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## Post-Traumatic Growth Following the Experience of Interpersonal Violence: The Roles of Perceived Stigma and Social Support

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# **Post-Traumatic Growth Following the Experience of Interpersonal Violence: The Roles of Perceived Stigma and Social Support**

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## **Abstract**

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Post-Traumatic Growth is a term that refers to an individual's experience of considerable positive transformation following the occurrence of a traumatic event. This growth may be rapid, gradual, or non-existent, depending on the circumstances (such as social support or societal stigma) to which the victims are subjected during the process. However, the high prevalence of trauma among traumatized victims and the benefits of post-traumatic growth (PTG) discovered in increasing empirical research demonstrate the need of fostering PTG in victims of interpersonal violence. As a result, the current study analysed risk variables for PTG development. The study enrolled 200 women and men recruited through an organization that provides services to trauma victims. The data were gathered via an online survey that included the PTG inventory and an information sheet on demographic, social support, and stigma-related characteristics. Social stigma and support were found to be significant predictors of PTG, with stigma being associated with lower PTG and family and religious support being associated with higher PTG. The limitations and policy implications were highlighted, and recommendations for additional research were presented.

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**Keywords:** Interpersonal violence; post-traumatic growth; social stigma; social support; victims

# **Crecimiento Postraumático tras la Experiencia de Violencia Interpersonal: El papel del Estigma Percibido y el Apoyo Social**

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## **Resumen**

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El crecimiento postraumático es un término que se refiere a la experiencia de un individuo de una considerable transformación positiva tras la ocurrencia de un suceso traumático. Este crecimiento puede ser rápido, gradual o inexistente, dependiendo de las circunstancias (como el apoyo social o el estigma social) a las que se vean sometidas las víctimas durante el proceso. Sin embargo, la alta prevalencia del trauma entre las víctimas traumatizadas y los beneficios del crecimiento postraumático (CPT) descubiertos en cada vez más investigaciones empíricas demuestran la necesidad de fomentar el CPT en las víctimas de violencia interpersonal. En consecuencia, el presente estudio analizó las variables de riesgo para el desarrollo del CPT. En el estudio participaron 200 mujeres y hombres reclutados a través de una organización que presta servicios a víctimas de trauma. Los datos se recopilaban mediante una encuesta en línea que incluía el inventario de CPT y una hoja de información sobre características demográficas, de apoyo social y relacionadas con el estigma. El estigma y el apoyo social resultaron ser predictores significativos de la CPT, asociándose el estigma con una menor CPT y el apoyo familiar y religioso con una mayor CPT. Se destacaron las limitaciones y las implicaciones políticas, y se presentaron recomendaciones para investigaciones adicionales.

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**Palabras clave:** violencia interpersonal; crecimiento postraumático; estigma social; apoyo social; víctimas

**I**nterpersonal violence, as defined by the World Health Organization [WHO] in its World report on violence and health (Krug et al., 2002 pg. 5), is "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either result in or has a high likelihood of resulting in injury, death, psychological harm, mal-development, or deprivation. "This definition covers both lethal and non-fatal consequences of violence. According to the WHO, there are three major types of violence: self-directed violence (suicide, attempted suicide, and self-abuse), interpersonal violence (youth violence, intimate partner violence, sexual violence, child maltreatment, and elder abuse), and communal violence (war and other forms of armed conflict and state perpetrated genocide, repression, and torture). This study examines two types of interpersonal violence — sexual assault and non-sexual assault – that may occur amongst family members, intimate partners, friends, acquaintances, and strangers (Krug et al., 2002).

Evidence from empirical research also indicates that there has been an increase in interpersonal violence in many countries, more so in the wake of the COVID-19 pandemic lockdowns (Boserup et al., 2020; Campbell, 2020; Roesch, 2020). A 2017 report by Nigeria's Gender-Based Violence Sub-Sector Working Group (GBVSWG) also found that one in four ever-married women has experienced at least one of the following types of domestic violence; physical, emotional or sexual violence their husband or partner (GBVSWG 2017). Another earlier study conducted in Nigeria found the prevalence of IPV to range from 31 to 61% for psychological or emotional violence, 20 to 31% for sexual violence, and 7 to 31% for physical violence (Mapayi et al., 2013). Other studies conducted in different geographical regions of Nigeria reported prevalence of IPV ranging from 42% in the North (Tanimu et al., 2016), 29% in the South West (Okenwa et al., 2009), 78.8% South East (Okemgbo et al., 2002), to 41% in the South-South (Dienye et al., 2014).

PTG refers to an individual's experience of significant positive change arising from the struggle with a significant life crisis and emphasises the transformation after trauma (Calhoun et al., 2004). Indications of this transformation include an enhanced appreciation for life, deeper connections with people, a shift in one's spiritual or existential outlook, a feeling of inner

fortitude, and the recognition of previously unacknowledged opportunities (Tedeschi and Calhoun, 2004). PTG can be differentiated from which presumes the capacity to maintain adequate functioning or to favourably adjust in the face of challenging circumstances. Strength, self-esteem, regulatory coping, positive mood, and humour are identified as the main components of resilience by researchers (Duan et al., 2015; Hartmann et al., 2020).

Victims of violence suffer a myriad of dire consequences ranging from sexual, reproductive/gynaecological problems (Andualem et al., 2014); depression, post-traumatic stress and other anxiety disorders (Jewkes, 2010); sleep difficulties, eating disorders, and suicide attempts (Martino et al., 2005). Hence, interpersonal violence is a stressful, traumatic event for all victims, and coping with the after-effects can be overwhelming. Thus, it is crucial to identify factors that could be central to promoting healthy and supportive environments to achieve lasting, positive outcomes after experiencing an adverse life event (Samios et al., 2020).

There currently exists limited empirical studies covering PTG among victims of interpersonal violence in Nigeria; the available studies on PTG examine populations different from the focus of the current study. Chukwuorji et al. (2018) examined PTG among Internally Displaced Persons (IDPs) in Benue State, while a study by Onu et al. (2019) also investigated PTG among people living with HIV/AIDS (PLWH) in Nigeria. Other studies examined the antecedents of post-traumatic stress among victims of ethnic and religious violence across several states in Nigeria (Tagurum et al., 2015; Maigari et al., 2017). This study makes a significant contribution by examining the influence of the socio-cultural environment on PTG among victims of interpersonal violence.

The study adopts the Bronfenbrenner (1994) ecological framework that emphasises the socio-cultural context of adversity as a critical aspect for recovery after trauma. According to Bronfenbrenner and Morris (2006), behaviour is a joint function of person and environment, and development is a joint function of a person influenced by the environment. Thus, victims' responses to trauma in the lens of an ecological framework can be understood as an outcome of the interactions between the person, the traumatic event, and

environmental factors (Harvey, 1996). Calhoun and Tedeschi (2006) recommended additional research to examine the effects of supportive and unsupportive responses on evidence of PTG in trauma victims.

Ecological systems theory explains how five levels of environmental interaction affect a person's development. However, the current study focuses on the microsystem and the exosystem (Ling and Kwok, 2017). The microsystem is the most influential, which makes up the primary support influence of an individual, such as family, friends, and religious bodies. The interaction within this system is often crucial for fostering and sustaining individual growth. The exosystem embraces society's social structures, which indirectly influences an individual growth. The exosystem encompasses economic, political, and educational systems, laws, the department of human services, and the government (Bronfenbrenner, 1979).

IPV's socio-cultural environment (exosystem) might have detrimental effects on victims as in the instance of social stigma which is embedded in all socio-ecological levels and is affected by social (cultural and gender norms) and institutional (policies and regulations) elements (Stangl et al., 2019). Cultural stigma or attitudes can invalidate undermine experiences of interpersonal (such as blaming victims for their own victimisation) and enhance victims' internalised and anticipated stigma. Stigma may prevent disclosure needed to get social support and start PTG. In addition, cultural stigma may have direct effects on the attitudes and actions of those who assist victims of violence. This study examines the role of supportive services such as the justice system and professional services through possible experiences of secondary victimisation and lack of professional support in contributing to variations in individual PTG. The current work therefore aims to examine the extent to which social stigma and received social support predict individual variance in positive changes (i.e. post-traumatic growth [PTG]).

### **Social Stigma**

Social Stigma can hinder efforts to heal after experiencing trauma (Miller et al., 2011). For example, a girl shamed and ostracised from her family or community following sexual assault may hold a minimal chance of developing PTG. Hatzenbuehler et al. (2013) and Lamont et al. (2016) point

out that social stigma affects multiple domains of people's lives through psychological and structural pathways, which reduces their access to economic, social and health resources. Stigma and discrimination can show itself in a number of different ways, including a lack of support from law enforcement, police brutality, the devaluation of IPV victims, weak prosecution laws, and stigmatising reactions from family, friends, and religious leaders (Beaulaurier et al. 2007).

Stigma complicates everyday micro-level interactions—the stigmatised may be wary of engaging with those who do not share their stigma, and those without a certain stigma may disparage, overcompensate for, or attempt to ignore stigmatised individuals (Goffman, 1963). Victims of violent acts, especially of a sexual nature, may choose to keep silent for fear of reliving the trauma and avoiding censure and rejection from their family and society in general. Stigma not only changes their behaviour, but it also shapes their emotions and beliefs (Cox et al., 2012). Research on the causes of stigma also recommends an examination of the role of the law and institutional practices in the perpetuation of stigmatisation and exclusion of victims from social networks, the law, and politics (Link and Phelan, 2001).

### **Social support**

Social support is another critical potential protective factor in PTG, as Tedeschi and Calhoun (2004) identified. Zysberg and Zisberg (2020) define social support as the extent to which individuals perceive that others around them are available to them and are attentive to their needs. Although the decision to seek support is the victim's prerogative, according to Norris et al. (1997), those who use natural supports are more likely to seek professional help, especially if they felt positively supported. Lee and Way (2019) outline the benefits of social support for victims to increase individuals' self-esteem, alleviate persistent unpleasant or stressful emotions, and make life more comfortable and meaningful. The different outlooks provided by others may aid the development of positive narratives that help people draw upon the beneficial aspects of their trauma (Tedeschi, 1999).

In the process of PTG, the individual's social system in the form of family, friends, and significant others play an essential role, mainly through empathy,

acceptance of disclosures about the traumatic event and validating a sense of worth, and promoting positive changes (Sattler et al., 2018; Žukauskienė et al., 2019). Supportive people provide information, companionship, emotional and financial support, and a safe place to live. Both natural supports (i.e., family, friends) and professional support (e.g., police, lawyer, clergy, medical services, therapy, and mental health services) can help victims.

The authors recognise violence as a grievous offence that requires the intervention of the judicial system. Thus, the authors also explore the view of participants on the challenges they encounter in dealing with the Nigerian judicial system while seeking redressal against their assailants. Barkworth and Murphy (2016), in an Australian study, found that victims who reported execution of procedural justice were less likely to report negative emotions, feelings of social isolation or that their quality of life had been diminished by fear of crime. Barkworth and Murphy (2016) suggest that if victims are taken seriously, they feel validated and valued, mitigating the trauma of victimisation.

Given these findings, the current study explores how PTG was associated with social stigma and perceived social support. The authors hypothesise that:

- (1) PTG is negatively associated with stigma.
- (2) Social support sources would jointly positively predict PTG.

## **Methods**

### **Setting and Participants**

This study is based on data collected between July 1 and July 31, 2021, from 200 clients of Stand to End Rape (STER, <https://standtoendrape.org/>), an organization that assists victims of abuse. The organisation, founded in 2015, is a youth-led non-profit dedicated to advocating against sexual violence, developing preventative strategies, and offering psychosocial assistance to victims. STER officials frequently visit communities to educate residents about rape, sexual violence, and assault and to encourage victims to report incidents directly to the organization. Where victims require shelter, medical care, or legal assistance, STER refers them to other non-profit referral centres in Lagos State, Nigeria. Online questionnaires were created using Google



forms and shared with the organization, who forwarded it to their clients. The questionnaire included information about the study and the rights of participants. Their participation was voluntary, and no monetary compensation was offered in exchange for their participation. The authors originally intended to conduct semi-structured interviews with participants; however, this was not possible due to continued COVID-19 restrictions and the organization's reservations to allow personal access to its clients.

## **Measurements**

**Demographic Questionnaire.** Sex, age, marital status, education, religion, employment position, and number of children were all reported by participants. Additionally, sexual assault and physical assault items were collected, which were comprised of specific sentences with "yes" or "no" response alternatives. PTG is connected with several demographic characteristics, including age, with older adults experiencing less PTG (Helgeson et al., 2006), and gender, with females reporting greater PTG than males (Vishnevsky et al., 2010). In the data analysis, these two variables are treated as covariates for PTG.

**Post-traumatic Growth Inventory (PTGI-SF).** The short version of the PTGI developed by Cann et al. (2010) includes ten self-report questions on five subscales with two items each on appreciation of life, personal strength, relating to others, new possibilities, and spiritual change. Participants rated the extent they have changed since their stressful life event with responses scored on a six-point scale from zero (no change) to five (very significant change). A total score is obtained, with higher scores reflecting more perceived change. The PTGI-SF demonstrated high internal consistency in the current study ( $\alpha = 0.92$ ), similar to that reported by the authors ( $\alpha = 0.90$ ).

**Perceived Social Support.** Young's (2007) modified version of social support questions measured respondents' views of social support received. Participants were asked to rate their level of support from family, friends, justice, professional and religious sources. There were two items each rating

receipt of support from the different sources. The sample items include, "How helpful were the following sources in helping you in coping with the aftermath of the incident(s)?: (1) ..... expressed interest in and concern about your feelings and well-being (2) .... provided you with resources (their time, help, services, finances, etc.) to support you after the incident. The answers were scored on a 5-point Likert scale (0 = Not at all, 5 = Very Much). A composite score is calculated by adding the scores of all the items, with a high score indicating a high level of perceived social support. Cronbach's alpha for the full-scale was 0.85 in our sample.

**Perceived Social Stigma:** Ten items reflecting participants' perceptions of the stigma associated with their violence experience(s) were used to assess this construct, and participants scored their level of agreement with each statement on a five-point Likert scale ranging from 1 (definitely disagree) to 5 (definitely agree). Four questions measuring enacted stigma were borrowed from Wright et al. (2007) version of an HIV-Stigma Scale, and the remaining six questions were adopted from a questionnaire prepared by Rife (2009). The questions probed participants' perceptions of personal (i.e., "There have been times when I felt ashamed for having had the events mentioned above") and projected (i.e., "I have been wounded by how people reacted to the experiences stated above") stigma. By summing the replies to each question, a composite score for perceived stigma was calculated, with higher scores indicating greater felt stigma. Cronbach's alpha was 0.87 in this study for this scale.

### **Data Analysis**

The distribution of PTG, felt stigma, perceived social support, and other socio-demographic characteristics in the study was determined using descriptive analysis. Correlation analysis is used to determine the link between PTG and other variables in the study. PTG was used as the dependent variable in a three-step hierarchical multiple regression. Step 1 accounted for the demographic variable (sex), Step 2 entered the Social Stigma variable, and Step 3 entered the Social Support variables. Statistical significance was determined at  $p = .05$ . SPSS version 23 was used to conduct all data analysis.

**Participant Demographics.** Participants were 19.5 % male (n = 39), and the mean age of participants was 25.03 (range 18–53). Study participants identified as 21.5% without a religion (n = 43), 18.0% Muslims (n = 36), and 78.5% Christians (n = 157). The majority of participants were employed full-time (52.5%, n = 105) and had a higher level of education (84.5%, n = 169). 52.5% were not in a relationship (n = 105), while 38% were in a relationship (n= 78), and only 8.5% were married (n = 17). With regard to type of violence experienced, 74.5% of the sample (n = 149) reported that they suffered non-sexual assault from a known person, while 61% (n = 122) reported that a known person sexually assaulted them. The majority (58%) of the respondents sought social support from their friends, followed by professional support (54%), family (49.5%) and spiritual support (46.5%). There were statistically significant gender differences in the distribution only for the social support received from family, friends, and professional services.

**Table 1**

*Participants’ Socio-demographics and total scores for study predictor and criterion variables*

Variables	Frequency (%)	Frequency (%)	Frequency (%)	P value <sup>b</sup>
	All (N=200)	Female (n=161)	Male (n=39)	
<b>Marital Status</b>				
Single	105 (52.5)	85 (52.8)	20 (51.3)	NS
In a relationship	78 (38.0)	61 (37.9)	17 (43.6)	
Married	17 (8.5)	15 (9.3)	2 (5.1)	
<b>Religion</b>				
None	43 (21.5)	5 (3.1)	2 (5.1)	NS
Islam	36 (18.0)	27 (16.8)	9 (23.1)	
Christian	157 (78.5)	129 (80.1)	28 (71.8)	
<b>Education</b>				
Secondary	31 (15.5)	28 (17.4)	3 (7.7)	NS
Higher education	169 (84.5)	133 (82.6)	36 (92.3)	
<b>Employment</b>				
Part-time work	25 (12.5)	23 (14.3)	2 (5.1)	NS
Full-time work	105 (52.5)	82 (50.9)	23 (59.0)	
Not working	70 (35.0)	56 (34.8)	14 (35.9)	
<b>Type of violence</b>				
Non-sexual assault (known person)	149 (74.5)	117 (78.5)	32 (82.1)	NS
Non-sexual assault (stranger)	106 (74.5)	85 (52.8)	21 (53.8)	
Sexual assault (known person)	122 (61.0)	101 (62.7)	21 (53.8)	
Sexual assault (stranger)	102 (51.0)	92 (57.1)	10 (25.6)	
<b>Social Support Received</b>				
Family	99 (49.5)	87 (54.0)	12 (30.8)	<.05
Friends	116 (58.0)	101 (62.7)	15 (38.5)	<.05
Professional	108 (54.0)	97 (60.2)	11 (28.2)	<.01
Justice	80 (40.0)	59 (36.6)	21 (53.8)	NS
Religious	93 (46.5)	76 (47.2)	17 (43.6)	NS

Note: N = 200

a=Means (SD)

b=Chi-square test

**Correlation Analysis.** Table 2 shows the correlations of the study variables. The results showed that participants who reported greater PTG reported less stigma ( $r = -.46, p < .01$ ). PTG was positively associated with higher social support (i.e. family, friends, justice, professional, and religion). Among the predictor variables, social stigma was negatively associated with all sources of social support, although the correlations coefficients were statistically insignificant. Participants' sex was positively associated with all predictor variables except social support. Females reported higher PTG and higher social support from all sources than males. Finally, although participants' age was inversely associated with PTG, the relationship was not statistically significant.

**Table 2**

*Correlation coefficients and Means, standard deviations (N=200)*

		Mea ns (SD)	1	2	3	4	5	6	7	8	9	Cronba ch's Alpha
1	PT	18.0	1									.90
.	G	4 (10.6 3)										
2	SS	32.2	-	1								.87
.		2 (9.30 )	.46 **									
3	FA	4.17	.51	-.13	1							.79
.	S	(2.38 )	**									
4	FR	5.79	.42	-	.60	1						.95
.	S	(2.72 )	**	.22 **	**							

5	JS	5.64 (2.29)	.31 **	-.05	.40 **	.34 **	1				.97	
6	PS	3.69 (3.09)	.32 **	-.03	.44 **	.46 **	.49 **	1			.78	
7	RS	5.27 (2.13)	.45 **	-.12	.56 **	.51 **	.51 **	.57 **	1		.92	
8	Ag e	-	-.01	.09	-.01	.07	.07	.15 **	.04	1	-	
9	Se x	-	.23 **	.09	.28 **	.28 **	.20 *	.23 **	.21 **	.0 3	1	-

PTG = Post-Traumatic Growth, SS = Social Stigma, FAS = Family Support, FRS = Friends Support, JS = Justice Support, PS = Professional Support; RS = Religious Support.

Sex (Male = 1, Female = 2)

\*\*Correlation is significant at the 0.01 level

\*Correlation is significant at the 0.05 level.

**Predictors of PTG.** The results in Table 3 show the results of the hierarchical regression analyses predicting PTG. Step 1 controlled for participants' sex, which accounted for 5% of the variance in total PTG,  $F(1, 198) = 10.87$ ;  $p = .001$ . Introducing the Perceived Social Stigma variable explained an additional 24% of the variation in PTG, and this change in  $R^2$  was significant,  $F(1, 197) = 40.19$ ,  $p < .001$ . Finally, the addition of the Social Support variables to the regression model explained an additional 18% of the variation in PTG, and this change in  $R^2$  was significant  $F(5, 192) = 24.56$ ,  $p < .001$ . After including all independent variables in the final step, support from friends, justice, and professionals were not significant predictors of PTG. Only family ( $t = 4.07$ ,  $p < .001$ ) and religious support ( $t = 2.35$ ,  $p < .05$ ) predicted PTG respectively. The most important predictor of PTG was social stigma ( $t = -7.57$ ,  $p < .001$ ). Together, all independent variables accounted for 47% of the variance in PTG.

**Table 3**

*Hierarchical Regression Predicting Variance in PTG (N = 200)*

	<i>b</i>	Std. Error <i>b</i>	$\beta$	<i>T</i>	95% CI	
Step 1						
Sex (ref. = males)	6.11	1.85	0.23	3.29*	2.45	9.76
Step 2						
Sex (ref. = males)	7.37	1.61	0.27	4.56**	4.18	10.55
Perceived Social Stigma	-.56	0.07	-0.49	-8.12**	-0.69	-0.42
Step 3						
Sex	3.62	1.51	0.14	2.41*	0.65	6.59
Perceived Social Stigma	-0.47	0.06	-0.42	-7.57**	-0.59	-0.35
Family support	-0.002	0.28	0.00	-0.01	-0.55	.54
Friends support	0.20	0.30	0.04	0.68	-0.38	-0.78
Justice support	0.08	0.24	0.02	0.33	-0.38	-.54
Professional support	0.87	0.37	0.17	2.35*	0.14	1.60
Religious support						

PTG = Posttraumatic growth.

\*\*  $p < .001$ ; \*  $p < .05$ .

Step-1:  $R^2 = .05$ ; Step-2:  $R^2 = .29$ ,  $\Delta R^2 = 24\%$ ; Step-3:  $R^2 = .47$ ,  $\Delta R^2 = 18\%$ .

Table 4 presents the perception of participants on the role of government and public sectors in the prevention of GBV. The majority of the respondents (66%) affirmed that they were not aware of any Federal Law or State Criminal Code that addresses interpersonal violence. A further look at ways the justice system has failed to help violence victims is considered. It revealed that 91% of respondents

believe there are insufficient trained judges and attorneys on gender-based violence; 96 percent of respondents indicated that law enforcement officers are insufficiently educated to deal with situations of gender-based violence. Further, 87 percent believed there were no clear laws protecting women and young children from assault and violence; 94 percent believed there was insufficient free legal assistance provided by legal professionals. Ninety-five percent believed that there was insufficient assistance available to assist victims in obtaining protective orders; and 91.5% opined that there was no clear/proper punishment for the offenders. These were the identified lapses with the government sectors and the public perception of their impact in curbing GBV. In summary, participants' believed the justice system lacked recourse for victims of violence. (Table 4 about here).

**Table 4**

*Percent distribution of participants' perception of the criminal justice system's effectiveness in curbing interpersonal violence. (N= 200)*

Items	Respon	Frequenc	Percenta	
	ses	y (%)	ge	
Are you aware of any Federal Law or State Criminal Code that addresses interpersonal violence/assault?	Yes	68 (34)	34.0	
	No	132 (66)	66.0	
How do you feel the Nigerian Government/Law is failing victims of gender-based violence/assault?	Not enough trained judges and attorneys on gender-based violence.	Yes	182 (91)	91.0
	Law enforcement officers are not adequately trained to handle cases of gender-based violence.	No	18 (9)	9.0
No clear laws to protect women and young children from assault and violence.	Yes	192 (96)	96.0	
	No	8 (4)	4.0	
	Yes	174 (87)	87.0	
	No	26 (13)	13.0	
	Yes	174 (94)	94.0	



Not enough free legal assistance from legal practitioners.	No	26 (6)	6.0
Not enough help for victims to get orders of protection.	Yes	174 (95)	95.0
	No	26 (5)	5.0
No clear/proper punishment for the offenders.	Yes	183 (91.5)	91.5
	No	17 (8.5)	8.5

## Discussion

The study aimed to explore PTG among people who had suffered different forms of interpersonal violence and its association with perceived social support. The mean PTG score of this study, 18.04 (SD=10.63), indicating moderate growth. This score may be considered low compared to Ersahin (2020) results. This low score could be associated with the impact of other variables not measured in this study, such as time intervals after the participants' experience trauma. Research has shown that high rates of PTG were found in participants within the longest time-interval after the trauma, suggesting that time provides victims with the opportunity to work through their trauma, find meaning and reconstruct their worldview (Cobb et al., 2006). In addition, females reported more PTG than males. Vishnevsky et al.'s (2010) meta-analysis suggests that women's PTG may rise due to a predisposition to think carefully on positive matters like personal strengths or social ties.

Nonetheless, the current findings indicate that social support does explain unique variance in PTG, even after controlling for the influence of sex and social stigma. The model for social support significantly predicted a positive relationship with PTG. That means that the higher the social support, the higher the PTG. However, only family and religious supports were significant predictors individually. This finding is in line with previous studies examining the role of social support in facilitating PTG. Social support predicts a higher level of post-traumatic growth and helps develop new constructive identities (Žukauskienė et al., 2021). Sörensen et al. (2021) demonstrated the critical

roles played by social support in the transition from trauma to growth as it stimulates cognitive developments; however, their sample study focuses on arthritis patients. Bhat and Rangaiah (2015) and Lee et al., (2015) showed that those victims who can air their minds to people or peers and seek possible support or assistance are more likely to exhibit post-traumatic growth, indicating the positive effect of social support on victims.

Perceived and received social support could enhance post-traumatic growth, avail better living conditions, and reduce societal worries (Azizzadeh et al., 2018) Jia et al. (2017) concluded in their study that social support predicted the victims' post-traumatic development, and stigma affected the victims. Their findings indicate that intense social support is essential for easing stigma and enhancing PTG. Perceived shame, embarrassment, and stigma are highly associated with the recovery process of the victims of interpersonal violence (Ulloa et al., 2016). Congruent with our study findings, other studies have shown that family support positively stimulates post-traumatic growth (Berger and Weiss, 2009; Matija and Katja, 2012). Religious teachings can help stimulate post-traumatic growth; so far, victims approach the problems positively during this time (Diah et al., 2019).

The hypothesised negative relationship between perceived stigma and PTG was supported by the results of the regression analyses, such that higher levels of perceived stigma predicted lower PTG. Further, support from all listed sources was negatively associated with perceived stigma. Stigma may negatively affect various aspects of coping and recoveries for victims of violence, such as openness to help-seeking and quality of social support received, willingness to report and seek justice, and health-seeking behaviours. Stigma may further lead to discrimination, thereby compounding physical and psychological health. According to Overstreet and Quinn (2013), withdrawal from social support and reduced likelihood of seeking help are common responses to internalised stigma arising from feelings of shame, loss of self-worth and fear of discrimination.

Additionally, the study participants' actual support seeking from professional and judicial services was low. In Nigeria, adequate consideration is rarely given to the interests, emotional needs, welfares and rights of victims during the legal process (Yusuf and Yahaya, 2014; Nwune et al., 2018). Supports of victims by government agencies and ministries are hardly

available while the police often dismiss IPV incidents as a family matter that the elders should settle (Fawole et al., 2021). Concerns about the criminal justice system, limited knowledge of legal procedures or support services, and psychological trauma can lead to victims' under-reporting or withdrawal of a complaint. These listed factors may hamper paths to recovery (Koster, 2017; Kilcommins et al., 2018). Serious penalties and sanctions for offenders and early interventions in violence cases can save lives, forestall further violence, and speed up victims' recovery. Victims are encouraged to report when the prosecution of perpetrators is inevitable, and there is no fear of reprisal attacks.

Interpersonal violence requires a tactical combination of legal measures (e.g., arrest of perpetrators, prosecution by the judiciary, and safety orders), and societal responses (e.g., advocacy, community responses, and shelters). There is a need for increased awareness and proper training on the part of direct care providers such as medical and social services, where victims may present sexual and reproductive health complications due to physical or psychological trauma, neglect, or other forms of abuse, including mental health services (Chivers-Wilson, 2006).

### **Limitations**

The current study is not without some limitations. First, this research was primarily retrospective, based on self-reports and cross-sectional. As a result, participants' reports about growth and other study variables may lead to potential bias (error in recall and socially desirable responses), and causal inferences cannot allude between the study variables. Second, most participants were female, and the sample size was small; hence, the study was limited in diversity, which did not allow a robust exploration of gender differences in the study outcomes. Third, the study only examined two levels of the ecological system: microsystem and exosystem. Future studies may benefit from examining the associations between the five levels and post-traumatic growth of victims of interpersonal violence in a longitudinal study. Additionally, the inability to gain physical access to the study participants did not allow for the collection of qualitative data in the form of in-depth

interviews for better insight into the focal variables. Other studies should consider incorporating this aspect to enrich quantitative data.

Despite the limitations, the current study builds upon previous research and may encourage more diverse research projects on PTG in the future. The study contributes to the empirical literature by strengthening the credibility of the PTG experiences of violence victims, especially given the limited studies in Nigeria.

### **Conclusions and recommendations**

In conclusion, the high prevalence of interpersonal violence from known persons in this study illustrates that intimate partner abuse is a severe concern in Nigeria. Our study revealed that, after the experience of trauma, an interplay of feelings of being stigmatised and victims' receipt of social support predict their PTG. Fear of stigma hampers disclosure, promotes a toxic conspiracy of silence, and decreases the likelihood of survivors approaching the much-needed social, medical and psychological care. Interventions should therefore address both the suffering of survivors and stigmatising beliefs and discriminatory behaviour in their social environment.

The authors recommend that interventions that safeguard against secondary victimisation from judicial officers should be practised by the government and service providers. Trauma-focused training that can transform attitudes and combat the normalisation of violence within the justice system and government agencies is strongly needed. Such training should enhance the negative consequences of trauma and empathic understanding of victims' experiences. Government and professional service providers should encourage victims who feel the need to create public awareness through the mass media or in community meetings. This disclosure will reduce social stigma and create more awareness about the forms of interpersonal violence.

### **Ethical considerations**

The study protocol was reviewed and approved by the Ethics Committee of STER and the Internal Research Ethics Committee of the authors' university.

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## References

- Andualem, M., Tiruneh, G., Gizachew, A., & Jara, D. (2014). The prevalence of intimate partner physical violence against women and associated factors in Gozaman Woreda, Northwest Ethiopia. *Global Journal of Sex Education*, 2(3): 26-35.
- Azizzadeh, F. M., Roudi RashtAbadi, O.S., Heidarzadeh, A., Malkyan, L., & Ghazanfarabadi, M. (2018) Studying the Relationship of Posttraumatic Growth With Religious Coping and Social Support Among Earthquake Victims of Bam. *Health in Emergencies and Disasters Quarterly*, 4 (1): 55-61.
- Bhat, R. M., & Rangaiah, B. (2015). The impact of conflict exposure and social support on posttraumatic growth among the young adults in Kashmir. *Cogent Psychology*, 2(1), 1000077.
- Barkworth, J., & Murphy, K. (2016). System contact and procedural justice policing: Improving quality of life outcomes for victims of crime. *International Review of Victimology*, 22: 105-122. <https://doi.org/10.1177/0269758015627044>
- Beaulaurier, R.L., Seff, L.R., Newman, F.L., & Dunlop, B. (2007). External barriers to help seeking for older women who experience intimate partner violence. *Journal of Family Violence*. 22:747–755.
- Berger, R & Weiss, T. (2009). The Posttraumatic Growth Model: An Expansion to the Family System. *Traumatology*, 15(1), 63-74. DOI: [10.1177/1534765608323499](https://doi.org/10.1177/1534765608323499)
- Boserup, B., McKenney, M., & Elkbuli, A. (2020). Alarming trends in US domestic violence during the COVID-19 pandemic. *American Journal of Emergency Medicine*, 38(12): 2753-2755 <https://doi.org/10.1016/j.ajem.2020.04.077>.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, Mass: Harvard University Press.

- Bronfenbrenner, U. (1994). Ecological models of human development. In T. Husen & T. N. Postlewaite (Eds.), *International Encyclopedia of Education*, vol 3, (2nd ed., p.1643-1647). Pergamon Press.
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In W. Damon and R. M. Lerner (Eds.), *Handbook of child psychology: Theoretical models of human development* (p. 793-828). Wiley.
- Calhoun, L. G., & Tedeschi, R. G. (2004). The foundations of post-traumatic growth: New considerations. *Psychological Inquiry*, 15(1), 93-102. DOI:10.1207/s15327965pli1501\_03
- Calhoun, L.G., & Tedeschi, R.G. (2006). The foundations of post-traumatic growth: An expanded framework. In L.G. Calhoun & R.G. Tedeschi (Eds.), *Handbook of post-traumatic growth: Research and practice* (p. 1-23). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Campbell, A. M. (2020). An increasing risk of family violence during the Covid-19 pandemic: strengthening community collaborations to save lives. *Forensic Science International: Reports*; 2:100089. <https://doi.org/10.1016/j.fsir.2020.100089>
- Cann, A., Calhoun, L. G., Tedeschi, R. G., Taku, K., Vishnevsky, T., Triplett, K. N., & Danhauer, S. C. (2010). A short form of the Posttraumatic Growth Inventory. *Anxiety Stress Coping*; 23(2):127-37. DOI: 10.1080/10615800903094273.
- Chivers-Wilson K. A. (2006). Sexual assault and post-traumatic stress disorder: a review of the biological, psychological and sociological factors and treatments. *McGill journal of medicine*, 9(2), 111–118. PMID: 18523613
- Chukwuorji, J. C., Eze, J. E., & Ifeagwazi, C. M. (2018). Post-traumatic Growth among Internally Displaced Tiv Persons. *Nigerian Journal of Social Sciences*, 12(2). <https://journals.aphriapub.com/index.php/NJSSUNN/article/view/570> on September 16th 2021
- Cobb, A.R., Tedeschi, R.G., Calhoun, L.G., & Cann, A. (2006). Correlates of post-traumatic Growth in Victims of intimate partner violence. *Journal of Traumatic Stress*, 19, 895-903. DOI:10.1002/jts.20171

- Cox, W. T. L., Abramson, L. Y., Devine, P. G., & Hollon, S. D. (2012). Stereotypes, Prejudice, and Depression: The Integrated Perspective. *Perspectives on Psychological Science*, 7(5), 427–49. <https://doi.org/10.1177/1745691612455204>
- Diah, R., Hamidah, H., & Wiwin, H. (2019). Confirmatory Factor Analysis Post-traumatic Growth Inventory among Domestic Violence Survivors. *Journal of Educational, Health and Community Psychology*, 8(2): 138-158. DOI: [10.5220/0008588202760282](https://doi.org/10.5220/0008588202760282)
- Dienye, P., Gbeneol, P., & Itimi, K. (2014). Intimate partner violence and associated coping strategies among women in a primary care clinic in Port Harcourt. *Nigerian Journal of Family Medicine and Primary Care*, 3(3):193-8. DOI: 10.4103/2249-4863.141601.
- Duan, W., Guo, P., & Gan, P. (2015). Relationships among trait resilience, virtues, post- traumatic stress disorder, and post-traumatic growth. *PLoS One* 10:e0125707. doi: 10.1371/journal.pone.0125707
- Ersahin, Z. (2020). Post-traumatic growth among Syrian refugees in Turkey: The role of coping strategies and religiosity. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*. <https://doi.org/10.1007/s12144-020-00763-8>
- Fawole, O. I., Okedare, O. O., & Reed, E. (2021). The home was not a haven: women's experiences of intimate partner violence during the COVID-19 lockdown in Nigeria. *BMC Women's Health* 21, 32. <https://doi.org/10.1186/s12905-021-01177-9>
- Gender-Based Violence Sub-Sector Working Group - Nigeria (GBVSWG). 2017. Strategy for Gender-Based Violence Prevention, Mitigation and Response in the Humanitarian Context. United Nations Population Fund. <https://reliefweb.int/report/nigeria/strategy-gender-based-violence-prevention-mitigation-and-response-humanitarian>
- Goffman, E. (1963). *Stigma: Notes on the Management of Spoiled Identity*. New York: Simon & Schuster.
- Hartmann, S., Weiss, M., Newman, A. & Hoegl, M. (2020). Resilience in the Workplace: A Multilevel Review and Synthesis. *Applied Psychology*, 2020, 69, 913–959.

- Harvey, M.R. (1996). An ecological view of psychological trauma and trauma recovery. *Journal of Traumatic Stress*, 9(1), 3-23. PMID: 8750448
- Hatzenbuehler, M. L., Phelan, J. C., & Link, B. G. (2013). Stigma as a fundamental cause of population health inequalities. *American Journal of Public Health*, 103 (5), 813-821. 10.2105/AJPH.2012.301069
- Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, 74(5), 797–816. <https://doi.org/10.1037/0022-006X.74.5.797>
- Jewkes, R. (2010). Emotional abuse: A neglected dimension of partner violence. *Lancet*, 376(9744), 851–852.
- Jia, X., Liu, X., Ying, L., & Lin, C. (2017). Longitudinal Relationships between Social Support and Posttraumatic Growth among Adolescent Survivors of the Wenchuan Earthquake. *Frontiers in Psychology*, 8, 1275. <https://doi.org/10.3389/fpsyg.2017.01275>
- Josse, E. (2010). They came with two guns: the consequences of sexual violence for the mental health of women in armed conflicts. *International Review of the Red Cross*, 92(877), 177-195. doi:10.1017/S1816383110000251
- Kilcommins, S., Leahy, S., Walsh, K. M., & Spain, E. (2018). *The Victim in the Irish Criminal Process*. Manchester University Press.
- Koster, N. S. N. (2017). Victims' perceptions of the police response as a predictor of victim cooperation in the Netherlands: A prospective analysis. *Psychology, Crime & Law*, 23, 201-220. <https://doi.org/10.1080/1068316X.2016.1239098>
- Krug, E. G., Dahlberg, L., Mercy, J., Zwi, A., & Lozano, R. (eds.) (2002) World report on violence and health. Geneva: World Health Organization. <https://doi.org/10.1136/ip.9.1.93>
- Lamont, M., Silva, G. M., Welburn, J. S., Guetzkow, J., Mizrachi, N., Herzog, H., & Reis, E. (2016). *Getting Respect: Responding to Stigma and Discrimination in the United States, Brazil, and Israel*. Princeton, NJ: Princeton University Press.
- Lee, H., Mason, D.T., Holden, B.E., & Adams, P. (2015). Social Support and Post Traumatic Growth (PTG) among OEF-OIF and American Korean



- War Veterans: A Mixed Research Study. *International Journal of Humanities and Social Science*, 5(8): 154-165
- Lee, D. S., & Way, B. M. (2019). Perceived social support and chronic inflammation: the moderating role of self-esteem. *Health Psychology*, 38: 563–566. DOI: 10.1037/hea0000746
- Ling, C., & Kwok, S. (2017). An integrated resilience and ecological model of child abuse (REC-Model). *Journal of Child and Family Studies*, 26: 1655-1663. <https://doi.org/10.1007/s10826-017-0680-1>
- Maigari, Y. T., Moses, D. A., Davou, F. J., Tungchama, F. P., & Suwa, G. G. (2017). Post-Traumatic Stress Disorder in Dogonahawa and Zawan, North-Central Nigeria, Four-Years after Communal Violence: Prevalence and Risk Factors for PTSD. *Journal of Medical Science and Clinical Research*, 05(02),17231-17240. DOI: <https://dx.doi.org/10.18535/jmscr/v5i2.02>
- Mapayi, B., Makanjuola, R. O. A., Mosaku, S. K., Adewuya, O. A., Afolabi, O., & Aloba, O. O., et al. (2013). Impact of intimate partner violence on anxiety and depression amongst women in Ile-Ife, Nigeria. *Archives of Women's Mental Health*, 16(1),11–18. DOI: 10.1007/s00737-012-0307-x
- Martino, S. C., Collins, R. L., & Ellickson, P. L. (2005). Cross-lagged relationships between substance use and intimate partner violence among a sample of young adult women. *Journal of Studies on Alcohol*, 66(1), 139–148. <https://doi.org/10.15288/jsa.2005.66.139>
- Miller, Audrey K., Canales, E. J., Amacker, A. M., Backstrom, T. L., & Gidycz, C. A. (2011). Stigma-Threat Motivated Nondisclosure of Sexual Assault and Sexual Revictimization: A Prospective Analysis. *Psychology of Women Quarterly*, 35, 119-28. <https://doi.org/10.1177/0361684310384104>
- Norris, F. H., K. Kaniasty, & M. P. Thompson. (1997). The psychological consequences of crime: Findings from a longitudinal population-based studies. In *Victims of Crime*, R. C. Davis, A. J. Lurigio, and W. G. Skogan (Eds.), p.146-166. Thousand Oaks, CA: Sage Publications.
- Nwune, F. R., Chikwelu, E., Ajah, B. O., & Obiefuna, C. E. (2018). Correctional Programmes within the Prison Community: The Views

- and Perception of Inmates and Staff in Anambra State Prisons, Nigeria. *Developing Country Studies*, 8(6), 1-7. <https://www.iiste.org/Journals/index.php/DCS/article/view/42755>
- Okemgbo, C. N., Omideyi, A. K., & Odimegwu, C. O. (2002). Prevalence, Patterns and Correlates of Domestic Violence in Selected Igbo Communities of Imo State, Nigeria. *African Journal of Reproductive Health*, 6(2), 101–114. <https://doi.org/10.2307/3583136>
- Okenwa, L. E., Lawoko, S., & Jansson, B. (2009). Exposure to Intimate Partner Violence amongst Women of Reproductive Age in Lagos, Nigeria: Prevalence and Predictors. *Journal of Family Violence*, 24(7), 517–530. <https://doi.org/10.1007/s10896-009-9250-7>
- Onu, D. U., Ugwu, D., & Orjiakor, C. T. (2019). Events centrality moderates the relationship between post-traumatic growth and health-related quality of life among people living with HIV. *Journal of the Association of Nurses in AIDS Care*, 30(6), 668–674. doi: 10.1097/JNC.0000000000000094.
- Overstreet, N. M., & Quinn, D. M. (2013). The Intimate Partner Violence Stigmatisation Model and Barriers to Help-Seeking. *Basic and Applied Social Psychology*, 35, 109-22. <https://doi.org/10.1080/01973533.2012.746599>
- Rife, S. C. (2009). Sexual Assault, Perceived Stigma, and Christian Fundamentalism: Understanding Support Seeking Among Victims. Electronic Theses and Dissertations. Paper 1886. <https://dc.etsu.edu/etd/1886>
- Roesch, E., Amin, A., Gupta, J., & García-moreno, C. (2020). Violence against women during covid-19 pandemic restrictions. *British Medical Journal*, 369:1–2. <https://doi.org/10.1136/bmj.m1712>
- Samios, C., Raatjes, B., Ash, J., Lade, S. L., & Langdon, T. (2020). Meaning in life following intimate partner psychological aggression: The roles of self-kindness, positive reframing, and growth. *Journal of Interpersonal Violence*, 35(7-8), 1567-1586. <https://doi.org/10.1177/0886260519898437>
- Sattler, D. N., Claramita, M., & Muskavage, B. (2018). Natural disasters in Indonesia: Relationships among post-traumatic stress, resource loss, depression, social support, and post-traumatic growth. *Journal of*

*Loss and Trauma*, 23(5), 351-365.  
<https://doi.org/10.1080/15325024.2017.1415740>

- Sörensen, J., Rzeszutek, M. & Gasik, R. (2021). Social support and post-traumatic growth among a sample of arthritis patients: Analysis in light of conservation of resources theory. *Current Psychology* 40, 2017–2025. <https://doi.org/10.1007/s12144-019-0131-9>
- Stangl, A.L., Earnshaw, V.A., Logie, C.H., Van Brakel, W., Simbayi, L.C., Barré, I., et al. (2019). The health stigma and discrimination framework: a global, crosscutting framework to inform research, intervention development, and policy on health-related stigmas. *BMC Medicine*, 17:18–23. <https://doi.org/10.1186/s12916-019-1271-3>
- Tagurum, Y. O., Chirdan, O. O., Obindo, T., Bello, D. A., Afolaranmi, O. T., Hassan, Z. I. & Yilgwan, C. (2015). Prevalence of Violence and Symptoms of Post-Traumatic Stress Disorder among Victims of Ethno-Religious Conflict in Jos, Nigeria. *Journal of Psychiatry*, 18:178. <https://doi.org/10.4172/2378-5756.1000178>
- Tanimu, T. S., Yohanna, S., & Omeiza, S. Y. (2016). The pattern and correlates of intimate partner violence among women in Kano, Nigeria. *African Journal of Primary Health Care and Family Medicine*, 8(1):6. <https://phcfm.org/index.php/phcfm/article/view/1209>
- Tedeschi, R. G. (1999). Violence transformed: Post-traumatic growth in victims and their societies. *Aggression and Violent Behavior*, 4: 319-341. DoI: 10.1016/S1359-1789(98)00005-6
- Tedeschi, R. G., & Calhoun, L. G. (2004). The foundations of post-traumatic growth: New considerations. *Psychological Inquiry*, 15: 93-102. [https://doi.org/10.1207/s15327965pli1501\\_03](https://doi.org/10.1207/s15327965pli1501_03)
- Ulloa, E., Guzman, M. L., Salazar, M., & Cala, C. (2016). Post-traumatic Growth and Sexual Violence: A Literature Review. *Journal of aggression, maltreatment & trauma*, 25(3), 286–304. <https://doi.org/10.1080/10926771.2015.1079286>
- Vishnevsky, T., Cann, A., Calhoun, L. G., Tedeschi, R. G., & Demakis, G. J. (2010). Gender Differences in Self-Reported Posttraumatic Growth:

A Meta-Analysis. *Psychology of Women Quarterly*, 34(1), 110-120.  
doi:10.1111/j.1471-6402.2009.01546.x

- Wright, K., Naar-King, S., Lam, P., Templin, T., & Frey, M. (2007). Stigma Scale-Revised: Reliability and Validity of a Brief Measure of Stigma for HIV+ Youth. *Journal of Adolescent Health*, 40(1), 96–98. DOI: 10.1016/j.jadohealth.2006.08.001
- Young, M. D. (2007). Finding meaning in the Aftermath of Trauma: Resilience and Posttraumatic Growth in Female Victims of Intimate Partner Violence. Graduate Student Theses, Dissertations and Professional Papers. 449. <https://scholarworks.umt.edu/etd/449>
- Yusuf, U. A., & Yahaya, S. S. (2014). Crime victims and criminal justice administration in Nigeria. *Global journal of interdisciplinary social sciences*, 3(5), 48-52.
- Žukauskienė, R., Kaniušonytė, G., Bergman, L. R., Bakaitytė, A., & Truskauskaitė-Kunevičienė, I. (2019). The role of social support in identity processes and post-traumatic growth: A study of victims of intimate partner violence. *Journal of Interpersonal Violence*. <https://doi.org/10.1177/0886260519836785>
- Zysberg, L., & Zisberg, A. (2020). Days of worry: emotional intelligence and social support mediate worry in the COVID-19 pandemic. *Journal of Health Psychology*. DOI: 10.1177/1359105320949935. [Epub ahead of print].

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