introspective world  
7 view of those exposed to traumatic events. This tool was developed as a complementary scale to  
8 be used in conjunction with the observed-phenomenological measures of PTSD. The present  
9 study examines the predictive power of STO for distinguishing between PTSD and Complex  
10 PTSD (CPTSD) in African countries.

11

12 **Methods:** A national **representative (based on age and gender) sample** of 2554 participants was  
13 drawn from three African countries, Nigeria, Kenya and Ghana, who completed the International  
14 Trauma Questionnaire (ITQ) and the STO. We conducted a set of analyses examining that  
15 alignment of ITQ probable PTSD and CPTSD and different STO cut-off scores.

16

17 **Results:** Results suggest that the STO single factor structure was stable across countries, had a  
18 strong association with PTSD and CPTSD levels, and had predictive utility in differentiating  
19 between PTSD and CPTSD. Moreover, we found that there are different cut-offs for the STO in  
20 the different countries.

21

22 **Conclusion:** There is a strong but distinctive association between the introspective and the  
23 observed-phenomenological approaches of PTSD and CPTSD. Our findings call for more

24 integrative approaches for the assessment of PTSD and CPTSD and suggest that there are  
25 cultural differences in STO.

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27 Keywords: Subjective traumatic outlook (STO), PTSD, Complex PTSD (CPTSD), ICD-11

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33 **Clinical Impact Statement**

34 This study provided evidence on for the STO cut-offs for predicting PTSD and CPTSD. This is a  
35 short and easy to handle self-report tool that can help clinicians broaden their understanding of  
36 the severity and characteristics of one's inner traumatic experience. By combining information  
37 collected with the STO and conventional PTSD/CPTSD assessments, clinicians may have better  
38 and deeper understanding of the impact of traumatic events.

39

40

41 **Introduction**

42

43 Since the appearance of the classification of posttraumatic stress disorder (PTSD) in diagnostic  
44 systems, two parallel approaches emerged to describe this condition. The phenomenological  
45 approach refers to observed external manifestation of physical, behavioral and cognitive

46 symptoms that appear in the aftermath of the exposure (Regier, Kuhl, & Kupfer, 2013). This  
47 approach defines PTSD as the combination of several observed symptoms, which are described  
48 in the Diagnostic and Statistical Manual of Mental Disorders (DSM; APA, 2013) or the  
49 International Classification of Diseases (ICD; Maercker et al., 2013).

50         However, alongside the phenomenological approach there is an inner-introspective,  
51 psychological approach for understanding the development and dynamic of the trauma. This  
52 approach refers to the way in which the trauma is subjectively perceived and represented by the  
53 person in his or her inner world (Foa, Ehlers, Clark, Tolin, & Orsillo, 1999; Palgi et al., 2018).  
54 This approach was mainly used among clinicians, and serves to describe inner processes that  
55 explain the development of the disorder (Herman, 1992).

56         The observed-phenomenological approach and the inner-introspective approach served  
57 along the years as two distinct but complementary perspectives to describe post-traumatic  
58 reactions. While the former describes the external factual manifestation of the disorder, that is  
59 focused on “informative” (e.g., sleeping impairment) or “evaluative” (e.g., negative emotions)  
60 symptoms reported by the person, the later focus on subjective “perspective” and describes the  
61 inner introspective view and general perspective individuals develop about their traumatic  
62 condition.

63         A major change in field of psychological trauma occurred with the release of the ICD-11  
64 guidelines. Along with the definition of PTSD that consists of six symptoms organized in three  
65 clusters: re-experiencing of the traumatic event(s), avoidance of traumatic reminders and sense  
66 of threat, a new disorder of complex PTSD (CPTSD; Cloitre et al., 2013) was introduced.  
67 CPTSD predominantly follows repeated or prolonged traumatic events such as genocide,  
68 childhood abuse, torture etc. (Karatzias et al., 2016) or more generally interpersonal trauma

69 (Cloitre et al., 2013). Furthermore, the separation of PTSD and CPTSD into two separate  
70 disorders gained support through the years and it is now well documented in the literature  
71 (Karatzias et al., 2017; Ben-Ezra et al., 2018). CPTSD is comprised of both PTSD symptoms and  
72 the additional presence of impairment in three self-organization clusters: negative self-concept,  
73 affective dysregulation and disturbed relationships (DSO; Ben-Ezra et al., 2018; Cloitre et al.,  
74 2013; Hyland et al., 2016).

75         Recently, it was shown that the Subjective Traumatic Outlook (STO) scale, a short  
76 questionnaire that refers to the inner-introspective shifts that occur to one's self-perspective  
77 following exposure to traumatic experiences, has differential cut-offs for predicting elevated risk  
78 for PTSD and CPTSD (Mahat-Shamir et al., 2019). This questionnaire does not refer to  
79 psychiatric symptoms and is not intended to define PTSD or CPTSD. It postulates that  
80 individuals who suffer from posttraumatic symptoms hold an explicit awareness of themselves as  
81 traumatized. By looking at their lives in a time-related perspective, they are able to integrate a  
82 good subjective evaluation of their condition. According to this conceptualization, those who  
83 suffer from PTSD or CPTSD find it difficult to integrate three discrepancies; between life before  
84 the trauma versus current traumatized life; between the external functioning self and their inner  
85 traumatic impaired self; between one's current external social life and the contradictory inner  
86 chaotic traumatic feelings and thoughts that cannot be connected to the world in which they now  
87 live (Palgi et al., 2018). Levels of STO suggest that one's inability to integrate these experiences  
88 aggravate the traumatic response and may be a good predictor for the severity of the  
89 traumatization (Palgi, Shrira & Ben-Ezra, 2017). Higher levels of STO suggest stronger  
90 associations between their base level of PTSD symptoms and their level of PTSD symptoms two

91 years later (Palgi et al., 2018). PTSD and STO levels were also seem to increase concurrently  
92 (Palgi et al., 2018).

93         The present study has the following aims. First, we aim to replicate previous results  
94 (Mahat-Shamir et al., 2019) that showed different cut-offs for PTSD (score of 10 or higher on the  
95 STO) and for CPTSD (score of 15 or higher on the STO). Defining these cut-offs of the STO  
96 will allow clinicians to have a more comprehensive overview of their patients external and  
97 internal experiences following traumatic life events. These cut-offs are intended to provide an  
98 additional perspective for understanding the mechanisms that underline the development of these  
99 disorders and their severity. Second, the WHO publication of the 11<sup>th</sup> version of the ICD-11 in  
100 2018, markedly revised the criteria for PTSD from the ICD-10 and included CPTSD as a new  
101 condition (Maercker et al., 2013). It is required, therefore, that emerging research will explore  
102 the association between CPTSD and other relevant constructs in different countries. Finally,  
103 studies focused on cultural differences regarding the prevalence of stress-related disorders on the  
104 African continent are scarce. Previous studies conducted in African countries showed  
105 systematically that years of wars, genocide, poverty and natural disasters have been a source of  
106 trauma on a massive scale (Njenga, Kigamwa, & Okonji, 2003; Neuner et al., 2004). These  
107 studies show that African citizens suffer from a very high level of posttraumatic symptoms  
108 (Njenga, Nguithi, & Kang'ethe 2006), and that these symptoms are also transmitted to the next  
109 generation (Shrira, Molove & Mudahogora, 2019). Yet in spite of this devastating public health  
110 problem, the study of posttraumatic stress disorder and complex posttraumatic stress disorder in  
111 these countries is rare (Ben-Ezra et al., 2020).

112         We hypothesized that (1) the STO scores will be unidimensional across different  
113 countries, (2) different STO levels will be found for those who have clinical levels of

114 PTSD/CPTSD comparing to those who do not reach the clinical level (3) there will be a  
115 difference between STO cut-offs for PTSD and for CPTSD, and (4) cultural differences in the  
116 STO cut-offs may be apparent in the different countries.

117

## 118 **Methods**

119

### 120 *Participants and Procedure*

121 A total of 2,524 participants drawn from Nigeria ( $n = 1,018$ ), Kenya ( $n = 1,006$ ), and  
122 Ghana ( $n = 500$ ) were included in this study. Each nationally representative sample (based on  
123 age and gender) was obtained via an internet panel of 26,500 Nigerians, 20,800 Kenyans, and  
124 12,500 Ghanaians. The response rates for each sample were 23.0% (Nigeria), 34.0% (Kenya),  
125 and 33.0% (Ghana). In order to maintain a close approximation of representativeness in terms of  
126 census data on age and sex in each country, each sample was drawn from the panel using  
127 stratified and random probability sampling methods. Following ethical approval from the  
128 researchers' university, potential participants were invited to participate in the study via email.  
129 Each participant signed an electronic informed consent document before accessing the  
130 questionnaire. Eligibility for participation included citizenship of one of the aforementioned  
131 countries, being aged 18 years or older at the time of the survey and possessing English  
132 proficiency sufficient to complete the surveys. Demographic details for each sample are  
133 presented in Table 1. Prevalence of traumatic events for each country is presented in Table 1s as  
134 part of the online supporting material.

135

136

[Insert Table 1 about here]

137 *Measurements*

138           Subjective perceptions of psychological trauma were measured by the Subjective  
139 Traumatic Outlook scale (STO; Palgi, Shrira & Ben-Ezra, 2017). This 5-item scale measures the  
140 subjective experience of psychological trauma on a five-point Likert scale ranging from `1` not  
141 at all to `5` very much. The sum of scores is an indication of the severity of the subjective impact  
142 of psychological trauma. Possible scores range from 5-25 and scores from the STO have good  
143 psychometric properties (Palgi, Shrira & Ben-Ezra, 2017). Cronbach's alpha for the current  
144 study was .89 in Nigeria, .89 in Kenya and .91 in Ghana. **For more details, see Appendix 1.**

145

146           *PTSD and CPTSD* symptoms were measured using the International Trauma  
147 Questionnaire (ITQ; Cloitre et al., 2018). The ITQ includes six PTSD items and six  
148 `Disturbances in Self-Organization' (DSO) items. The PTSD symptom clusters of re-  
149 experiencing in the here and now, avoidance, and sense of threat are measured using two items  
150 each. There are three items measuring functional impairment associated with these symptoms.  
151 The DSO symptom clusters of affective dysregulation, negative self-concept, and disturbances in  
152 relationship are measured by two items each. Additionally, three items measure functional  
153 impairment associated with these symptoms. The internal consistency estimates (Nigerian  
154 sample,  $\alpha = .93$ ; Kenyan sample,  $\alpha = .93$ ; Ghanaian sample,  $\alpha = .92$ ) of the ITQ in this study  
155 were excellent.

156           *PTSD* items are answered in terms of how much one has been bothered by each symptom  
157 in the past month, and the DSO items are answered in terms of how one typically responds. All  
158 items were answered using a five-point Likert scale ranging from 'Not at all' (0) to 'Extremely'  
159 (4). Following standard practice in trauma research (Elklit & Shevlin, 2007; Karatzias et al.,

160 2017), scores  $\geq 2$  ('Moderately') were used to indicate the presence of a symptom. Diagnosis of  
161 PTSD requires traumatic exposure, the endorsement of one of two symptoms from each PTSD  
162 cluster, and endorsement of functional impairment associated with these symptoms. Diagnosis of  
163 CPTSD requires trauma exposure, the endorsement of one of two symptoms from each of the six  
164 PTSD and DSO clusters, plus endorsement of functional impairment associated with both sets of  
165 symptoms. The ICD-11 taxonomic structure dictates that a person may only receive a diagnosis  
166 of PTSD or CPTSD, but not both.

167

### 168 *Data Analysis*

169 Our initial aim was to replicate previous results confirming the one factor solution for the STO  
170 using exploratory factor analysis (Palgi, Shrira & Ben-Ezra, 2017). We have conducted  
171 exploratory factor analysis for each country and the whole sample.

172 In order to establish cut-off points that are clinically meaningful and examine if STO  
173 levels can differentiate between PTSD and Complex PTSD, we conducted a one-way ANOVA  
174 for STO scores based on the following groups: (1 = no endorsement; 2 = endorsement of ICD-11  
175 PTSD; 3 = endorsement of ICD-11 Complex PTSD). These analyses were accompanied by post-  
176 hoc Tukey's tests (Tukey, 1949). Following that, ROC analysis using standard practice (Greiner  
177 et al., 2000) was conducted in which the state variable was the binary option for each  
178 endorsement (0 = not meeting criteria vs. 1 = meeting ICD-11 PTSD criteria) and (0 = not  
179 meeting criteria vs. 1 = meeting ICD-11 CPTSD criteria). The test variable was the sum of scores  
180 of the STO scale. Next, a comparison of Area Under the Curve (AUC) was conducted using z  
181 transformation in order to compare the differences between AUC (Hanley & McNeil, 1982)  
182 regarding PTSD vs. Complex PTSD.

183           Next, Youden's index was obtained to identify optimum cut-off scores for the different  
184 samples. Finally, the sensitivity, specificity, positive predictive value, negative predictive value  
185 and accuracy of the STO scores was assessed for each country. These analyses were conducted  
186 separately for each country and for the whole sample.

187

## 188 **Results**

189 The results of the factor analysis revealed one factor solution for the STO in each of the African  
190 countries. The one factor solution had an eigenvalue greater than one and this factor accounted  
191 for 70.9% variance in Kenya, 70.1% variance in Nigeria and 73.4% in Ghana. A cross-country  
192 comparison of the variance showed no significant differences. The whole sample yielded a  
193 similar result of one factor accounting for 71.6% of the variance.

194           The rate of probable PTSD in Nigeria was 17.4%, 20.3% in Kenya and 17.6% in Ghana.  
195 Probable CPTSD rates were 19.6% in Nigeria, 13.7% in Kenya and 13.0% in Ghana. These rates  
196 have been reported elsewhere (Ben-Ezra et al., 2020).

197           The ANOVA results showed a significant difference between the countries. The pattern  
198 that was consistent across all the African countries showed the STO score was the lowest among  
199 the group that did not meet and ICD-11 criteria (mean scores ranged from 8.31 to 9.64). These  
200 scores were lower in comparison to the group that endorsed ICD-11 PTSD (mean scores ranged  
201 from 10.78 to 12.56) and even more when compared to the group endorsing ICD-11 Complex  
202 PTSD criteria (mean scores ranged from 16.01 to 16.82). These differences were statistically  
203 significant with  $F$  ranges from 105.48-198.04 all significant at  $p < 0.001$ . Post-hoc comparisons  
204 using Tukey's test revealed the same pattern across countries, with groups being significantly

205 different from one another at  $p < 0.001$ . The same results were found for the whole sample (See  
206 Table 2 for more information).

207 [Insert Table 2 around here]

208

209 ROC analyses revealed a similar pattern across the African countries when comparing the  
210 AUC for STO scores against ICD-11 PTSD criteria vs. AUC for STO scores against ICD-11  
211 Complex PTSD criteria. The AUC for PTSD ranged from 0.686-0.721 while the AUC for  
212 Complex PTSD ranged from 0.876-0.889. Transforming the AUC delta into z-scores revealed  
213 scores ranging from 3.93 to 6.39. All the z scores were significant at  $p < 0.001$ . Similar results  
214 were found for the whole sample. See Table 3 for more information and online supporting  
215 figures 1-8.

216

217 [Insert Table 3 around here]

218

219 Finally, based on Youden index along with measures of sensitivity, specificity, positive  
220 predictive value, negative predictive value and accuracy, the cut-off scores for each country were  
221 slightly different but presented a consistent pattern that delineate PTSD from Complex PTSD.

222 The suggested cutoff scores for Nigeria were  $STO \geq 8$  as an indicator for elevated risk for  
223 endorsing PTSD and  $STO \geq 13$  as an indicator for elevated risk for also endorsing Complex  
224 PTSD. Similar results were found in Kenya ( $STO \geq 10$  and  $STO \geq 13$  respectively) and Ghana  
225 ( $STO \geq 8$  and  $STO \geq 14$ ). See Table 4 for more information.

226

227 [Insert Table 4 around here]

228

229 For the whole sample, suggested STO scores of  $\geq 9$  were indicative of elevated risk for  
230 PTSD and  $\text{STO} \geq 13$  indicative of elevated risk for Complex PTSD. See Table 5 for more  
231 information.

232

233

[Insert Table 5 around here]

234

235

236 Finally, we have explored the difference between the STO scores while controlling for PTSD  
237 symptoms. Following Grossman et al., (2019), we conducted an ANCOVA using CPTSD and  
238 PTSD as grouping variable, PTSD symptoms were controlled and STO scores were the  
239 dependent variable. The probable PTSD group had a STO score of 11.62 ( $SD = 4.62$ ) in  
240 comparison to the probable CPTSD group that had a STO score of 16.47 ( $SD = 4.94$ ), while  
241 controlling for PTSD symptoms.

242 The contrast estimate (difference between the CPTSD group to the PTSD group in STO scores  
243 while controlling for PTSD symptoms) was 4.221 at  $p < .001$ . The F score was 173.642 at  $p$   
244  $< .001$  and partial  $\eta^2$  value of .167.

245

246

## 247 Discussion

248 Our first aim was to replicate, in three African countries, the unidimensional structure for STO  
249 that has been reported in previous research. The second aim was to attempt to replicate previous  
250 findings that showed that STO could differentiate PTSD/CPTSD. Third, we aimed to explore

251 whether STO presents with different cut-offs for PTSD and CPTSD. Fourth, it was aimed to  
252 explore differences in cut-offs across all different African countries.

253 Results have confirmed previous research (Palgi, Shrira & Ben-Ezra, 2017) that suggests  
254 a one-factor solution of STO. Our findings have also confirmed previous research suggesting that  
255 STO levels differ between those with PTSD/ CPTSD vs. those without (Palgi, Shrira & Ben-  
256 Ezra, 2017; Palgi et al., 2018; Mahat-Shamir et al., 2019). Furthermore, STO cutoff scores were  
257 found to differentiate CPTSD from PTSD suggesting that STO can be used as a complementary  
258 tool that can provide additional information regarding one's inner-introspective levels of PTSD  
259 and CPTSD. These findings also replicate previous findings that the STO is a good predictor for  
260 PTSD and CPTSD (Mahat-Shamir et al., 2019).

261 Overall our findings support previous research suggested that inner-subjective  
262 perceptions people made about their condition are good predictors of external symptoms they  
263 reported about themselves (Idler & Benyamini, 1997), their subjective cognitive condition  
264 (Mitchell, Beaumont, Ferguson, Yadegarfar, & Stubbs, 2014). Findings also suggest that  
265 individuals can make subjective evaluations intuitively and describe accurately the level of their  
266 inner-psychological traumatic world and their traumatic impairment (Mahat Shamir et al., 2019).  
267 Moreover, our results show that that the STO may differentiate in a very reliable way between  
268 those who suffer from PTSD to those who suffer from CPTSD. The impact of psychological  
269 trauma requires integrative studies that incorporate observed-phenomenological and inner-  
270 introspective approaches together. It is suggested that the interplay between the observed-  
271 phenomenological and the subjective clinical approaches is essential to provide a deeper  
272 understanding of the traumatic experiences (Milchman, 2016). In that way, the findings of the  
273 current study serve as the first step in that direction.

274           The present study is one of the the first population-based studies conducted in African  
275 countries that examined the ICD-11 trauma classifications and it was interesting to confirm the  
276 strong association between STO and PTSD /CPTSD which was observed in non-western  
277 countries (Mahat Shamir et al., 2019). Furthermore, the African countries that were selected vary  
278 in levels and types of trauma exposure distribution. For example, traumatic outcome of high  
279 level of individuals who suffer from HIV (Adewuya et al., 2009), ethnoreligious conflicts  
280 (Obilom 2008) and war related traumas are observed in Nigeria (Abel et al., 2018) whereas  
281 violence against women is predominantly observed in Ghana (Issahaku 2015). Our results show  
282 that the cut-off levels are different among the different African countries and from previous  
283 findings from Israel. For example, the STO cut-off for CPTSD in Ghana ( $STO \geq 14$ ) was higher  
284 than in Nigeria and Kenya ( $STO \geq 13$ ), and they all were lower than the cut-off found in Israel  
285 ( $STO \geq 15$ ) in a previous study (Mahat-Shamir et al., 2019). The STO cut-off for PTSD in Kenya  
286 ( $STO \geq 10$ ) was similar to the cut-off found previously in Israel (Mahat-Shamir et al., 2019) and  
287 higher than Nigeria and Ghana ( $STO \geq 8$ ). It is not possible to elaborate further on these findings  
288 but future research is required to explore further these differences. One possible explanation  
289 might be that subjective perceptions of traumatic distress differ in different cultural contexts.

290           Our findings should be viewed in light of the study's limitations. First our study was  
291 cross-sectional using an internet panel and therefore it had generally low response rate, as well as  
292 it involved predominantly individuals with generally high education. Second, we did not explore  
293 whether certain types of traumas affect STO. There is evidence to suggest that certain traumatic  
294 life events are predominantly associated with CPTSD (Hoffman et al., 2018; Karatzias et al.,  
295 2017) and it might well be the case that the same goes for STO. Finally, we did not examine the

296 duration of trauma exposure whether it was a repeated or prolonged traumatization or a single  
297 event.

298 To conclude, this study is the first to explore STO cutoffs that predict PTSD and CPTSD  
299 in three African countries. Our results support previous research in the area and suggest that the  
300 STO is an excellent tool for screening for the severity of the inner-introspective level of the  
301 traumatic impairment. Moreover, the results encourage further research on the integration of  
302 these two approaches in an attempt to understand better the impact of traumatic life events.

303

304

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306

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415 Table 1. Basic demographics of the study samples

	Nigeria (n = 1018)	Kenya (n = 1006)	Ghana (n = 500)
Age, Mean (SD)	30.15 (8.72)	32.23 (9.36)	28.96 (7.93)
Sex, women, n (%)	501 (49.8)	500 (49.1)	250 (50.0)
Marital status, in committed relationship, n (%)	553 (55.0)	565 (55.5)	228 (45.6)
Employment, n (%)			
Not employed, not seeking work	65 (6.5)	78 (7.7)	41 (8.2)
Not employed, seeking work	318 (31.6)	299 (29.4)	157 (31.4)
Part-time employed	198 (19.7)	183 (18.0)	84 (16.8)
Full-time employed	369 (36.7)	392 (38.5)	176 (35.2)
Voluntary work	56 (5.6)	66 (6.5)	42 (8.4)
Education, n (%)			
Primary school/No formal education	1 (0.1)	1 (0.1)	4 (0.8)
Secondary school	83 (8.3)	61 (6.0)	54 (10.8)
College/University	922 (91.7)	956 (93.9)	442 (88.4)
Area, n (%)			
Urban	611 (60.7)	709 (69.6)	297 (59.4)
Suburb	235 (23.4)	240 (23.6)	140 (28.0)
Rural	160 (15.9)	69 (6.8)	63 (12.6)

Table 2. STO scores based on PTSD and CPTSD diagnostic algorithm using One-Way ANOVA

	Not meeting criteria	Meeting ICD-11 PTSD	Meeting ICD-11 CPTSD	One-Way ANOVA	significance	Partial $\eta^2$	Post-hoc Tukey's Test
Nigeria (n =1018)	N = 672	N = 207	N = 139	F	p	0.281	1#2; 1#3; 2#3
STO mean score (S.D)	8.31 (3.92)	10.78 (4.43)	16.01 (5.21)	198.04	<0.001		<0.001
Kenya (n = 1006)	N = 634	N = 175	N= 197	F	p	0.265	1#2; 1#3; 2#3
STO mean score (S.D)	9.64 (4.55)	12.56 (4.73)	16.69 (4.71)	180.81	<0.001		<0.001
Ghana (N = 500)	N= 347	N = 88	N = 65	F	p	0.298	1#2; 1#3; 2#3
STO mean score (S.D)	8.49 (4.22)	11.70 (4.54)	16.82 (5.03)	105.48	<0.001		<0.001
African countries (N = 2524)	N= 1653	N = 470	N = 401	F	p	0.279	1#2; 1#3; 2#3
STO mean score (S.D)	8.85 (4.27)	11.62 (4.62)	16.47 (4.94)	488.12	<0.001		<0.001

Table 3. AUC Comparison per country for STO total score vs. ICD-11 PTSD and Complex PTSD

Nigeria (n= 1018)	Kenya (n = 1006)	Ghana (n = 500)	Total (n = 2524)
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AUC PTSD	0.686	0.687	0.721	0.689
AUC CPTSD	0.876	0.854	0.889	0.871
Delta AUV (CPTSD – PTSD)	0.190	0.167	0.168	0.182
Z score	6.39	5.57	3.93	9.66
P value	<0.001	<0.001	<0.001	<0.001

Table 4. Proposed STO cutoffs based on different diagnostic systems and PTSD/CPTSD

	Nigeria (n = 1018)		Kenya (N = 1006)		Ghana (n = 500)	
	ICD-11 PTSD criteria	ICD-11 CPTSD criteria	ICD-11 PTSD criteria	ICD-11 CPTSD criteria	ICD-11 PTSD criteria	ICD-11 CPTSD criteria
Statistics for						
STO						
Sensitivity	72.95%	79.14%	72.00%	79.19%	79.55%	75.38%
	(95% C.I. 66.35%-78.87%)	(95% C.I. 71.43%-85.56%)	(95% C.I. 64.73%-78.51%)	(95% C.I. 72.84%-84.63%)	(95% C.I. 69.61%-87.40%)	(95% C.I. 63.13%-85.23%)
Specificity	56.99%	84.08%	59.46%	76.97%	55.33%	86.74%
	(95% C.I. 53.15%-60.77%)	(95% C.I. 81.09%-85.56%)	(95% C.I. 55.53%-63.31%)	(95% C.I. 73.49%-80.20%)	(95% C.I. 49.93%-60.64%)	(95% C.I. 82.72%-90.13%)
Positive Predictive Value	34.32%	50.69%	32.90%	51.66%	31.11%	51.58%
	(95% C.I. 31.66%-37.08%)	(95% C.I. 45.86%-55.51%)	(95% C.I. 30.05%-35.88%)	(95% C.I. 47.68%-55.62%)	(95% C.I. 27.83%-34.59%)	(95% C.I. 44.04%-59.05%)
Negative Predictive Value	87.24%	95.12%	88.50%	92.25%	91.43%	94.95%
	(95% C.I. 84.42%-89.62%)	(95% C.I. 93.36%-96.43%)	(95% C.I. 85.75%-90.78%)	(95% C.I. 90.03%-94.01%)	(95% C.I. 87.48%-94.21%)	(95% C.I. 92.46%-96.65%)
Accuracy	60.75%	83.23%	62.18%	77.50%	60.23%	84.95%
	(95% C.I. 57.43%-64.00%)	(95% C.I. 80.48%-85.74%)	(95% C.I. 58.73%-65.53%)	(95% C.I. 74.50%-80.29%)	(95% C.I. 55.46%-64.86%)	(95% C.I. 81.13%-88.26%)
Proposed Cutoff Score	STO cutoff $\geq$ 8	STO cutoff $\geq$ 13	STO cutoff $\geq$ 10	STO cutoff $\geq$ 13	STO cutoff $\geq$ 8	STO cutoff $\geq$ 14

Table 5. Proposed STO cutoffs for PTSD/CPTSD for the whole sample (n= 2524)

African countries (n = 2524)	
ICD-11 PTSD criteria	ICD-11 CPTSD criteria

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Statistics for STO		
Sensitivity	69.57% (95% C.I. 65.19%–73.71%)	78.80% (95% C.I. 74.47%–82.70%)
Specificity	59.29% (95% C.I. 56.87%–61.67%)	81.31% (95% C.I. 79.34%–83.16%)
Positive Predictive Value	32.70% (95% C.I. 30.89%–34.56%)	50.56% (95% C.I. 47.75%–53.37%)
Negative predictive Value	87.27% (95% C.I. 85.60%–88.77%)	94.05% (95% C.I. 92.89%–95.03%)
Accuracy	61.56% (95% C.I. 59.46%–63.64%)	80.82% (95% C.I. 79.05%–82.50%)
Proposed Cutoff Score	STO cutoff $\geq$ 9	STO cutoff $\geq$ 13

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