

Optimism in trauma and growth: a path analysis of former war-related displaced persons

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Article Info	Abstract
<p>Article History Submitted: 22 January 2018 Revised: 30 March 2018 Published: 13 April 2018</p>	<p>The study evaluated the contribution of war, trauma, and optimism on growth in adult Liberian former displaced persons traumatized by war-related experiences ($N = 444$). Hypotheses based on existing literature grounded the path model assessing the relationship among war-related events, trauma, optimism and post-traumatic growth. There were statistically significant correlations among all variables, except between war-related events and optimism [$\chi^2(1) = 0.90$; $p > .05$; CFI = 1.00; GFI = .99; SRMR = 0.02; RMSEA = 0.00]. Clinicians are encouraged to identify resources that traumatized populations use in coping, and incorporate them within the therapeutic environment.</p>
<p>Keywords Displacement Optimism PTSD PTG Path analysis</p>	

1. Introduction

Individuals are considered to be optimistic when they believe that good incidents, rather than bad, will occur in their lives (Scheier, Carver, & Bridges, 1994); hence, their expectation of the future is more positive than negative. Results from existing research have indicated high association between optimism and subjective well-being, even under conditions of adversity (Carver & Scheier, 2014). Optimists have demonstrated a greater ability to heal from both physical (Khallad et al., 2014) and psychological challenges (Broekhof et al., 2015). In educational settings, optimism has been shown to be a good predictor of success even when students are considered to come from at-risk environments (Feldman & Kubota, 2015; Suizzo et al., 2017). Pessimists, on the other hand, have a negative outlook of life (Scheier et al., 1994).

A sizable body of research has demonstrated that optimism provides a form of insulation for survivors from negative consequence of various traumatic events, such as war (Besser, Zeigler-Hill, Weinberg, Pincus, & Neria, 2015), terrorism (Ai, Evans-Campbell, Santangelo, & Cascio, 2006), and combat (Thomas, Britt, Odle-Dusseau, & Bliese, 2011). While research has supported optimism as being a positive attribute for mental health in general, optimism can be more beneficial for displaced persons because of its association with cognitive flexibility. Cognitive flexibility is the ability people have to reconstruct and assimilate their perception, thinking, and feeling, in response to changing environments (Cañas, Quesada, Antolí, & Fajardo, 2003). This flexibility is associated with a cognitive process that facilitates an ability to reassess and adapt to disruptive changes in life circumstances, such as war-related traumatic events and consequent flight to safety (Iacovielle & Charney, 2014). Specifically, a person who has cognitive flexibility can

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reframe his or her traumatic events and integrate the event into value systems while maintaining positive outlooks for the future (Iacovielle & Charney, 2014).

1.1. Trauma in refugees

Trauma is defined as any profoundly distressing physical, psychological and/or existential experience beyond what people generally undergo (American Psychiatric Association [APA], 2013; Ball & Stein, 2012; Beck & Sloan, 2012). Navigating traumatic events, including illness, death, man-made and natural disasters, is an integral part of human experiences (Beck & Sloan, 2012). In this regard, traumatic experiences push people beyond their normal coping mechanisms, bringing about acute negative reactions (Ball & Stein, 2012). Many people can overcome these negative reactions and gain some semblance of normalcy. However, others experience a more intense and enduring psychological syndrome known as the posttraumatic stress disorder [PTSD] (APA, 2013; Ball & Stein, 2012). PTSD symptomatology includes, but not restricted to hypervigilance, negative intrusive thoughts, reckless behaviors, and sleeplessness (APA, 2013).

In the flight to safety, individuals sometimes leave the borders of their country and are referred to as refugees (United Nations Refugees Act no. 130 of 1998). Others flee to neighboring villages and remain within the borders of their country; these are referred to as 'internally displaced persons' [IDPs] (Omata, 2014). The agency in charge of refugee affairs is the United Nations High Commissioner for Refugees (UNHCR, 2016), a non-political organization that works under the mandate of the United Nations. Refugees are considered under the protection of the UNHCR, but IDPs are generally left to their own devices (Omata, 2014; Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2003), especially in terms of food, shelter, medical aid, and safety from attacks. For the purpose of this study, we use "refugees" and "IDPs" interchangeably, as it applies to the war-related trauma they have experienced. We do not state with any level of confidence that their experiences are similar, nor their trajectories towards safety equivalent. However, in an attempt not to confuse our audience, we will use both terms interchangeably to define people who had to leave their natural habitat to seek safety elsewhere.

Many displaced persons, especially war-related refugees, are reported to experience PTSD symptomatology before, during, and after their flight to safety (Betancourt, Abdi, Ito, Lilienthal, Agalab, & Ellis, 2015; Olema, Catani, Ertl, Saile, & Neuner, 2014). Depending on the precipitating event leading to their flight, they could experience a range of psychological challenges including, nightmares, sadness, poor memory and/or concentration, sense of foreshortened future, and mistrust (International Counseling and Community Services [ICCS], 2015; Olema et al., 2014). Many also report symptoms that meet the diagnostic criteria for PTSD, generalized anxiety disorder, and adjustment (APA, 2013; White, 2013).

Refugee trauma is demonstrated to be a collective phenomenon (Clay, 2017; Hussain & Bhushan, 2013; Powell et al., 2003). This kind of trauma is unique because it generally involves torture (Barrington & Shakespeare-Finch, 2013; Clay, 2017) and affect multiple people in the same family and community. Females report significantly higher scores on traumatic experiences than their male counterparts (Hussain & Bhushan, 2013; Powell et al., 2003), even though males report more frequent exposure to traumatic events than do females. The reason for this difference is that women, more than men, are more likely to perceive threat, loss of control, and experience severe biological and psychological responses to trauma, leading to high prevalence rate of PTSD and other disorders (Hussain & Bhushan, 2013; Powell et al., 2003). In addition, several studies on refugees and their reaction to traumatic experiences indicate that refugees with more education (post-secondary) seem to report low posttraumatic stress symptoms (Hussain & Bhushan, 2013; Powell et al., 2003). Surprisingly, within adolescent refugee study samples, higher educational achievement was more likely to correlate highly with posttraumatic stress disorder (Slodnja, Kos, & Yule, 2002).

1.2. Optimism in trauma

Relationships between optimism and trauma have been examined in diverse groups of individuals who have encountered adversity. Generally, individuals' perception of their ability to cope enables them have a positive outlook on life and expect good things to happen because they can control their environments (Benight & Bandura, 2004). There is also evidence that a person's disposition to optimism may be attributable to certain environmental factors (Broekhof et al., 2015). While optimism has been found to be associated with positive psychological functioning like self-efficacy, self-esteem, and confidence (Carver & Scheier, 2014; Carver, Smith, Antoni, Petronis, Weiss, & Derhagopian, 2005), it has also been found to be related to positive effect on posttraumatic stress symptoms after tragic events (Frazier, Gavian, Hirai, Park, Tennen, Tomich, & Tashiro, 2011). Some studies have reported that optimism plays a role in protecting survivors from negative consequence of various traumatic events, such as war (Besser et al., 2015), terrorism (Ai, Evans-Campbell, Santangelo, & Cascio, 2006), and combat (Thomas et al., 2011). These studies attest to the positive effect of optimism on the negative effects of trauma.

Similarly, Veronese, Castigilioni, Tombolani, and Said (2012) conducted a study on 216 traumatized children in Palestine. After dividing the sample into four groups, the researchers performed a correlational analysis to explore optimism, perceived happiness and life satisfaction. Results of this investigation showed that while all four subgroups displayed a generally optimistic life orientation, the rural and refugee camp children reported a more positive and optimistic life orientation. Furthermore, there were no significant differences in both optimism and pessimism scales for gender. The researchers concluded that despite the daily extreme violence which these children are exposed to, they displayed positive adjustment to traumatic events. Situated within social context, optimism seemed to help refugees and traumatized youth cope with violent exposures.

Individuals with high level of optimism tend to use coping strategies that focus on adapting thoughts and emotions in response to the changing environments through positive acceptance and reassessment of the changes (Scheier, Weintraub, & Carver, 1986; Schou, Ekeberg, & Ruland, 2005). Further, optimism is reportedly associated with a trait that greatly focuses on positive stimuli relative to negative stimuli (Birkeland, Solberg, & Heir, 2017). For example, high levels of optimism may allow individuals to reassess and reconstruct memories of traumatic events as less negative but more affirmative. Consequently, optimism may help refugees find the memories less distressing than those with no optimism, invariably helping to assimilate them into their cognitive and emotional schema in positive ways.

1.2. Optimism in growth

Psychological growth has been called several things by different researchers. These researchers have used terms such as *stress-related growth* (Park, Cohen, & Murch, 1996), *adversarial growth* (Joseph & Linley, 2005), *benefit-finding* (Affleck & Tennen, 1996), *resilience* (Bonano, 2004), and *post-traumatic growth* (Tedeschi & Calhoun, 1996). The common theme among all these terms is *growth* that occurs in people after they experience traumatic events. According to these researchers, highly stressful experiences can be a catalyst towards meaning making and growth. This current study uses *growth* and *post-traumatic growth* interchangeably to describe the positive feelings and perceptions that individuals credit to benefits from the adverse situation experienced.

Because individuals have general beliefs about their connection with their world, when traumatic events occur, these events could have the power to shatter their beliefs. Subsequently, people are left in a state of re-examination of their beliefs. Researchers call this 'reexamination' of beliefs, "rumination", "cognitive processing", and "cognitive engagement" (Tedeschi, Calhoun, & Cann, 2007, p. 398). It has been documented that this reexamination leads to growth beyond a person's pre-trauma state (Tedeschi & Calhoun, 1996; 2004; Tedeschi et al., 2007). According to Tedeschi and Calhoun (1996, 2007), benefits in this growth process pervade specific areas of functioning including positive changes in interpersonal relationships, more meaning in life,

spiritual depth, appreciation for life, personal strength, and openness for new possibilities. Optimism colors these areas of functioning.

There are calls for future researchers to explore optimism in terms of its health-related benefits, determine if acquired optimism is as good as born optimism; and investigate how optimism is seen or understood cross-culturally (Carver, Scheier, Miller, & Fulford, 2011). We, in a small way, add to the dialogue on the cross-cultural nature of optimism. In sum, apart from a few scattered studies on Asian populations, there are limited studies within non-western populations, especially on how optimism and pessimism relate to quality of life (Chang, Sanna, & Yang, 2003). Testing a construct such as optimism across cultures will enhance the literature a great deal.

The purpose of this study, therefore, is to explore the relationship among war-related experiences, optimism, trauma, and posttraumatic growth. We hypothesize, based on the reviewed studies, that individuals in this sample with optimistic outlook will have lower post-traumatic stress disorder scores but higher post-traumatic growth scores compared to their counterparts who do not have an optimistic outlook. Additionally, the study will explore the differences in optimism based on gender and family status. The specific hypothesis and the research questions are as follow:

- (a) There is a statistically significant relationship among war-related experiences, optimism, trauma, and growth;
- (b) Can post-traumatic growth be predicted from optimism in this sample?
- (c) Can PTSD be predicted from optimism?
- (d) Can war-related experiences predict PTSD?
- (e) Is there a mean difference in optimism based on gender?
- (f) Is there a mean difference in optimism based on family status, consequently affecting education?

2. Method

2.1. Characteristics of participants

Participants for the study were adult Liberian former refugees and IDPs. Liberia is a country on the west African coast, more recently known for its battle with the deadly Ebola epidemic (Doucleff, 2015; Acquaye, 2017). Out of the 444 participants who responded, 314 were men (70.9%) and 128 were women (28.9%). Age was grouped into clusters of 10 ranging from 20 to 70 years. The frequencies, from highest, were 31-40 years ($n = 203$; 45.7%); 20-30 years ($n = 119$, 26.8%); 41-50 years ($n = 91$; 20.5%); 51-60 years ($n = 23$; 5.2%); 61 years and above ($n = 7$; 1.6%). In response to family status, 188 indicated they were single (42.3%), 133 were married (30.0%), 105 lived with partners (23.6%), nine were divorced (2.0%), and seven were widowed (1.6%). Many participants indicated they were employed ($n = 283$; 63.7%). Of those employed, almost 37% earned about US\$39 a month. A question on their displacement status showed that most participants left their home because of the war ($n = 396$; 89.2%) and became IDPs ($n = 268$, 60.4%) more than refugees. During the Ebola epidemic, there were reports that the citizens were comparing the effect of the epidemic to the war, therefore we sought to explore participants' perception about this (Doucleff, 2015). The majority ($n = 292$; 65.8%) indicated that they felt as if they were in a war situation all over again during the period of the epidemic, as demonstrated by making this comparison one or more times a day.

Recruitment of participants: A sample of 500 former refugees and IDPs was purposefully sampled from all adult Liberians living in Monrovia (Fraenkel & Wallen, 2003). Specifically, we used the criterion purposive and snowball sampling methods to recruit participants. The criterion purposive sampling was used to contact former adult refugees known by the first author (Fraenkel & Wallen, 2003; Patten, 2013). Based on the recommendation of these former adult refugees, more participants were recruited as part of the snowball sampling (Fraenkel & Wallen, 2003). Participants were included in the sample if they were currently above 18 years old; were at least six years old when the war started; and could read and understand English at the 8th grade level.

Research package was printed and numbered and when all 500 packages had been given out, data collection ceased; 444 were completed and returned, providing an 88.8% response rate.

The first author contacted participants face-to-face through their community leaders, deans of colleges, priests and/or pastors of churches, and imams of mosques. At pre-arranged meetings, the first author explained the nature of the research and issued an invitation to members who wished to participate to meet with her after the meeting. Members who were willing to take part stayed after each meeting to pick up research packages or answer questions in a group format. Members who fit the inclusion criteria were taken through the informed consent process.

All procedures of the researchers' institutional review board were followed. Informed consent was obtained both orally and in written form. Because of the nature of questions about war experiences, participants were encouraged to speak with their local healers and pastors should the questions elicit any uncomfortable feelings (Van Dyk & Nefale, 2005).

2.2. Measurement of constructs

War-related events: The *War Trauma Screening Index* (WTSI; Layne, Stuvland, Satzman, Djapo, & Pynoos, 1999) was used to assess participants' war-related experiences. The WTSI is a 35-item dichotomously scored (yes/no) self-report instrument. The researchers selected this instrument because of its simplicity and utility in assessing participants' sensory experiences of the war. Sample questions include, "During the war, did a bullet ever come so close to you that you could have been seriously hurt or killed?" "During the war, did you eye witness someone being killed?" There are no known psychometric properties on this instrument; however, reliability analysis of the 35 items for the Liberian sample demonstrated high internal consistency ($\alpha = .90$).

PTSD: The *Post-Traumatic Stress Disorder Checklist for DSM-5* (PCL-5, Weathers, Litz, Keane, Palmieri, Marx, & Schnurr, 2013) assessed participants' reported PTSD symptomatology. The 20-item instrument is ranked on a 5-point Likert-type scale ranging from "not at all" (0) to "extremely" (4). Sample questions included "repeated, disturbing, and unwanted memories of the experience", "taking too many risks or doing things that could cause you harm." Psychometric properties for the instrument demonstrated high internal consistency ($\alpha = .91$), two-week test-retest reliability ($r_{tt} = .95$) and convergent validity ($r = .87$; Wortmann et al., 2016). Internal consistency for the Liberian sample was high ($\alpha = .92$).

Optimism: Participants' optimism was assessed with the *Revised Life Orientation Test* (LOT-R, Scheier et al., 1994). The LOT-R is a 10-item scale that evaluates people's dispositional optimism. Four of the ten items (items 2, 5, 6, and 8) are used as fillers, leaving six to be incorporated in analyses. Each item is rated on a 5-point Likert-type scale ranging from "strongly disagree" (0) to "strongly agree" (4). Sample questions include, "in uncertain times, I usually expect the best," and "if something can go wrong for me, it will." The LOT-R has acceptable internal consistency ($\alpha = .78$), test-retest reliability ($\alpha = .60$ to $.79$), acceptable discriminant validity ($r = .48$ to $.50$) and convergent validity ($r = .95$; Scheier et al., 1994). Reliability of the 6-item scale in the Liberian sample was modest ($\alpha = .49$).

Growth: We assessed participants' reported psychological growth with *Post-Traumatic Growth Inventory* (PTGI; Tedeschi & Calhoun, 1996). The 21-item self-report scale comprises five factors, possible scores range from 0-105. Each item is rated on a 6-point Likert-type scale ranging from zero (I did not experience this change as a result of my crisis) to five (I experienced this change to a very great degree as a result of my crisis). The PTGI has demonstrated high internal consistency ($\alpha = .90$) acceptable test-retest reliability ($r_{tt} = .71$), and construct validity (Calhoun, Cann, Tedeschi, & McMillan, 2000). The instrument is uncorrelated with measures of social desirability (Baker, Kelly, Calhoun, Cann, & Tedeschi, 2008). Internal consistency of PTGI scores for the Liberian participants was excellent ($\alpha = .93$).

2.3. Analyses of data

The study was conducted to explore the relationship among war-related experiences, optimism, trauma, and posttraumatic growth. We also set out to identify the differences in optimism based on gender and family status. Data were analyzed with Statistical Package for the Social Science [SPSS] (V22; IBM SPSS, 2013), Statistical Analysis Software [SAS] (SAS Institute Inc., 2015) and AMOS (v.23; Arbuckle, 2014).

Preliminary analysis: Participant responses were entered into SPSS. We evaluated the items of the instruments to assess for missing values (Osborn, 2013; Tabachnick & Fidell, 2013). Missing items were missing completely at random (MCAR; Osborne, 2013); therefore, we allowed SPSS to use its default of Listwise deletion (Osborne, 2013). Our remaining sample size was more than 300 and sufficient to detect medium to large effect sizes where $\alpha = .05$ (O'Rourke & Hatcher, 2013).

Primary analyses: Data cleaning, descriptive statistics, and comparison of means were analyzed with SPSS. Path analysis (Jöreskog & Sörbom, 2015; O'Rourke & Hatcher, 2013), a procedure used to address research questions (a) to (d), was analyzed through AMOS. Path analysis is a form of multiple regression used to assess theoretical models which specify assumed relationships among manifest variables (O'Rourke & Hatcher, 2013). Path analysis does not specify directional relationships among latent variables, and the manifest variables in path analysis are depicted by squares or rectangles. Straight single-headed arrows are indicative of a unidirectional path. Arrows start from the independent variable and point to the dependent variable. A curved arrow connecting two variables means the two variables are expected to covary; however, no hypothesis is made about their causality (O'Rourke & Hatcher, 2013).

Theoretical model: The theoretical model assesses research questions (a) to (d). The model explored the significant relationship among war-related experiences, optimism, trauma, and growth. The model also tested the ability of optimism to predict growth and PTSD. Finally, the model tested the ability of war experiences to predict PTSD, and in turn predict growth. PTSD in this model is depicted as a mediator variable, meaning that war has only an indirect effect on growth (see Figure 1).

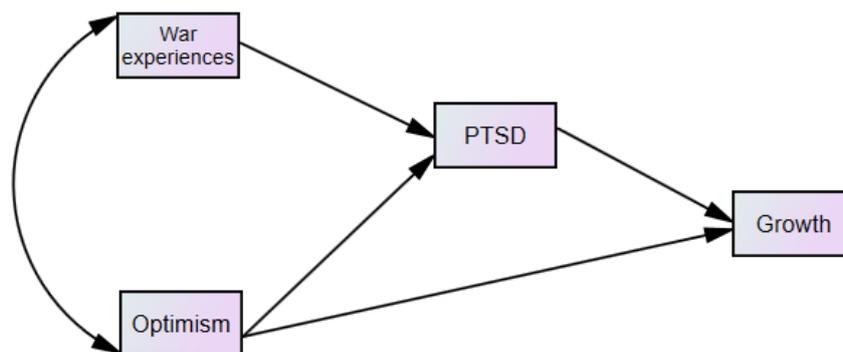


Figure 1. Hypothesized model incorporating research questions (a) to (d)

Path analytic procedure: It was hypothesized that a statistically significant inverse association would emerge between war-related experiences and optimism. Among former refugees and IDPs, we also hypothesized a positive association between war-related experiences and PTSD. We further hypothesized a positive association between PTSD and PTG, and a positive association between optimism and PTG.

Path analysis was applied to test the hypotheses using the *proc calis* prompt in SAS. We also assessed the adequacy of model fit through multiple indices. Because of well-known problems of fit estimation using χ^2 in large data sets, we used the Bentler's Comparative Fit Index (CFI) with

values at .95 or higher indicating a good-fitting model (Hu & Bentler, 1999; O'Rourke & Hatcher, 2013; Sivo, Fan, Witta, & Willse, 2006). We also considered one absolute index, the Standardized Root Mean Square Residual (SRMR) and a parsimony index, the Root Mean Square Error of Approximation (RMSEA) as an index assessing the difference between the proposed model and actual variances and covariances in the data. RMSEA values less than or equal to .06, and SRMR values less than or equal to .08 are preferred (Fabrigar, Porter, & Norris, 2010; O'Rourke & Hatcher, 2013; Sivo et al., 2006).

3. Results

Optimism and demographics: An independent samples *t*-test was performed to identify the differences in optimism between males and females. With equal variances not assumed ($p < .05$), there was no statistically significant difference in mean optimism scores ($t[198.45] = 1.61; p > .05$) between males ($n = 313; M = 16.36; SD = 3.78; SE_M = .21$) and females ($n = 122; M = 17.070; SD = 4.29; SE_M = .39$). We also wanted to identify differences in optimism based on family status, since research has established that trauma, especially war-related trauma is a collective phenomenon (Hussain & Bhushan, 2013).

A one-way analysis of variance (ANOVA) showed that optimism was statistically significantly different in marital status $F(4, 428) = 3.58, p < .05$. Eta squared (η^2) was .03, accounting for the variability in optimism. Post hoc analyses using Tukey post hoc criterion for significance indicated that statistically significant differences ($p = .003; SE = .480$) existed in optimism between those living with partners ($n = 103; M = 17.53; SD = 4.07$) and those who were single ($n = 185; M = 15.790; SD = 3.61$). There was no difference in the other categories: married ($n = 130; M = 16.88; SD = 4.04$), divorced ($n = 8; M = 16.750; SD = 4.51$), and widowed ($n = 7; M = 16.43; SD = 3.95$).

Former IDPs and refugees' path model: We present means, standard deviations, alpha coefficients, and zero-order correlations of the variables included in the path analysis (see Table 1). Results of the correlation indicate that the strongest relationship existed between trauma and war ($r = .455, p \leq .001$), while the lowest existed between optimism and growth ($r = .181, p \leq .001$). Yet, there was no statistically significant relationship between optimism and war ($r = .019, p = .710$), and between optimism and trauma ($r = .05, p = .37$). Interestingly, war-related experiences statistically correlated with growth ($r = .21, p \leq .001$).

Table 1

Means, Standard Deviations, Alpha Coefficients, and Correlations Among the Variables

Variable	M	SD	1	2	3	4
War	17.83	7.33	-	.02	.45**	.21**
Optimism	53.15	18.85		-	.05	.18**
Trauma	16.55	3.94			-	.31**
Growth	81.13	16.93				-

** Correlation is significant at the 0.01 level (2-tailed).

An examination of the hypothesized model (Table 2 and Figure 2) revealed that war was a statistically significant predictor of PTSD ($t = 8.36; p < .01$). Optimism was not a statistically significant predictor of PTSD ($p > .05$), but was a predictor of growth ($t = 3.21, p < .01$). Finally, PTSD could predict growth to a statistically significant degree ($t = 5.22, p < .01$).

The maximum likelihood estimation (using the PROC CALIS prompt in SAS) of the path model successfully converged after two iterations. Consultation of the goodness of fit indices (Table 3) indicated that the chi square significantly reduced from baseline ($\chi^2(6) = 101.82, p < .01$) to the tes-

Table 2
Effects of Linear Equations

Variable	Predictor	Parameter	Estimate	Standard Error	t-Value	Pr > t
PCL	WTS	Beta1	1.11	0.13	8.36	<.01
PCL	LOT	Beta2	0.21	0.24	0.84	.40
PTG	PCL	Beta3	0.25	0.49	5.22	<.01
PTG	LOT	Beta4	0.73	0.23	3.21	<.01

ted model ($\chi^2(2) = 1.58, p > .05$). A chi square significance of more than .05 provides evidence that there is no difference between the hypothesized model and data.

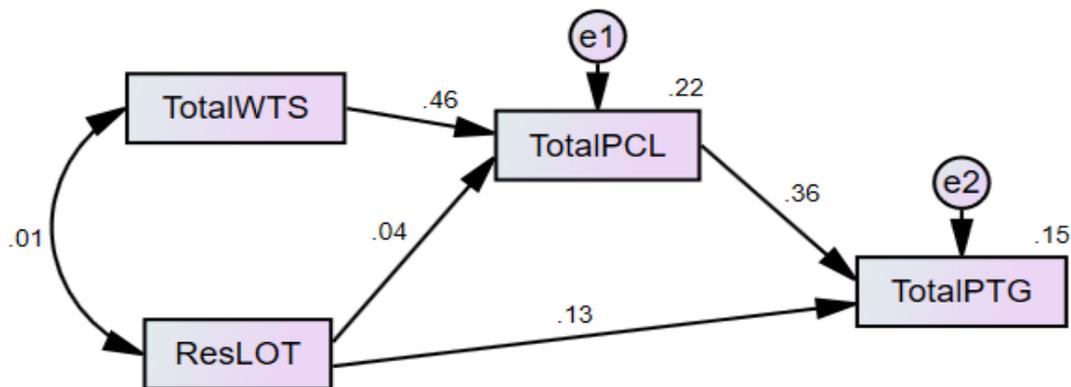


Figure 2. Standardized Estimates of Path Analysis

(TotalWTS = war experiences; ResLOT = Optimism; TotalPCL = PTSD; TotalPTG = Growth)

Table 3
Goodness-of-fit indices for the war, optimism, trauma, and growth model

Model	χ^2	df	Pr > χ^2	CFI	GFI	SRMR	RMSEA	CL ₉₀
Baseline	101.82	6	< .01					
Tested Model	1.58	2	.45	1.00	.99	0.02	0.00	(.00 - 0.11)

Fit indices inspected indicated the hypothesized model fit the data well (CFI = 1.00; GFI = .99; SRMR = .02, RMSEA = .00), supporting the chi square results. The Lagrange Multiplier provides information about modifications that can enhance a tested model (O'Rourke & Hatcher, 2013). The Lagrange Multiplier, a test that suggests variables whose removal will enhance the model, did not recommend any variables to be removed, confirming that the model fit the data well, hence no need for any modification.

4. Discussion

The study examined the relationship among war-related experiences, optimism, trauma, and posttraumatic growth. Participant demographics indicated that even though males outnumbered females, there was no statistically significant difference in their optimism scores. These findings suggest that therapeutic interventions used by counselors to build former refugees' ability to gain positive outlook on life (e.g., positive visualization for a more desirable future; cognitive priming; accountability partnership sharing of optimistic sayings, etc.; Carver et al., 2011) need not be

gender-specific. Hopefully, both group work and individual therapy targeted at traumatized refugees can produce similar benefits.

Moreover, analysis performed to identify differences in optimism based on family status demonstrated significant differences, especially between those who self-identified as living with partners and those who were single, with the highest being those who lived with partners. Future research could consider this unique subset to understand the underlying phenomenon that enhances their positive outlook on life. It would be interesting to understand if the process of performing marriage rites in this country (e.g., paying of dowry, responsibilities that come with marriage) plays a role in how this group perceives life. Optimism is a good predictor of educational success, as is fathers' warmth in predicting positive beliefs in adolescents (Suizzo et al., 2017). To enhance students' success in schools, counselors could collaborate with parents by providing some parent training. This collaboration, even for refugee and immigrant students, could enhance their academic achievement.

Furthermore, results from the correlations validated earlier research (Broekhof et al., 2015; Carver & Scheier, 2014) on optimism relating to subjective wellbeing even in adversity. Despite the reported PTSD scores in this population, both optimism and PTSD were statistically significantly related to growth. Our results however neither corroborated nor disputed past research results about the inverse relationship between optimism and trauma (Broekhoff et al., 2015; Besser et al., 2015). In our study, there was no relationship between optimism and war-related experiences, leading us to reject the hypothesis that there would be a relationship between optimism and war, as well as optimism and trauma.

The hypothesized model that war would predict PTSD; and both optimism and PTSD would be good predictors of growth did fit the data very well. In this model, war was a significant predictor of PTSD; PTSD in turn was a significant predictor of growth. Optimism, however, had no connection with PTSD but predicted growth to a statistically significant degree. Surprisingly, PTSD's predictive ability on growth was greater than that of optimism. The finding that both PTSD and optimism predict growth confirm previous research (Tedeschi & Calhoun, 1996; Powell et al., 2003), especially in the co-occurrence of both PTSD and growth. It is worthy of note that therapeutic interventions could be effected to simultaneously reduce PTSD symptoms and enhance psychological growth.

5. Limitations

The primary limitation for this study, the use of non-random sampling methodologies, lead to lack of generalizability of these findings to the population. According to Fraenkel and Wallen (2003), various replication studies have to be conducted to enable generalization. Secondly, the lack of random sampling implied that sampling error was increased in this study. Additionally, we incurred coverage error in sampling participants who were resident only in Monrovia, the capital, and not the rest of the country.

The current study measured constructs at just one-time point; there is, therefore, no data to determine if participants were optimistic or pessimistic before the war, or that the war-related experiences birthed either outlook into them. Future studies with war-related refugee samples will significantly add to the literature by assessing participants on multiple time periods.

Generalization should be made circumspectly, especially with the low reliability of the scores on the optimism instrument (LOT-R). Another limitation concerns measurement error, especially in the ambiguity in some of the questions (e.g., one of the questions in the PCL-5 assessed participants' negative cognition of both self and others). Even though the internal consistencies of most instruments were high, it is possible that some participants misunderstood portions of it, hence providing inaccurate responses.

Finally, a limitation with the group data collection procedure is that researchers could not prevent participants from discussing some of their experiences, especially with the WTSI. This form of discussion could have skewed the responses of those who wanted to conform to the

majority narrative, even though some of the instruments used were not correlated with measures of social desirability.

6. Implications and recommendations for future research

6.1. Implications for counseling practice

War-related trauma's uniqueness concerns torture of people, their families, and their communities (Barrington & Shakespeare-Finch, 2013; Clay, 2017). Counselors and/or psychologists who serve this population have the responsibility of continually building trust in the therapeutic relationship (Clay, 2017). Trust could mean learning to complete forms for housing for one person, and getting transportation to work for another (ICCS, 2015).

The group-like data collection process in this study, coupled with participants' verbal processing, supports their communal lifestyle. Counselors can use refugees' natural inclination for community as basis for group work. Individual focus on trauma may not be as effective as family or even communal therapy, because many in this population experience ongoing trauma as a group (Clay, 2017). For former refugees living in a place like the United States, group therapy could be in the form of reassurance in the face of continued anxiety due to administrative and legal changes. As group members share their fears and anxiety, they realize they are not alone in their problems (Yalom & Leszcz, 2005).

Instruments used in this study have implications for counseling as well. Certainly, the acceptable to high reliability scores (e.g., PCL-5, PTGI) in this non-western environment indicate that constructs could be similarly perceived. Thus, when counselors are dealing with clients from different demographic regions, they need not ignore what they know, but incorporate their knowledge base and receive in a culturally sensitive manner, the knowledge base of the clients. For clients whose primary language may not be the language of the host nation, counselors could look for words that describe the concept of optimism. This way, even if the semantics are different, the concept remains the same (ICCS, 2015).

6.2. Recommendations for future research

Participants communicated during the data collection process, and gave researchers an opportunity to travel the traumatic path with them. Due to this interaction, it is recommended that future work take a qualitative approach and identify participants' ideas of what could have been helpful during and after resettlement. Because part of data collection was in group format, participants could share their experiences, especially as they compared their reaction to the Ebola epidemic to the time of the war. This discussion was validated in the scores of responses in the demographic questionnaire that assessed frequency of comparing the Ebola epidemic to the war. Future research could assess the psychological effect of the Ebola epidemic on adult Liberians, as well as how this affected their economic capacity for a country that is considered one of the world's poorest (The World Bank, 2016).

A comparative study between those who are still living outside Liberia (e.g., US) and those living within Liberia may reveal whether optimism before or after the war played a part in the posttraumatic growth depending on where a person currently resides. This comparative study could identify differences in optimism scores between gender and family status, depending on current residence. Finally, the comparative study may identify their current post-trauma (disorder and growth) scores and how these scores reflective their outlook on life.

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