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The Limits to Cognitive Social Capital as a Protective Factor: Examining the Buffering Effects between Intimate Partner Violence and Depression among Congolese Refugee Women

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Abstract

Intimate partner violence (IPV) is the most common form of violence against women globally, with high prevalence rates among refugee communities. Previous literature indicates its relation to negative mental health outcomes such as depression and the potential help of social protective factors. The current study investigated the protective role of perceived social support (PSS) and cognitive social capital (CSC) on IPV and depression and functional impairment among Congolese refugee women residing in a Ugandan refugee settlement. Regression and moderation analyses were conducted on a sample with lifetime IPV experiences ($N = 328$) and a subsample with current IPV experiences ($n = 190$). Results indicated that lifetime IPV was linked to higher functional impairment while current IPV was associated with both higher levels of depression and functional impairment. PSS from friends showed a marginally significant buffering effect for lifetime IPV and functional impairment indicating a protective role, while CSC showed a marginally significant inverse effect for current IPV and functional impairment, acting as an additional risk factor. This study expands the literature on IPV social protective factors by applying it to a nuanced under-researched sample and highlighting the potential protective role of social support from friends among refugee women. Explanations on the inverse effect are linked to the cultural stigmatization of IPV within the community which can lead to isolation among women with high IPV severity. Limitations and future research suggestions are discussed.

Keywords: intimate partner violence, depression, functional impairment, perceived social support, cognitive social capital, refugee women

Glossary

CSC	Cognitive Social Capital
DDD	Digital Data Divide
DIGNITY	Danish Institute Against Torture
DRC	Democratic Republic of Congo
GLM	General Linear Model
IPV	Intimate Partner Violence
MHPSS	Mental Health and Psycho-Social Support
PSS Family	Perceived Social Support from Family
PSS Friends	Perceived Social Support from Friends
SGBV	Sexual and Gender-Based Violence

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Refugees worldwide are exposed to traumatic situations before and after displacement, causing them to experience a high frequency of mental disorders such as depression (Vallejo-Martín et al., 2021). The prevalence of major depressive symptoms among refugee women was 32.5%, significantly higher than the 14.5% found among native women (Rees et al., 2019). It has been argued that this is due to refugee women being highly vulnerable to sexual and gender-based violence (SGBV) such as intimate partner violence (IPV) (WHO, 2012). IPV is particularly prevalent in refugee camps and has been linked to an increased risk of mental health problems due to the low-resource setting, little to no professional help and lack of safe spaces (Greene et al., 2019; Pittaway & Rees, 2006). Among a sample of refugee women from the Democratic Republic of Congo, IPV victims reported a 65% depression prevalence rate while non-IPV victims reported 31% (Greene et al., 2021).

Given the negative consequences of IPV, researchers investigated the role that social protective factors can play in buffering this negative effect. This line of studies indicates that the availability of social resources can decrease the influence IPV has on mental health problems such as depression (Coker et al., 2003; Ogbe et al., 2020). However, this has not been applied to a sample of refugee women residing in a refugee settlement. That is the research gap this research aims to fill. Precisely, the current research will investigate the moderating effect of perceived social support (PSS) and cognitive social capital (CSC) on the relationship between IPV and mental health difficulties, i.e., depression and functional impairment, among a sample of Congolese refugee women living in a Ugandan refugee settlement.

The following research was based on data previously collected by the Danish Institute Against Torture (DIGNITY) in the Kyaka II settlement in southwestern Uganda as part of their international rehabilitation programmes. A prior report conducted amongst a representative sample of the entire refugee population ($N = 713$; 398 women, 315 men) focused on surveying trauma exposure and mental health difficulties (Lambert & Denis-Ramirez, 2022). Preliminary data from this report indicated a high number of IPV among women currently residing with or married to their partners (72%) (Lambert & Denis-

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Ramirez, 2022). Additionally, the report highlighted PSS from family, friends and CSC as significant protective factors for depression and suicide ideation in the overall population (Lambert & Denis-Ramirez, 2022). This study expanded the report by narrowing down on IPV and testing the applicability of the social protective factors proven effective amongst the general population within a sample of IPV victims.

This study is socially significant as it provides insight into social protective factors that can alleviate mental health problems among refugee women and help guide more effective intervention strategies. Additionally, it focuses on the often-overlooked issue of IPV among refugee women and its intersection with further displacement trauma. Bringing awareness to such gendered vulnerabilities highlights the need for safe spaces and resources to assist abused women within refugee settlements. Lastly, this study included refugee women currently experiencing IPV and residing with their abusive partners providing a unique and highly significant view into IPV when compared to previous studies that mainly focused on lifetime or recent IPV.

Intimate Partner Violence and Depression

IPV is globally the most common form of violence against women and can be found among all socioeconomic, cultural, and religious sectors (WHO, 2012). It refers to the physical, psychological, and sexual abuse caused by an intimate partner (WHO, 2012). It was calculated that, globally, 30% of women aged 15 and above had experienced some form of intimate partner violence in their lifetimes (Devries et al., 2013). IPV has been linked to adverse physical and mental health concerns, such as minor and severe depressive symptoms, chronic physical and somatic illnesses, and lower mental and social functioning (Bonomi et al., 2006; Coker et al., 2003). Due to this, IPV is considered an endemic public health issue and a violation of women's human rights, which calls for societal efforts to research and alleviate IPV issues around the world (WHO, 2012).

Countless studies have established a relationship between IPV and depression. The World Health Organization (WHO) has reported that women with IPV experiences are more than twice as likely to endure depression when compared to those who have never experienced IPV (WHO, 2013). A meta-analysis found a mean prevalence rate of 47.6% of depression among abused women, which is significantly higher than the 10.2% to 21.4% range found among a general population on a lifetime basis (Golding, 1999). More recently, a systematic review investigated a cross-cultural analysis of the relationship between IPV and

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depression, including samples of refugees and found a significant relationship in all studies included (White & Satyen, 2015). Additionally, a longitudinal study confirmed that women who had experienced IPV at the beginning of the study were more likely to have more severe depressive symptoms five years later (Zlotnick et al., 2006). This provides support for both a correlational and causal relationship between IPV and depression, and support for correlational data among refugee populations.

Functional Impairment due to Depression

A factor related to depression is the functional impairment experienced due to the presence of depressive symptoms. Functional impairment refers to how depression interferes with daily life and behaviourally affects the ability to work and socialize. A longitudinal study depicted that women with IPV experiences showed higher rates of functional impairment than women without IPV experiences five years down the line (Zlotnick et al., 2006). Other studies capture this phenomenon in more specific categories such as difficulties in maintaining employment, completing education, academic engagement, and social participation with friends and family (Borchers et al., 2016; Klencakova et al., 2023; Netto et al., 2017).

While both concepts are closely connected, they grasp alternative scopes of depression which do not necessarily coincide. According to a literature review on the commonality of depression and functional impairment, the relationship between both is unexpectedly weak as often changes in function are not related to changes in symptoms (McKnight & Kashdan, 2009). Therefore, it is claimed that mental disorder research would benefit from the inclusion of both functional and symptom aspects of depression to capture the full picture and provide better treatment (McKnight & Kashdan, 2009). Literature focusing solely on depressive symptoms can disregard the daily life interference faced especially among vulnerable populations such as refugees with a higher prevalence of depression. Following this, the study at hand investigated both depressive symptoms and functional impairment to avoid overlooking either mental health outcome.

The Context of IPV: Timing and Living Status

Two other important contextual factors to consider when researching IPV are timing and living status. Depressive symptoms among abused women differ significantly depending on the timing of the IPV experiences. The increased risk of poor mental health outcomes was present among women with remote IPV experiences but was significantly less pronounced

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when compared to those with recent IPV experiences (Bonomi et al., 2006). This factor of IPV timing was found to be more relevant than IPV exposure duration when predicting depression (Bonomi et al., 2006). Additionally, the living situation of IPV victims has an impact on the link between IPV and depression as living with an abusive partner can limit access to safe spaces and coping resources (Cravens et al., 2015). Acknowledging the importance of these factors, differences in timing and living status were considered in this study.

Social Protective Factors

Social Support

The Stress Process model by Pearlin et al. (1981) was the first model to capture the interconnections between three major conceptual spheres: the sources of stress, the buffers of stress and the manifestations of stress. It relied on longitudinal data to understand the impact of stressful circumstances on health and buffering mechanisms present that could alleviate said impact (Pearlin et al., 1981). Particularly, this model used depression and life events as an example, explaining that life stressors can lead to an increased risk in depression (Pearlin et al., 1981). Additionally, this model highlighted the indirect effect social support can have on life stressors and depression, acting as a protective factor to buffer the effect of negative life events on depression (Pearlin et al., 1981). Israel and Schurman (1990) applied this model to the relationship between IPV and mental health. This framework implies that health is negatively influenced by chronic stressors such as IPV and that this relationship is modified by social support among other communal factors (Israel & Schurman, 1990).

The Stress Process model and Israel and Schurman's application have backboned many contemporary studies on IPV and social support in a multitude of contexts, confirming the protective mechanism of social support between IPV and mental health difficulties. A study with 1152 women aged 18 to 65 with IPV experiences showed that higher levels of social support were related to a lower risk of poor perceived mental and physical health, anxiety, depression, posttraumatic stress, and suicide attempts (Coker et al., 2002). Likewise, a further study found that abused women with reports of low or moderate social support were more likely to be depressed when compared to those who reported high social support (Mburia-Mwalili et al., 2010). Specifically, Israel and Schurman's framework capturing social support as a moderator was tested and found that social support had the ability to reduce the negative impact of IPV on mental health by acting as a buffer (Coker et al., 2003).

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Similar results were found by Beeble et al. (2009) that investigated this relationship over a 2-year time span. Social support showed main negative effects on depression as well as moderating effects between IPV and depression (Beeble et al., 2009). Precisely, they found the protective effect to be the strongest among those with low levels of abuse (Beeble et al., 2009). In a similar vein, a systematic review focused on improving social support access for IPV victims indicated that these interventions showed good to moderate positive impact on the mental health of victims (Ogbe et al., 2020). These findings across diverse and rigorous research designs commonly illustrate that social support plays a protective role in the relationship between IPV and depression among the general population, highlighting its importance for IPV victims.

The significant results of social support have also been replicated among many diverse samples including Mexican, Portuguese, South African and Chinese women as well as Black Transgender individuals in the US (Bukowski et al., 2019; Costa & Gomes, 2018; Machisa et al., 2018; Navarrete et al., 2021; Wong et al., 2011). However, an emphasis has been placed on refugee and migrant populations as they experience low social support and thus, are also more likely to be exposed to IPV (Teng et al., 2014). A further analysis of refugees affected by IPV in the US explained how the lack of social support post-displacement affected the perception of help available to them, leading to greater mental health difficulties (Wachter et al., 2021). Intervention recommendations to aid distress and IPV among refugees highlighted the need to create community-based programs that increase social support and in turn, well-being (Teng et al., 2014; Wachter et al., 2021). This has even been recommended in research among Congolese women in a refugee camp in Tanzania investigating interventions that could help IPV victims (Greene et al., 2019, 2022; Tol et al., 2017). Nevertheless, no study has specifically investigated and confirmed the role of social support as a moderator among refugee women residing in a refugee settlement with IPV experiences. Hence, the current study aims to expand Israel and Schurman's moderation model to a vulnerable population of refugees.

Cognitive Social Capital

Social Capital Theory is a multi-dimensional theory that conceptualizes one's association with social networks, the availability of social resources, and the sense of belonging that subsequently arises (Ehsan et al., 2019). There are two schools of thought for social capital. Firstly, the network approach pioneered by Bourdieu (1986) sees social capital

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as a quantifiable measure of one's social networks and the size of capital one has available through one's social network (Lin, 1999). The second approach, known as the cohesion approach by Coleman (1988), defines social capital as the amount of trust and reciprocity in one's community, emphasizing cooperation between community members and groups (Putnam, 1995). Typically, contemporary definitions of CSC capture both schools of thought but on a purely cognitive-individual level as it refers to one's perception of social capital (Ehsan et al., 2019). In this study, CSC aligned more with Coleman's (1988) and Putnam's (1995) cohesion approach, focusing on the perception of community trust and cooperation.

Previous research on social capital and CSC suggests a positive impact on physical and mental well-being as it provides individuals with access to more social, financial, and tangible resources (Ehsan & De Silva, 2015; Ehsan et al., 2019). Prior literature has specifically indicated that it can aid mental health problems such as depression (Wind et al., 2021). Additionally, the positive effect of social cohesion on the emotional well-being of refugees has been highlighted as it provides resources from a close-knit network and a sense of normality (Habib et al., 2020; Villalonga-Olives et al., 2022).

Social capital and CSC also serve as protective factors for victims of IPV (Voith et al., 2021). This is because emotional intimate partner abuse may include perpetrators isolating their partners from formal and informal social networks to increase their psychological control (Waldrop & Resick, 2004). Given this, many IPV interventions highlight the importance of victims using their social capital to reach support from community members and access information on professional IPV help (Sullivan & Gillum, 2001). Similarly, a study among Hispanic women showed that low resource availability worsened the relationship between IPV and depression (González-Guarda et al., 2009). No prior study has combined all three variables in question and tested the buffering effect of CSC on the relationship between IPV and depression among a sample of refugee women.

Controlling for Other Risk Factors for Depression

This study focused on examining mental health difficulties based on one specific risk factor for depression. However, refugees experience a multitude of risk factors before, during, and after displacement that could lead to psychological disorders such as depression (Rees et al., 2019; Vallejo-Martín et al., 2021). To make sure that the depression measured within this study can be linked to solely IPV severity, several covariates were controlled for. Specifically, these variables have been highlighted as being significant predictive factors of

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depression among all residents of the settlement in a previous report (Lambert & Denis-Ramirez, 2022). These are 1) adjusting to life in the settlement, 2) facing discrimination for being a refugee, 3) past traumatic experience of being harassed by armed personnel, 4) past traumatic experience of being raped, and 5) past traumatic experience of being imprisoned.

The Present Study

The present study investigates whether PSS and CSC moderate the relationship between IPV and depression and functional impairment due to depression among Congolese refugee women residing in a refugee settlement in Uganda. Additionally, it examines whether these moderations differ when comparing lifetime and current IPV experiences and what influence living with an abusive partner has. It proposes the following hypotheses:

H1: Refugee women with greater IPV severity will have higher rates of depression and functional impairment when compared to those with lower IPV severity and no IPV experiences. This will be the case for both lifetime and current IPV severity.

H2: Both PSS and CSC will moderate the relationship between IPV severity and both depression and functional impairment such that refugee women with higher PSS and CSC will have lower rates of depression and functional impairment. This will be the case for both lifetime and current IPV severity.

H3a: The relationship between current IPV severity and depression and functional impairment will be stronger than that between lifetime IPV severity and depression and functional impairment.

H3b: The moderation effect of PSS and CSC will be stronger on the relation between current IPV severity and depression and functional impairment than on the relation between lifetime IPV and depression and functional impairment.

H4: The moderation effects of PSS and CSC on IPV severity and depression and functional impairment will differ depending on living status, such that PSS and CSC will have a stronger moderating effect among women currently living with their abusive partners than living apart.

Method

The data used to carry out this research had been previously collected by DIGNITY and the Kenyan-based company Digital Data Divide (DDD) in collaboration with the African Centre for Treatment and Rehabilitation of Torture Survivors (ACTV), Christian Blind Mission (CBM), and the School of Psychology at Makerere University in Uganda. This

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pertains to non-identifiable quantitative data collected in randomly selected zones in the Kyaka II refugee settlement in southwestern Uganda. Ethical approval was obtained from the Makerere University School of Social Sciences Research Ethics Committee and the Uganda National Council on Science and Technology, and permission to conduct research in the settlement was obtained from the Uganda Office of the Prime Minister.

Participants

The original data set included the responses of 713 refugees residing in the Kyaka II settlement out of which 370 met the inclusion criteria of being adult women from the Democratic Republic of Congo ($N = 370$). Additionally, 42 participants were excluded from the analysis because they refused to answer in general ($n = 32$) or one or more specific items ($n = 10$), resulting in a final sample of 328. Most of the sample at hand had resided in the settlement for less than 5 years, with an average of two years (Lambert & Denis-Ramirez, 2022). The average age group was 26 to 34 years (28.6%), shortly followed by 18 to 25 (25.9%). Approximately 59% had no education, 64% were illiterate and 95% were unemployed. Additionally, more than 96% had children with an average of 4 ($M = 3.98$, $SD = 2.44$).

Measurements

The study utilized existing scales which were translated to Congolese Kiswahili by a professional translation company. Furthermore, five Mental Health and Psychosocial Support (MHPSS) providers at the settlement reviewed, field tested and adjusted questions based on relevance to the settlement.

Intimate Partner Violence

IPV was measured using eleven selected items of the thirteen-item WHO Partner Violence Instrument (García-Moreno et al., 2005). This scale was developed and validated in ten different countries in the Global South (Gracia-Moreno et al., 2005). Participants were asked whether (yes/no) their partner had perpetrated specific items of abuse (e.g., “kicked you, dragged you or beaten you up”) (see Appendix A for full scale). Originally, six items referred to physical abuse out of which two were considered moderate and four severe. Four items referred to emotional and three items measured sexual violence. Two out of the three sexual violence items were excluded from this data collection as they were considered too sensitive and triggering to ask. The total eleven items included had an excellent reliability score, i.e., Cronbach’s alpha of .94 for this sample.

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Depression and Functional Impairment

Depression was assessed with the fifteen items assessing depressive symptoms of the Hopkins Symptom Checklist-25 (HSCL-25) (e.g., “feeling hopeless about the future”; see Appendix B for full scale) (Derogatis et al., 1974). This depression checklist correlates to major depression defined by the Diagnostic and Statistical Manual of the American Psychiatric Association, IV Version (DSM-IV) and has been commonly used among refugee populations (Suhaiban et al., 2019). Participants were asked to respond based on the past two weeks with a four-point Likert scale ranging from 1 (*not at all*) to 4 (*extremely*), a higher average score indicating more depressive symptoms. Among this sample, the fifteen items had an excellent Cronbach’s alpha of .93.

Four additional items were used to assess functional impairment, meaning to what extent these symptoms interfered with daily life. These questions included 1) family relationships, 2) relationships with people outside of family, 3) ability to complete daily tasks at home or work outside of home, and 4) ability to participate in community activities. Here, a higher average score indicated more functional impairment. The Cronbach’s alpha of these four items was .78, showing an acceptable reliability score.

Perceived Social Support

The level of social support participants perceived was measured using two questions from the Family and Social Support I (FSS I) and two questions from the FSS II questionnaires, focusing on family and friends respectively (Rees et al., 2019). Here, it was emphasized to focus on the community they have in Uganda. The questions were as follows: “How many family members/friends can you confide in about a serious problem?” and “How many family members/friends can you rely on for a serious problem?”. In this sample, the two items for family showed an excellent reliability score of .93 using Spearman-Brown reliability analysis. The same items for friends had a questionable reliability score of .68.

Cognitive Social Capital

Participants’ CSC was evaluated using four questions on their perception of their current community. The questions were: “In general, can the majority of people in this community be trusted?”, “Do the majority of people in this community generally get along with each other?”, “Do you feel as though you are really a part of this community?” and “Do you think that the majority of people in this community would try to take advantage of you if they got the chance?”. Participants answered with a 5-point Likert scale ranging from 0 (*not*

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at all) to 4 (*extremely*). The last question was coded reversely and an average of all four items was taken, with a higher rating indicating more CSC. The four questions had a questionable Cronbach's α of .66 in this sample.

Relationship and Living Status

Lastly, the relationship and living status of participants was asked using the following categories: a) currently married and living with their spouse ($n = 158$), b) currently married and not living with their spouse ($n = 31$), c) living with a partner but not married ($n = 1$), d) single ($n = 50$), or e) widowed ($n = 88$). Those belonging to options a), b) and c) make up the subsample of individuals in a current relationship with the potential of currently experiencing IPV ($n = 190$). Similarly, groups a) and c) make up those residing with a partner ($n = 159$) while those with option b) do not ($n = 31$). This difference is used to determine which individuals are currently living with their abuser.

Control Variables

The control variables included in this study stem from the Current Life Difficulties questionnaire and the List of Traumatic Events questionnaire (Lambert & Denis-Ramirez, 2022). The Current Life Difficulties questionnaire includes 5 questions asking to what extent the following are difficult in their life: a) "getting enough food for yourself and your family", b) "accessing clean water", c) "having sufficient shelter", d) "adjusting to life in the settlement", and e) "being discriminated against for being a refugee". This was answered with a 4-point Likert scale ranging from 0 (*no problem*) to 3 (*very serious problem*). Of these 5 items on item d) and e) were found to be significant risk factors for depression (Lambert & Denis-Ramirez, 2022). Furthermore, the List of Traumatic Events questionnaire included 29 items each describing a traumatic situation, for example being close to a bomb attack (see Appendix C for full list). Participants were asked to answer with yes or no indicating whether they had experienced such an event. Here, three items on a) experiencing harassment by armed personnel, b) having been raped, and c) having been imprisoned were shown to be relevant risk factors for depression (Lambert & Denis-Ramirez, 2022). These five variables were included as control variables in all models.

Procedure

Data collection was conducted by ten local enumerators (five men, five women) working at DDD's Kampala office. They received a three-day training and were bilingual in English and Kiswahili. Five out of nine zones in the settlement were randomly selected and

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systematic random sampling was used by requesting participation at every sixth dwelling within the zones. Primarily the head of household was requested but if unavailable, the spouse or other eligible adult was surveyed. Data collection occurred during day time between the 11th and 26th of November, 2020 and included verbally administered surveys recorded digitally on tablets. Informed consent was obtained, and participants were told they could withdraw responses anytime. Participation had no compensation. The survey included demographic information (age, relationship status, education, place of residence prior to settlement, etc.) followed by questionnaires on adversity, trauma exposure, mental health and personal and social coping.

Data Analysis

The dataset was analysed using SPSS version 28 and PROCESS macro version 4.2 for SPSS (Hayes, 2013). Prior to the main analysis, a cluster analysis was conducted using hierarchical and k-means clustering methods that grouped together participants with similar variety in IPV experiences to establish a hierarchy of IPV severity. The mixture of both clustering methods has been most commonly and effectively used in psychological health difficulties research (Clatworthy et al., 2007). To examine *H1*, linear regression models were created to test the relationship between IPV and depression and functional impairment. *H2* was tested using the moderation analysis on PROCESS, including PSS Family, PSS Friends or CSC as moderators. These hypotheses will be tested among the entire sample of Congolese women in the settlement ($N = 328$) and a subsample only including women who were in current relationships ($n = 190$). To examine *H3a* and *H3b*, the relevant effect sizes obtained from the above linear regression analyses and moderation analyses among both samples were compared. Lastly, *H4* was tested with a moderated moderation analysis on PROCESS, including Living Status as the additional moderating moderator. This analysis was conducted only among those with current IPV experiences within their current relationship ($n = 148$).

Results

A priori assumption examinations showed neither significant violations nor outliers. For all models described below, adjustment to settlement, discrimination as a refugee and past experiences of harassment by armed personnel, rape and imprisonment were included as covariates to control for their influence on depression and functional impairment. Descriptive statistics and correlations between the study variables are available in Table 1 and 2.

Table 1*Descriptive Statistics of the Study Variables*

Measure	<i>M</i>	<i>SD</i>	Min	Max
IPV (WHO Partner Violence)	1.37	1.14	0.0	3.0
Depression (HCL-25)	2.83	0.68	1.0	4.0
Functional Impairment	2.27	0.75	1.0	4.0
PSS Family (FSS I)	2.62	1.56	0.0	4.0
PSS Friends (FSS II)	1.61	1.07	0.0	4.0
CSC	1.69	0.86	0.0	3.75

Note. $N = 328$.**Table 2***Correlation Matrix between the Study Variables*

	1	2	3	4	5	6
1. IPV	—					
2. Depression	.12*	—				
3. Functional Impairment	.18**	-.69**	—			
4. PSS Family	-.03	.04	-.01	—		
5. PSS Friends	.01	-.10	-.11	-.03	—	
6. CSC	-.10	-.27**	.21**	-.22**	.23**	—

Note. $N = 328$; Pearson's Correlation (2-tailed); * $p < .05$. ** $p < .01$.**IPV Severity Cluster Analysis**

All participants who had reported no form of IPV experiences were grouped together as “Group 0” ($n = 98$). The remaining 230 participants with at least one form of IPV experience were entered into a hierarchical cluster analysis using Ward's Method, which emphasized the output of equally sized groups. At distance 5, the dendrogram indicated a clustering of three groups which was then entered in a K-means clustering analysis. This created “Group 1” ($n = 86$) which had its final cluster centres in only two emotional abuse items, “Group 2” ($n = 69$) which included all emotional abuse, all moderate physical abuse and two severe physical abuse items, and “Group 3” ($n = 75$) which clustered together those having experienced almost all forms of IPV including sexual violence and severe physical

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abuse (Appendix A). These four groups were used as the final independent variable capturing 4 levels of IPV severity, a higher group number indicating more IPV severity.

Lifetime IPV

Relationship with Depression and Functional Impairment

A general linear model (GLM) was conducted to examine the relationship between lifetime IPV severity and depression among the entire sample of Congolese refugee women ($N = 328$). The results showed no significant findings, $F(1, 321) = 2.12, p > .05$, meaning that there was no relationship between IPV severity and depression. A parallel GLM was run that included functional impairment as the dependent variable. The results indicated that there was a significant relationship between IPV severity and functional impairment, $F(1, 321) = 8.79, p < .01$, with an effect size of $\eta_p^2 = .027$.

To understand this relationship better, the model was rerun with IPV severity as a categorical variable which also showed a significant relationship, $F(3, 319) = 3.16, p < .05$, $\eta_p^2 = .029$. The post hoc analysis indicated that only Group 3 was significantly different from both Group 0 and Group 1. No other pairs were significantly different from each other (see Appendix D for means and mean differences). This indicates that those with the highest level of IPV severity also experienced higher functional impairment in daily life when compared to those with no IPV experiences or low IPV severity.

Buffering Effects among Lifetime IPV

Following, three moderation analyses were run on the relationship between IPV severity and depression focusing on 1) PSS Family, 2) PSS Friends, or 3) CSC as the moderators among the entire sample ($N = 328$). All moderation analyses showed no significant interactions between IPV severity and PSS/CSC (see Appendix E for non-significant results). Three parallel moderation analyses were run on the relationship between IPV severity and functional impairment. The interaction effects for PSS Family and CSC were non-significant. However, the interaction of IPV severity and PSS Friends showed a marginally significant effect on functional impairment, $\beta = -.06, t(319) = -1.86, p = .063$, with an R^2 change of .009.

The post hoc analysis for the conditional effects indicated that the magnitude of the effect of IPV severity on functional impairment decreased the more PSS Friends increased, to the extent that there was no effect among those with high PSS Friends (see Figure 1). Specifically, at low PSS Friends, every IPV severity group higher increased .16 units of

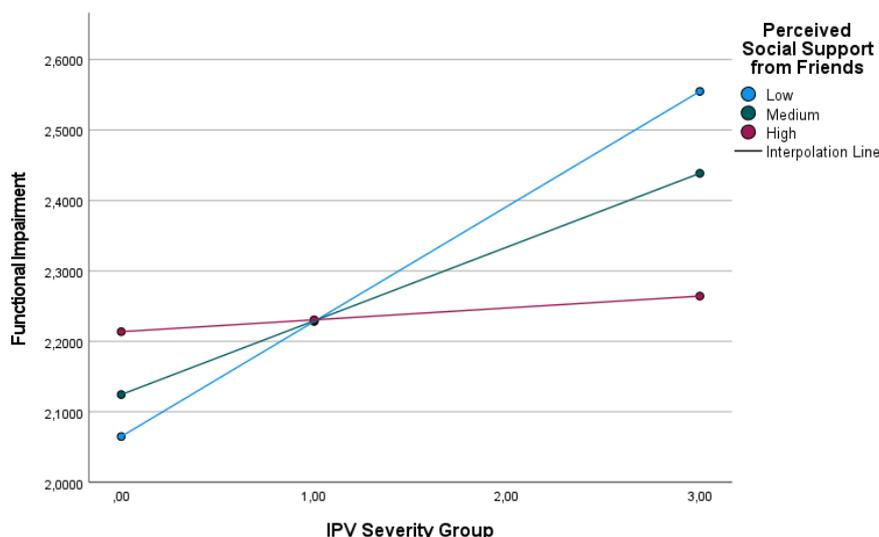
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functional impairment, $\beta = .163$, $t(319) = 3.42$, $p < .001$. At medium PSS Friends, every IPV Severity Group higher increased .10 units of functional impairment, $\beta = .105$, $t(319) = 3.1$, $p < .001$, and at high PSS Friends, there was no significant relationship between IPV severity group and functional impairment, $\beta = .017$, $t(319) = .3$, $p > .05$.

To determine exactly at which point the relationship between IPV severity and functional impairment is no longer significant, a Johnson-Neyman significance test was run. This test showed that the last point at which the relationship is significant is at a value of 2.05 PSS Friends, $t(319) = 1.98$, $\beta = 0.07$, $p = .05$, and that a score of PSS Friends higher than 2.05 lead to a non-significant relationship between IPV severity and functional impairment. This means that if one has on average more than 2 friends to confide in and rely on, IPV is no longer a risk factor for functional impairment and thus, works as a protective factor against lifetime IPV. However, when having less than 2.05 of PSS Friends, each unit of extra PSS Friends leads to a less positive relation between IPV and functional impairment. This means that the more PSS friends one has, the less does experiencing IPV lead to functional impairment with daily life. For example, when having 0 friends one can rely on, $t(319) = 3.21$, $\beta = 0.19$, $p < .001$, the effect of IPV severity on functional impairment is bigger than when one has one friend, $t(319) = 3.5$, $\beta = 0.13$, $p < .001$, or two friends, $t(319) = 2.08$, $\beta = 0.08$, $p < .05$, to rely on and confide in. Therefore, the higher PSS Friends is, the weaker the relationship is between IPV severity and functional impairment until there is no longer a positive relationship.

Figure 1

Interaction of IPV Severity Group and PSS from Friends on Functional Impairment



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Note. $N = 328$; At IPV severity Group 1, there is no effect of PSS Friends on functional impairment. However, at IPV severity Group 2 and 3, the different levels of PSS Friends indicate different ratings of functional impairment with higher PSS relating to lower functional Impairment. Specifically, at IPV severity Group 3 the differences between the PSS Friends levels are greatest, indicating a strong protective mechanism among women with high IPV.

Current IPV

Relationship with Depression and Functional Impairment

Similarly, two further GLMs were run to test the same relationships between current IPV severity and firstly, depression, and secondly, functional impairment among the smaller sample of women in a current relationship ($n = 190$). The first showed that there was a significant relationship between current IPV severity and depression, $F(1,183)=10.14$, $p < .01$, with an effect size of $\eta_p^2 = .052$. When IPV severity is entered as a categorical variable, the relationship remained significant, $F(3,181) = 4.99$, $p < .01$, $\eta_p^2 = .076$. Additionally, the two groups with lower IPV severity were not significantly different from each other but were significantly different from the two groups with higher IPV severity, and vice versa (Appendix D).

The second GLM which focused on functional impairment as the outcome also showed a significant relationship with IPV severity, $F(1,183)= 6.68$, $p < .05$ with an effect size of $\eta_p^2 = .035$. Similar results were found when IPV severity was examined as a categorical variable, $F(3,181)= 3.87$, $p < .01$, $\eta_p^2 = .060$. This post hoc analysis resulted in the two higher groups being significantly different from Group 1 and Group 0 being significantly different from Group 2. Additionally, like the analysis with depression, both lower IPV severity groups and both higher IPV severity groups were not different from each other (Appendix D).

Buffering Effects among Current IPV

The six parallel moderation analyses were run on the relationship between IPV severity and depression and between IPV severity and functional impairment among the smaller sample of Congolese women in a current relationship ($n = 190$). All moderation analyses between current IPV severity and depression showed no significant interactions, and the moderation tests of PSS Family and PSS Friends on current IPV severity and functional impairment resulted in no significant interactions (Appendix E). Nevertheless, the interaction

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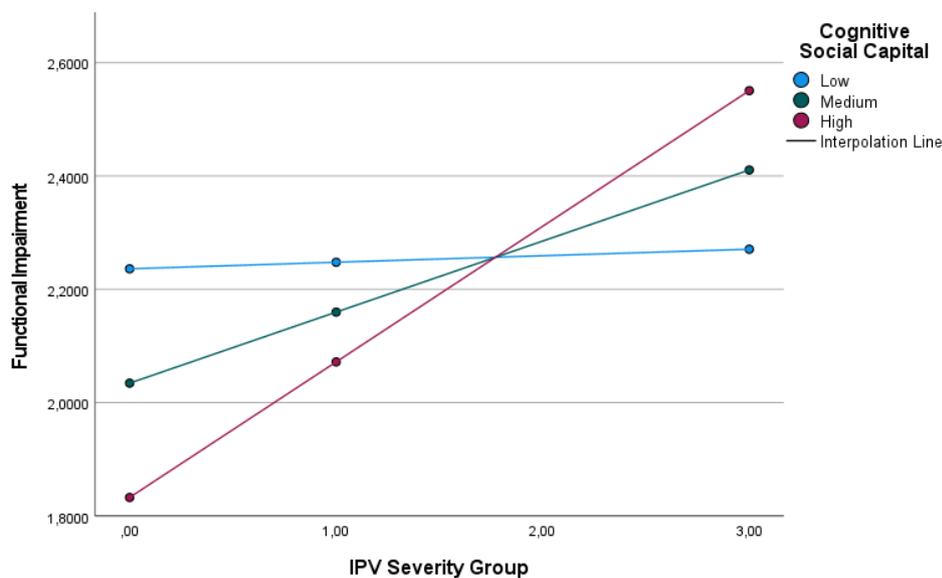
of IPV severity and CSC had a marginally significant effect on functional impairment, $\beta = .11$, $t(181) = 1.9$, $p = .059$, with an R^2 change of .016.

The post hoc analysis illustrated the effect of CSC at low, medium, and high CSC levels (see Figure 2). At a high level of CSC, a unit increase in the IPV severity group was associated with an increase of .24 units of functional impairment, $\beta = .24$, $t(181) = 3.11$, $p < .01$. At medium CSC, an increase in IPV severity group was associated with increased .15 units of functional impairment, $\beta = .13$, $t(181) = 2.44$, $p < .05$, and at low CSC, there was no significant relationship between IPV severity group and functional impairment, $\beta = .01$, $t(181) = .14$, $p > .05$. This, along with the positive interaction coefficient showed that the positive relationship between IPV severity group and functional impairment becomes stronger the more CSC someone has.

The Johnson-Neyman significance test showed that the first point at which the relationship is significant is at a value of 1.57 of CSC, $t(181) = 1.97$, $\beta = 0.11$, $p = .05$, and that a CSC of lower than 1.57 leads to a non-significant relationship between IPV severity and functional impairment. This means that if one has a score of 1.57 of CSC or lower, IPV is no longer a risk factor for functional impairment. However, when having more than 1.57 of CSC, each extra unit of CSC lead to a stronger positive relationship between IPV and functional impairment. This indicates that the higher CSC is, the more does experiencing IPV lead to functional impairment in daily life.

Figure 2

Interaction of IPV Severity Group and CSC on Functional Impairment



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Note. $N = 328$; At IPV severity Group 1, the different levels of CSC relate to different ratings of functional impairment, with higher CSC relating to lower functional impairment. However, among IPV severity Group 2 and 3, higher CSC relates to higher functional impairment, acting as risk factor rather than a protective factor.

Differences between Lifetime and Current IPV

A significant relationship was found between current IPV and depression while this was not the case for lifetime IPV. Additionally, the effect size for IPV experiences on functional impairment was slightly greater regarding current IPV experiences (.035) than regarding lifetime IPV experiences (.027). Furthermore, a marginally significant protective factor was found for lifetime IPV while no protective factor but rather a risk factor was found for current IPV.

Influence of Living Status on Buffering Effects

Lastly, a total of six moderated moderation analyses were run to investigate whether the variable of living status moderated the moderation examined above. This was only tested among those women currently experiencing IPV ($n = 148$). All six moderated moderation analyses produced non-significant results (Appendix E). This indicated that living status had no interacting effect on whether the hypothesized protective factor worked differently among those living with their abusive partner when compared to those not living with their abusive partner.

Discussion

The current study aimed to examine the relationship between IPV and both depression and functional impairment, as well as the role that PSS and CSC play therein. Additionally, it investigated how differences in IPV timing (current vs lifetime) and living situations (with abuser vs without) can alter the effects of these factors. The findings of this study confirmed that both experiences of current and lifetime IPV were related to higher depressive functional impairment while only current IPV was related to higher depressive symptoms. Furthermore, PSS from friends preliminarily indicated a promising protective mechanism for lifetime IPV and functional impairment. However, unexpectedly, CSC seemed to function rather as a risk factor than a protective factor in the relationship between current IPV and functional impairment. In the following section, these findings, linking limitations and future research suggestions are discussed.

IPV, Depression & Functional Impairment

Firstly, this research proposed that there would be a positive relationship between both lifetime and current IPV experiences and depression and functional impairment (*HI*). This hypothesis was partially confirmed as a significant relationship was found between lifetime IPV severity and functional impairment but not depression. Here, Group 3, the group with the most IPV severity, had a significant difference between those with low IPV severity (Group 1) and those without (Group 0), illustrating how risky high levels of IPV are on mental health function impairment. Furthermore, current IPV had a significant relationship between both depression and functional impairment. It also illustrated that the two groups with low IPV severity differed from the two groups with high IPV severity for depression and functional impairment.

The Need to Differentiate between Depression and Functional Impairment

Previous research finds the relationship between IPV and depression to be prominent (Bonomi et al., 2006; Coker et al., 2003; Golding, 1999; Ogbe et al., 2020; Zlotnick et al., 2006), also among refugee populations (White & Sayten, 2015). Therefore, the findings for current IPV are expected while lacking this finding for lifetime IPV goes against prior literature. Nevertheless, it could be explained based on the depression measurement. HCL-25 focuses on depressive symptoms rather than depressive behaviour acted out in relation to said symptoms (Derogatis et al., 1974). Depressive behaviour is more prominently captured by the four functional impairment questions. On the contrary, the meta-analysis by Golding (1999) and the systematic review by White and Satyen (2015) mainly included studies using the Beck's Depression Inventory (BDI) and the Center for Epidemiologic Studies Depression Scale (CES-D) which have items on both depressive symptoms and depressive behaviour, more related to functional impairment. It is possible that IPV is mainly related to the depressive behaviour items in those scales and therefore not captured by the HCL-25.

Alternatively, examining depression based on one specific risk factor such as IPV among refugees is highly difficult due to the multitudes of other traumatic events they have experienced contributing to higher rates of depression overall (Rees et al., 2019; Vallejo-Martín et al., 2021). Given this, the model controlled for five variables suggested to be significant predictors of depression (Lambert & Denis-Ramirez, 2022), all factors that may have had a stronger relationship with the onset of depressive symptoms while lifetime IPV mainly impacted the way depressive symptoms interfere with everyday behaviour. This

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differentiation between depression and functional impairment is highly plausible and requires the inclusion of both outcome variables.

Finding a significant relationship between lifetime IPV and functional impairment but not depression strongly aligns with McKnight and Kashdan's (2009) claim that depression and functional impairment lack commonality as generally assumed. Zlotnick et al. (2006) followed this advice in their study and therefore, were able to find similar but not the same results for depression and functional impairment when it comes to IPV exposure. This study provides new evidence for McKnight and Kashdan's (2009) claims among a nuanced sample of refugee women with multiple risk factors for depression and functional impairment alongside IPV.

Protective Factors for Lifetime IPV

The second hypothesis tested the buffering role PSS and CSC had on both lifetime and current IPV and depression and functional impairment. It was predicted that refugee women with higher PSS and CSC would have lower rates of depression and functional impairment (*H2*). For lifetime IPV, this hypothesis was largely not confirmed as only PSS from friends showed to have a marginally significant influence on the relationship between lifetime IPV and functional impairment while all other interactions had no effect.

PSS from friends illustrated a protective mechanism within this relationship as women with higher levels of PSS from friends reported lower levels of functional impairment, especially when being exposed to severe IPV. This is in line with Israel and Schurman's (1990) application of Pearlin et al.'s (1981) Stress Process model on IPV and Coker et al.'s (2003) findings of social support as a moderator as well as many prior empirical studies examining this in various cultural contexts and research designs (Beeble et al., 2009; Bukowski et al., 2019; Coker et al., 2002, 2003; Costa & Gomes, 2018; Machisa et al., 2018; Mburia-Mwalili et al., 2010; Navarrete et al., 2021; Ogbe et al., 2020; Wong et al., 2011). Thus, marginally significant results for this protective factor are in line with previous literature but expand the model's applicability to a new population. Precisely, this also brings support to studies by Teng et al. (2014) and Wachter et al. (2021) focusing on the importance of social support for refugee samples as well as to Greene et al. (2019, 2022) and Tol et al. (2017) emphasizing its application in interventions:

It should be highlighted that PSS from friends played a protective role to the highest degree among those in IPV severity Group 3. This opposes Beeble et al.'s (2009) finding that

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indicated the strongest moderation effect of social support amongst those with low levels of abuse. The difference here could be based on sample differences, given that the current study concerns a highly vulnerable sample. It is suspected that this is due to refugee populations having lower PSS on average than the general population, therefore the influence of PSS is greater here. Nevertheless, this finding combined with the finding that Group 3 was the most significantly different from the other lower groups shows how impactful high PSS from friends can be among this sample of refugee women. This finding reinforces intervention suggestions focusing on social support among refugee women in refugee settlements which lacked empirical group to date (Greene et al., 2019, 2022; Tol et al., 2017) and specifies the need for friendship bonds above those of family when it comes to IPV.

A potential reason why PSS from family did not show a buffering role might be due to the terms used when referring to foreign family members and extended family. Depending on personal and cultural interpretations, this could include family from your partner's side (Lambert & Denis-Ramirez, 2022). Similarly, there could be a cultural stigma on speaking about issues within a marriage or relationship to one's family, especially the partner's side but not with friends. This research highlights the need for differentiating between different sources of PSS when examining IPV.

Finding no buffering role of CSC in the relationship between IPV and depression and functional impairment does not coincide with the protective mechanism detected in previous literature among the general population (Habib et al., 2020; González-Guarda et al., 2019; Villalonga-Olives et al., 2022; Voith et al., 2021). Here, it can be questioned whether the four items on community perception applied among this sample fully capture the concept of CSC. This is especially true considering the questionable reliability score found for the CSC measurement in this study. It is of relevance to note that this study relied on previously defined questions of CSC used for the general report on the Kyaka II settlement by Lambert and Denis-Ramirez (2022). Additionally, CSC as used in this study mainly encapsulated Putnam's (1995) and Coleman's (1988) cohesion approach while it can be argued that both schools of thought including Bourdieu's (1986) and Lin's (1999) network approach should be measured when testing it on a new sample. It is possible that an investigation into the various networks and groups present in the community could provide a deeper understanding of where CSC and notions of the cohesion approach stem from in a refugee settlement.

Protective Factors for Current IPV

For current IPV, no moderation effects were found for depression and PSS from both family and friends showed no significant buffering effects for functional impairment. However, CSC resulted in a marginally significant moderating effect on the relationship between current IPV and functional impairment. Nevertheless, this moderation indicated that CSC was acting as an additional risk factor for functional impairment than a protective factor.

The lack of a moderation effect for PSS from family may be due to the same reason described above. However, not finding a moderation effect for PSS from friends for current IPV can be explained based on how recent IPV is associated with more mental health difficulties than remote IPV (Bonomi et al., 2006). Possibly, the social support perceived aided with lifetime IPV experiences but not current abuse as the social protective factor may not be strong enough. Past literature has a gap on examining social protective factors when IPV is currently occurring, especially within a refugee settlement (Bonomi et al., 2006). Thus, this is the first study to indicate a possible differentiation when it comes to PSS's protective role among lifetime and current IPV. This reinforces the need to include the factor of timing when researching IPV protective factors on mental health outcomes.

CSC as an Additional Risk Factor for SGBV Victims

According to the marginally significant findings of this study, higher levels of CSC were associated with higher levels of functional impairment among women with high IPV severity. This means that the more CSC increased the stronger did the relation between IPV severity and functional impairment become, going against the hypothesis and prior literature (Habib et al., 2020; González-Guarda et al., 2019; Villalonga-Olives et al., 2022; Voith et al., 2021).

Firstly, the same concerns on the reliability of the CSC measurement mentioned above can be applied here. However, a more thorough explanation for the inverse effect found can be explained based on the sample and issues considered. CSC and social capital are by previous literature viewed as protective mechanisms and previous data on the Kyaka II settlement illustrates this to be the case among refugees (Lambert & Denis-Ramirez, 2022). Nevertheless, this study focused on a subsample of only women aiming to investigate protective factors for IPV severity, making the conclusions of previous literature not completely applicable. Additionally, when compared to Lambert and Denis-Ramirez's (2022)

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study, the analysis at hand investigated a specific interaction between a targeted risk and protective factor instead of relying on a broad regression among many variables.

A further explanation is the impact of culture within this nuanced sample. Here, it is possible that protecting women from IPV does not align with the values and culture of the community. It is possible that IPV is not seen as an issue or an issue the community publicly addresses or wants to tackle. For example, a sample of women residing in a conflict setting in South Kivu, Eastern DRC indicated that the community's response to victims of SGBV including intimate partner violence is "isolating, stigmatizing or not supportive of the woman" (Thulin et al., 2017, p. 9479). They reported that neighbours do not help while other women including female friends support each other in secret, but not publicly (Thulin et al., 2017). Similarly, women reported fearing stigma and isolation as well as repercussions from the community, specifically receiving threats of further SGBV perpetrated against them by intimate abusers and other members of the community to remain silent (Thulin et al., 2017). Matching notions on repercussions have been reported by previous studies in the Kyaka II settlement as well as among Congolese refugees in Rwanda where women-focused initiatives lead to changes in gender norms and dynamics. This in turn caused tensions in households exacerbating the gendered issues even more (Save the Children, 2018; Ingabire & Richters, 2020). Given this, having high trust in a community that does not problematize SGBV as well as IPV has the potential of removing the protective mechanism of CSC found in other studies. Furthermore, among women with high IPV severity, it can even have the potential of being an additional risk factor as women who had positive perceptions of their community's cohesion feel more functionally impaired when experiencing high IPV as it makes them feel lonely in their troubles or disappointed by their partner or community even more.

A systematic review of the dark side of social capital also highlights the context of social capital and how it can lead to social capital's double-edged phenomenon (Villalonga-Oliver & Kawachi, 2017). One category identified focused on the cross-level interaction between social cohesion and individual characteristics explaining that high-trust environments within a community benefit trusting people but harm low-trust individuals. However, the distinction between trusting and non-trusting individuals is based on culture. Given the high levels of stigma surrounding SGBV and IPV, it is possible that women who speak out about IPV or have been publicly belittled by their partners in front of the community could be seen as low-trust individuals leading to high levels of social capital to be

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an additional risk factor for them. While this review focused on social capital, similar phenomena could be observed with CSC.

Lastly, it has been shown how the segregation of communities leads to higher levels of social capital and social cohesion due to the need to protect each other from external threats (Benavides et al., 2019). However, studies have also highlighted how such segregation is also related to gender norms unfavourable to women leading to more IPV (Benavides et al., 2019; Kirst et al., 2015). Given this, it can be seen how high social capital and CSC may act in protective manners among general populations but when specifically looking at women facing SGBV and IPV it has the potential to be an inverse effect. These are some possible explanations; however, these point to the need for further investigation of CSC amongst IPV victims and refugee women, especially with a careful attention given the cultural norms within the community.

Including both Depression and Functional Impairment in Protective Factor Research

Considering buffering effects, more can be said about the importance of differentiating between depression and functional impairment. Both marginally significant moderation effects; PSS from friends as a protective factor for lifetime IPV and CSC as a risk factor for current IPV were only found among functional impairment and not depression. Again, McKnight and Kashdan's (2006) claim on the lack of commonality between these variables is supported. It is possible that some social protective factors only target one of the two mental health outcomes. Thus, this study emphasizes the need to include both depression and functional impairment as dependent variables in research when examining social protective factors.

Lifetime vs Current IPV: Timing Matters

It was expected that the relation between IPV severity and both depression and functional impairment would be stronger among women facing current IPV than among those facing lifetime IPV (*H3a*). This hypothesis was confirmed as higher severity for current IPV was associated with both higher levels of both depression and functional impairment while only higher functional impairment was detected in relation to lifetime IPV. Furthermore, the effect size of the relation between IPV and functional impairment among current IPV was slightly greater than that found among lifetime IPV. These findings align with research by Bonomi et al. (2006), who emphasized the importance of IPV timing. This research expands

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this notion of timing as it includes IPV occurring currently while Bonomi et al. (2006) focused on recent and remote IPV experiences.

Similarly, *H3b* predicted that the protective role of PSS and CSC on IPV severity and depression and functional impairment would be greater among current IPV victims than lifetime IPV victims. However, this hypothesis was not confirmed as no buffering effect was found for current IPV while one marginally significant one was found for lifetime IPV. Given this, the protective role of any social protective factor in this study was found among lifetime IPV and not current IPV, going against findings expected by Bonomi et al., (2006).

Influence of Living Status

H4 expected the moderation effect of PSS and CSC to be greater among those currently living with their abusive partner than those living apart. However, the findings did not support previous literature as no significant effects of living status as a moderating moderator were found (Bonomi et al, 2006; Cravens et al., 2015; WHO, 2012). This lack of findings can be explained by the unequal group sizes of living status but mainly, by the small sample size of women not living with their abuser. Of the 148 women with current IPV experiences, a total of 122 women were living with their abusive partner while only 26 were living apart from them. This division does not allow for a proper investigation of the moderated moderation. Nevertheless, this study added to the previous literature by investigating the influence of living status in a new sample.

Limitations & Future Research

The most prominent limitation in this study is that the interaction effects discussed were marginally significant, which restricts the conclusions that can be drawn. These findings were report as the application of prior models onto a new under-researched, and hard-to-reach sample may provide guidance for future studies concerning refugee women.

Another limitation is that the statistical analysis could not formally test *H3a/b* since the study included a sample and a subsample instead of two distinct samples. Women in the sample of current IPV experiences could also have past IPV experiences, therefore no moderated moderation analysis could be performed that compared current with past IPV specifically. Given this limitation, only the visual inspections of significance and effect sizes of relevant parameters were made. Future studies should consider using two distinct samples on IPV timing to provide more reliable insight.

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The study's cross-sectional design also limits its ability to establish causality in the examined relationships. Previous research suggests a bidirectional relationship between IPV and depression as IPV victims are prone to depression but people with depression are also more prone to experience IPV (Devries et al., 2013; Teng et al., 2014). A cross-sectional design cannot determine the directionality of the relationships found. Future research should employ experimental or longitudinal designs to reach causal conclusions.

As a self-reporting study, participants answer based on their own awareness and individual differences can lead to over- or underreporting. This could especially be true for the measurements of CSC and PSS from friends as they showed low reliability scores according to Cronbach's alpha and Spearman-Brown formula. Furthermore, self-report measures do not account for personality differences in perceptions of pain, mental health well-being and the impact of trauma (Carver & Connor-Smith, 2010). While this study did not focus on individual differences, these can still bias the results found as there is a lack of consistency between the answers compared. Future studies should consider exploring alternative methods of assessment, such as diagnostic measures, and controlling for personality traits.

Data collection conducted by enumerators in participants' dwellings during daytime may have resulted in a non-representative sample, particularly when examining depression and functional impairment. The most distressed individuals also those more likely to be at home during the daytime, while those least distressed would be working or engaged in outside activities (Lambert & Denis-Ramirez, 2022). Future research should collect data at various times of the day to ensure a representative sample.

As previously mentioned, when studying specific risk factors of depression among refugees, it is crucial to consider the influence of other risk factors, as refugees often experience various adversities (Rees et al., 2019; Vallejo-Martín et al., 2021). While controlling for variables as done in this study helps mitigate this issues, its challenging to account for all possible covariates, potentially biasing the results. Future research could account for frequency of traumatic events as well as variety as this is empirically preferred (Rasmussen et al., 2020). Similarly, the IPV measure could include frequency and contextual details.

A limitation highlighted greatly in the discussion of CSC is that culture plays an important role when researching IPV or other SGBV. Associated stigmas and taboos may

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lead to underreporting, as evidenced by participants refusing to answer certain IPV items, especially related to sexual violence ($n = 39$). Future research should approach gendered vulnerabilities in a culturally sensitive manner to understand the underlying mechanisms based on culture and develop effective intervention strategies to address SGBV stigma and aid for IPV victims.

The item in the IPV questionnaire related to public humiliation and belittlement by the abusive partner is closely tied to culture. Depending on the importance of community and social reputation found within a culture, the importance of this item in the context of abuse differs. For example, a collectivist culture, such as that in the DCR and Uganda, would see this act of emotional abuse as worse than an individualistic culture that does not place as much emphasis on community (Pelham et al., 2022). Neglecting this cultural context may bias the application of questionnaires. Future research should pay particular attention to this item when examining IPV in different cultures as it is the only item that considers public IPV. In general, the study utilizes tools and concepts from the West which may introduce biases when applied in non-Western cultures. Future work should also focus on adapting and developing culturally contextualized tools to assess mental health difficulties to ensure appropriated findings and intervention strategies.

This study utilized an intersectional perspective by focusing on the experiences of refugee women and emphasizing how these disadvantageous social categorizations intersect and lead to further marginalization. Nevertheless, there is a need to further explore other intersectional variables such as disability, religion, and ethnicity, as these may contribute to additional challenges and marginalization. Additionally, future studies should focus on IPV and SGBV among men, as these often go underreported. Gender differences in reporting mental health difficulties and the impact of traumatic experiences are also worth considering (Vallejo-Martín et al., 2021).

Lastly, the involvement of multiple actors in the research process, including local enumerators (DDD) and survey creators (DIGNITY), may introduce difference in interpretations and loss in clarity and internal validity. Future research should ensure consistent collaboration and clear communication between actors.

Conclusion

The findings of this study indicate that both current and lifetime IPV experiences are associated with higher levels of functional impairment, while current IPV severity is also

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related to higher levels of depression. PSS from friends showed signs of a protective mechanism between lifetime IPV and functional impairment, meaning that perceiving a higher level of social support from your friends was linked to lower rates of functional impairment even when experiencing high IPV severity. On the contrary, CSC exhibited an unexpected inverse effect acting as an additional risk factor for functional impairment among women with high current IPV severity. While this finding was surprising, it can be explained how higher levels of CSC work well as a buffer to mental health outcomes in the general population. However, when focusing on a marginalized group such as IPV victims within a cultural context that stigmatizes them, it may serve as an isolating factor connected to lower levels of functional impairment among those most in harm. Overall, this study contributes to the existing literature on IPV social protective factors and mental health outcomes by expanding it to a more vulnerable sample of refugee women residing within a refugee settlement, some currently experiencing IPV. This research shows how essential research on marginalized and stigmatized groups is as the application of regular social protective factors does not translate effectively among samples facing SGBV violence. By gaining a deeper understanding of these dynamics, MHPSS specialists within settlements as well as policymakers, practitioners and researchers can develop more effective strategies to support and empower IPV victims in refugee populations.

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Appendix A

WHO Partner Violence Scale & Matching Clustering Centres

Please indicate with yes or no on whether your (current) partner has ever done the following things to you.

1. Insulted you or made you feel bad about yourself.
2. Belittled or humiliated you in front of other people.
3. Did things to scare or intimidate you on purpose.
4. Threaten to hurt you or someone you care about.
5. Slapped you or thrown something at you that could hurt you.
6. Pushed you or shoved you.
7. Hit you with their fist or with something else that could hurt you.
8. Kicked you, dragged you or beaten you up.
9. Chocked or burn you on purpose.
10. Used a gun, knife, or other weapon against you.
11. Physically forced you to have sexual intercourse when you did not want to.

Items 1 to 4 refer to psychological abuse.

Items 5 and 6 refer to moderate physical abuse.

Items 7 to 10 refer to severe physical abuse.

Item 11 refers to sexual abuse.

Group 0 IPV severity: no IPV items

Group 1 IPV severity: items 1 and 3

Group 2 IPV severity: items 1 to 8

Group 3 IPV severity: all IPV items

Appendix B

Hopkins Checklist for Depression

Based on how you have felt over the past two weeks, please respond to what extent (1 = *not at all*, 2 = *a little bit*, 3 = *quite a bit*, 4 = *extremely*) you have been experiencing these problems.

1. Feeling low in energy, slowed down.
2. Blaming yourself.
3. Crying easily.
4. Loss of interest in sex.
5. Lack of appetite.
6. Difficulty falling asleep or staying asleep.
7. Feeling hopeless about the future.
8. Feeling sad.
9. Feeling lonely.
10. Feeling trapped.
11. Worrying too much about things.
12. Feeling not interested in things.
13. Having the thought of wanting to take your own life.
14. Feeling everything is an effort.
15. Feelings worthless.

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Appendix C

List of Traumatic Events

Please indicate whether (yes/no) you have experienced the following stressful event in your life.

1. Have you experienced a natural disaster (e.g., flood, landslide, volcano outbreak, earthquake) in such a way that your own life was in danger?
2. Have you witnessed a serious accident (e.g., tree falling on someone, car, bus or bicycle accident)?
3. Have you experienced a serious accident (e.g., tree falling on someone, car, bus or bicycle accident)?
4. Has a close friend or family ever had a life-threatening illness or injury?
5. Have you ever suffered from a life-threatening illness or injury?
6. Have you been close to a combat situation?
7. Have you been very close to a crossfire or shootings?
8. Have you been very close to burning houses?
9. Have you been very close to a bomb or grenade attack?
10. Have you experienced a dangerous evacuation, escape or flight?
11. Have you been deprived of food?
12. Have you witnessed harassment by armed personnel?
13. Have you been harassed by armed personnel?
14. Has your property been confiscated by armed personnel, or have you been forced to pay taxes or give a share to armed personnel?
15. Have you witnessed robbery or looting by armed personnel?
16. Have you been a victim of robbery or looting by armed personnel?
17. Have you witnessed beatings or torture of others by armed personnel?
18. Have you been severely beaten or tortured by armed personnel?
19. Have you witnessed someone who was severely injured by a weapon by armed personnel?
20. Have you been severely injured by a weapon by armed personnel?
21. Have you witnessed that anyone close to you was abducted or recruited by force?
22. Have you been abducted or recruited by force?

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23. Has someone tried to touch your private part against your will?
24. Have you been raped?
25. Have you seen people with mutilations or dead bodies?
26. Have you witnessed the killing or murder of someone?
27. Have you been imprisoned?
28. Have you been fighting in combat?
29. Before the age of 18, were you ever physically punished or beaten by a parent, caretaker or teacher so that you were frightened, you thought you would be injured, or you received bruises, cuts, welt, lumps or other injuries?

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Appendix D

Estimated Marginal Means and Pairwise Comparisons for IPV Severity Groups

Table 3*Relationship of Lifetime IPV Severity and Functional Impairment*

IPV Severity Group	<i>M</i>	<i>SD</i>	Mean Difference			
			0	1	2	3
0	2.2	0.1	—			
1	2.2	0.1	.20	—		
2	2.3	0.1	.19	.17	—	
3	2.4	0.1	.29**	.26*	.09	—

Note. $N = 328$; * $p < .05$. ** $p < .01$.

Table 4*Relationship of Current IPV Severity and Depression*

IPV Severity Group	<i>M</i>	<i>SD</i>	Mean Difference			
			0	1	2	3
0	2.5	0.1	—			
1	2.5	0.1	.04	—		
2	2.9	0.1	.38**	.34**	—	
3	2.8	0.1	.29*	.25*	.09	—

Note. $n = 190$; * $p < .05$. ** $p < .01$.

Table 5*Relationship of Current IPV Severity and Functional Impairment*

IPV Severity Group	<i>M</i>	<i>SD</i>	Mean Difference			
			0	1	2	3
0	2.1	0.1	—			
1	2.0	0.1	.05	—		
2	2.4	0.1	.34*	.40**	—	
3	2.3	0.1	.26	.31*	.08	—

Note. $n = 190$; * $p < .05$. ** $p < .01$.

Appendix E

Non-significant Results for Moderation and Moderated Moderation Analyses

1. Moderation of PSS Family on the Relationship between Lifetime IPV and Depression
 $N = 328; \beta = .02, t(319) = 1.15, p > .05$; R^2 change = .003.
2. Moderation of PSS Friends on the Relationship between Lifetime IPV and Depression
 $N = 328; \beta = -.04, t(319) = -1.57, p > .05$; R^2 change = .006.
3. Moderation of CSC on the Relationship between Lifetime IPV and Depression
 $N = 328; \beta = .03, t(319) = .90, p > .05$; R^2 change = .002.
4. Moderation of PSS Family on the Relationship between Lifetime IPV and Functional Impairment
 $N = 328; \beta = .02, t(319) = .96, p > .05$; R^2 change = .002.
5. Moderation of CSC on the Relationship between Lifetime IPV and Functional Impairment
 $N = 328; \beta = .04, t(319) = .89, p > .05$; R^2 change = .002.
6. Moderation of PSS Family on the Relationship between Current IPV and Depression
 $n = 190; \beta = .04, t(181) = 1.39, p > .05$; R^2 change = .007.
7. Moderation of PSS Friends on the Relationship between Current IPV and Depression
 $n = 190; \beta = -.01, t(181) = -.27, p > .05$; R^2 change < .000.
8. Moderation of CSC on the Relationship between Current IPV and Depression
 $n = 190; \beta = .04, t(181) = 1.38, p > .05$; R^2 change = .004.
9. Moderation of PSS Family on the Relationship between Current IPV and Functional Impairment
 $n = 190; \beta = .04, t(181) = -.28, p > .05$; R^2 change = .008.
10. Moderation of PSS Friends on the Relationship between Current IPV and Functional Impairment
 $n = 190; \beta = -.03, t(181) = -.68, p > .05$; R^2 change = .002.
11. Moderated Moderation of Living Status on PSS Family, Lifetime IPV and Depression
 $n = 148; \beta = -.04, t(135) = -.43, p > .05$; R^2 change = .001.
12. Moderated Moderation of Living Status on PSS Friends, Lifetime IPV and Depression
 $n = 148; \beta = -.03, t(135) = -.20, p > .05$; R^2 change < .000.
13. Moderated Moderation of Living Status on CSC, Lifetime IPV and Depression

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$n = 148; \beta = .08, t(135) = .41, p > .05; R^2 \text{ change} = .001.$

14. Moderated Moderation of Living Status on PSS Family, Lifetime IPV and Functional Impairment

$n = 148; \beta = -.15, t(135) = -1.23, p > .05; R^2 \text{ change} = .008.$

15. Moderated Moderation of Living Status on PSS Friends, Lifetime IPV and Functional Impairment

$n = 148; \beta = -.21, t(135) = -.97, p > .05; R^2 \text{ change} = .005.$

16. Moderated Moderation of Living Status on CSC, Lifetime IPV and Functional Impairment

$n = 148; \beta = -.06, t(135) = -.24, p > .05; R^2 \text{ change} < .000.$