To add insult to injury: Stigmatization reinforces the trauma of rape survivors – Findings from the DR Congo

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A B S T R A C T

Background: Survivors of sexual violence are frequently condemned and socially excluded. Myths about rape may translate into stigmatization, diminish disclosure, prevent help-seeking from support structures and worsen mental health. Areas of conflict or organized violence remain the evident hotspots of sexual victimization. However, little is known about prevalence and predictors of rape myths in these settings or their association with survivors' disclosure, stigmatization and psychopathology. Method: Between September 2018 and May 2019, we assessed in a representative sample of 1066 individuals from six communities in Eastern DRC traumatic exposure, sexual perpetration, threats to social integrity, perceived stigmatization (perceived lack of social acknowledgement, shame), stigmatizing attitudes towards survivors (negative attitudes and willingness to provide support, rape myths acceptance), and mental illness (PTSD, depression). Results: Survivors of sexual violence (33%, n = 184 of women, 16%, n = 84 of men) reported more traumatic exposure, threats to social integrity, shame, perceived lack of social acknowledgement, PTSD symptoms and depression. Their social environment affirmed various stigmatizing attitudes (5-89% affirmations). Beliefs in rape myths were predicted by its average acceptance in the community, education, and witness of others' sexual victimization. The rates of cases whose history of sexual victimization was socially disclosed were higher in communities and among survivors with low rape myths acceptance and disclosure showed associations with perceived stigmatization. Rape myths acceptance among individuals without a history of sexual victimization was associated with survivors' recently experienced threats to social integrity which predicted their stigma perceptions and mental illness. Conclusion: Rape myths acceptance in the community is associated with stigma and trauma-related mental illness of sexual violence survivors. This adds up to the psychic burden of trauma.

Introduction

Sexual violence is a global phenomenon, present in all walks of life and ubiquitous in areas of conflict and organized violence. Seven percent of women worldwide are affected by non-partner sexual violence (for a meta-analysis see Abrahams et al., 2014) and intimate partner violence is a serious threat to women's mental health and violates human rights on a global scale (e.g., Devries et al., 2013). Conflict areas remain the evident hotspots. Stachow (2020) carried out a review on conflict-related sexual violence and argued that politico-legal systems are often ineffective in addressing its high rates. Sexual atrocities are perpetrated against all people, including children, mostly by armed groups but also increasingly by civilians, the latter often in the form of domestic violence (Stachow, 2020). Preexisting gender biases facilitate acceptance of and perpetration by civilians in the (post) conflict era (Kelly et al., 2018; Kelly et al., 2019). In Eastern Democratic Republic of Congo (DRC), 40% of women and 24% of men have been affected by sexual violence (Johnson et al., 2010), 26% have witnessed it (Vinck et al., 2008) and 9% have been forced to participate in a sexually violent act (Johnson et al., 2010). Women report rape (51%), gang rape (33%),

sexual slavery (21%), forced marriage (3%, Johnson et al., 2010) and genitalia mutilation (12%, Peterman et al., 2011). Most events in the region are perpetrated by armed forces (74%), however, a substantial number are caused by civilians (14%, Johnson et al., 2010).

The experience of sexual violence constitutes a serious threat to the victim's mental health. Ba and Bhopal (2017) reported in a review high prevalence rates for mental health problems among survivors in DRC including posttraumatic stress disorder (PTSD, 12–76%), anxiety disorder (7–30%), depression (44–68%), substance abuse (18%), suicide attempts (33%) as well as feelings of shame and guilt. The variation in the rate can be largely explained by the cumulative exposure to the traumatic stressors ("building blocks"; Schauer et al., 2003). This often results in functional impairment in household, work and social roles and can lead to difficulties continuing with 'normal' life (Rodriguez et al., 2012). Even without immediate psychopathologic conditions, sexual violence adds to the building blocks of trauma and renders survivors more vulnerable (Neuner et al., 2004), whereby sexual victimization showed the highest risk of traumatizing effects compared to other trauma types (e.g., accidents, physical assaults, Kessler et al., 2017).

Beyond its psychopathological impact, sexual victimization can

evoke stigma and social rejection which constitute an additional burden for survivors and increases the likelihood of mental illness (Schneider et al., 2018). Buller et al. (2020) carried out a systematic review including 37 countries and reported that stigmatizing attitudes are prevalent on a global scale. In the Kivu regions of Eastern DRC, 40% affirmed that a man should reject his wife after rape (Slegh et al., 2014) and about one quarter, that they would not accept victims back into their household (25%) or community (26%), especially if they had conceived a child from rape (35%, Vinck et al., 2008). Female victims often face spousal abandonment (6–26%) and stigma within the family or community (7–29%, Ba & Bhopal, 2017) including a diminished social status, worsened family relations, loss of children's respect or an increase in insults and beatings in the household (Albutt et al., 2017). This stigma has devasting consequences for survivors. In a longitudinal study over three years, Ullman and Peter-Hagene (2016) showed a bidirectional association between social rejection and PTSD among US rape survivors. Research from Eastern DRC supports this finding and showed that stigmatization operates as mediator between sexual violence and mental illness (PTSD, depression, Verelst et al., 2014). Feeling stigmatized (e.g., feeling worthless or ashamed), mental health (PTSD, depression, anxiety) and functionality are impaired (Murray et al., 2018). Many survivors conceal their experience of assault in fear of stigma. In prior research from Sub-Saharan Africa (Kenya, Nigeria, Malawi), 45–63% of female and 72% of male victims indicated that their sexual violence was not disclosed, especially in cases of multiple victimization and if perpetrators are present in their social environment (Boudreau et al., 2018; Nguyen et al., 2018). While restricted disclosure may prevent stigma, it likewise hampers the approach of social support structures and professional care (Muganyizi et al., 2004).

Prominent theories on the emergence of these stigmatizing beliefs hypothesize that at the core of denigrating victims is an increased mortality salience and a threatened locus of control (e.g., Lerner, 1980). By allocating responsibility to survivors, it is possible to believe that the event was caused by a particular behavior and is therefore preventable, people thereby cope with the fear of their own victimization. Suarez and Gadalla (2010) carried out a review including studies from the US and Canada and reported that particularly men but also individuals with low educational attainment endorse rape myths. The association with sex was also reported for Eastern DRC (education was not investigated, Babalola, 2014). In the survey of Slegh et al. (2014) many participants affirmed that women provoke rape with their attitudes (21%), promiscuousness (39%) or indecent clothing (70%), that sometimes women want to be raped (20%), that a man has a right to sex even if the woman refuses (55%) and she may enjoy it (18%) and that one cannot speak of rape if there was no physical resistance (36%). Ferdowsian et al. (2018) reported that professionals in the health care and juridical sector in Kenya and Eastern DRC hold stigmatizing attitudes and affirm that survivors 'got what they deserve' (7%), should feel ashamed for what they have done (9%), if they found out that a family member was victimized they would want it to remain a secret (18%) and they would not be willing to care for an affected family member (6%). Research on survivors' internalization of rape myths remains inconclusive and shows either similar (Carmody & Washington, 2001; Mason et al., 2004) or less affirmations compared to individuals without a history of sexual victimization (Baugher et al., 2010; Finchilescu & Dugard, 2018). The use of different measures may be one reason accounting for the mixed results. Other limitations include small samples sizes and lack of research in (post) conflict settings.

The present study aims to present both the prevalence and predictors for stigmatizing attitudes in a representative community sample in Eastern DRC. The role of stigmatizing attitudes in the home village or own experiences with sexual violence (no experience, victimization, witness, perpetration) remains scientifically unexplored. Moreover, evidence for the interplay of rape myths acceptance in survivors' social environment and their recent experience of social threats, perceived stigmatization, own beliefs in rape myths and mental health problems is

sparse.

Materials and methods

Procedure

A community sample representative in sex and age was recruited between September 2018 and May 2019. The assessment presented in this study constitutes the baseline interview of a longitudinal (6-mo) research trial. Participants who reported that they had experienced sexual violence before baseline during a follow up interview ($n = 53$), were also included in the group of sexual violence survivors.

Participants were eligible if they were at least 16 years old with primary residence in the community. Acute intoxication or psychotic symptoms and signs of cerebro-organic diseases were exclusion criteria. Six villages with 687 households and 1946 adult inhabitants in the Kivu regions, Eastern DRC were included based on accessibility, security, availability of nearby trauma counsellors in the local health system and comparability in population size with maximum 500 adult inhabitants. Representative sample size, controlled for sex and age (male vs female, 16–36 yrs vs 37–57 yrs vs over 57 yrs), was calculated for each village with a 5% margin of error and 95% confidence interval. This analysis was calculated for each community separately based on the number of adult inhabitants, which were assessed beforehand in door-to-door visits. All households were approached since the sample size required for representativeness exceeded the number of households in each village. One person per household was randomly selected for interviewing by blind drawing of folded papers that included all sex-age categories. Appointments were arranged with absent participants and if multiple household members fell into the selected category, interviewers offered another set of papers and chose the resident who picked the one with a mark. If no household resident fulfilled the selected category, interviewers drew another paper. This procedure was continued in cases of denial of participation (which happened in some cases, largely due to time constraints because of work or school duties). A subsample was recruited non-randomly with the help of individuals with respected local authority as particular sex-age categories remained underrepresented (especially younger men). No one who was randomized and indicated availability denied participation after being informed about the study. Interviews lasted 1.5–2.5 h and were carried out with signed informed consent (or fingerprint in case of illiteracy) in the participant's home with no other household members being present. If someone spontaneously entered the room, the interview was paused. Twenty-one trained Congolese psychologists carried out interviews under the supervision of three of the authors on site. Two native Congolese interpreters translated all questionnaires from English into Kiswahili and back, and discussed discrepancies with two of the authors to ensure accuracy. Light refreshment and small financial compensation were provided (1.000 CDF, ca. 0.60$). Forty-two interrater interviews were carried out at baseline; to this end, a second interviewer sat in the session rating the answers of the interviewee (blind to the ratings of the first interviewer). Ethical approval was granted by the University of Konstanz (31/2016) and the Social Fund of the DRC.

Participants

In total, 1066 individuals were interviewed. Demographic information is displayed in Table 1. All participants indicated Congolese nationality. Almost half reported Kiswahili as native language (49%, $n = 520$), 27% Hunde ($n = 284$) and 25% another language ($n = 262$), whereby 20% ($n = 208$) were multi-lingual. Most participants were religious (98%, $n = 1049$, of which 98% were Christians, 1% Islam, 1% others). The majority stated that they were not born in the community (52%, $n = 550$) but migrated due to security problems (34%, $n = 185$), marriage (41%, $n = 224$), stigma (8%, $n = 45$) or another reason including job seeking or family reunion (17%, $n = 96$).

Table 1

Demographic information with age, education, children and wealth presented as median followed by ranges and sex, partnership and immigration presented as percentages followed by frequencies.

	Total ($N = 1066$)
Female	52, 553
Age	32 (16–91)
Years of education	5 (0–19)
Number of children	3 (0–30)
In a partnership	62, 656
Financial wealth	2 (1–5)

Assessment

Clinical interviews were administered to obtain demographic information including sex, age, education, partnership, children, immigration, and financial wealth (measured on a scale from 1 to 5 with higher value indicating more wealth), and information on traumatic exposure, threats to social integrity and sexual perpetration, perceived stigmatization (shame, perceived lack of social acknowledgement), stigmatizing attitudes towards sexual violence survivors (negative beliefs and willingness to provide support, rape myths acceptance) and mental health illness (PTSD, depression).

Traumatic exposure, threats to social integrity and sexual perpetration

A short 41-item check-list (the Threats to Human Life Scale, THL, scale can be obtained from the authors, Koebach et al., in prep.) was used to measure recent and lifetime experience (in vs prior the last three months) of different types of physical threats (18 items, e.g. history of sexual victimization including rape, being sexually touched against the will, being forced to sexually touch another person), social threats (8 items, e.g., social exclusion) and perpetration (15 items, e.g., violent sexual intercourse, answer categories yes/no). Participants indicate for each item on the first subscale the causes of recent physical threats (family member/person of trust, community member, stranger/organized violence, non-man-made reason). Survivors of sexual violence (identified in the first subscale) further report if the sexual victimization was disclosed (yes/no) and to whom (open question). For each item in the second subscale they further indicate for each item, if they believe to have experienced this social threat because of their history of sexual victimization. A sum score was calculated for physical threats based on occurrence (lifetime, recent) and context (family/person of trust, community member, stranger/organized violence, non-man-made, range 0–90) and for social threats based on occurrence (range 0–15). Three items of the perpetrator subscale were analysed (violent intercourse with partner's consent, forcing someone against his or her consent to intercourse with oneself or another person, forcibly touching someone's (private) body parts or forcing him or her to touch one's own body) and used to determine sexual perpetration (yes/no).

Perceived stigmatization

The 14-item *Shame Variability Questionnaire* (SVQ, Brown et al., 2001) was used to measure feelings of shame. Items are scored from 0 *(Not at all/I did not feel this way)* to 4 *(Completely/I felt this very strongly)* while referring to a time during the last four months when participants felt the most shame or the worst about themselves. After recoding two inverse items, the sum score (range 0–56) indicates stronger shame. Psychometric properties were satisfying ($\alpha = 0.85$, ICC $= 0.96$).

The 5-item subscale 'general disapproval' of the *Social Acknowledgement Questionnaire* (SAQ, Maercker & Mueller, 2004) was used to measure the perceived lack of social acknowledgement as trauma survivor. Participants indicated a traumatic experience after which they particularly felt the need of social support and referred to this event when scoring items from 0 *(I do not agree at all)* to 3 *(I completely agree)*. This event specification has been added to the original scale due to the high prevalence of multiple traumatization in Eastern DRC. Compared to the subscales 'recognition' and 'family/friends disapproval', general disapproval presented as strongest predictor of PTSD in prior research (Jones, Mueller, & Maercker, 2006; Mueller, Orth, Wang, & Maercker, 2009; Wagner, Keller, Knaevelsrud, & Maercker, 2012). The sum score (range 0–15) indicates the perceived lack of general social acknowledgement. Internal consistency was acceptable ($\alpha = 0.69$) and interrater reliability excellent (ICC $= 0.95$).

Stigmatizing attitudes towards sexual violence survivors

The *Attitudes and Beliefs towards Survivors of Sexual Violence Scale* (ABSV, Ferdowsian et al., 2018) was used to assess negative attitudes towards sexual violence survivors and willingness to provide support. Four items are rated from 0 *(Disagree strongly)* to 4 *(Agree strongly)*. Due to item heterogeneity, no sum score or internal consistency was calculated. Interrater reliability was excellent (ICC $= 0.96$).

We used an adapted 15-item version of the *Illinois Rape Myths Acceptance Scale* (IRMA; Payne et al., 1999) including four subscales of its short version (rape is a deviant event, he didn't mean to, it wasn't really rape, she asked for it) and a new scale 'she owed him' which was constructed based on internal team discussions and prior research that indicated prevalence of the myths that sex is 'owed' to men in some circumstances (Buller et al., 2020; Tavrow et al., 2013). Affirmation to rape myths score from 0 *(Disagree strongly)* to 4 *(Agree strongly)*. A sum score indicates stronger acceptance of rape myths (range 0–60). Reliability was good ($\alpha = 0.61$, ICC $= 0.94$).

Mental health problems

PTSD symptom severity was assessed with the PTSD Symptom Scale-Interview for DSM-5 (PSSI-5, Foa & Capaldi, 2013; Foa et al., 2016). Participants evaluate the presence of 20 symptoms during the last four weeks in reference to an index trauma (dominant intrusive symptoms) on a scale ranging from 0 *(Not at all)* to 4 *(6 or more times a week/severe)*. The sum score (range 0–80) indicates PTSD symptom severity. Reliability was excellent ($\alpha = 0.95$, ICC $= 0.98$).

The Patient Health Questionnaire (PHQ-9, Kroenke & Spitzer, 2002) was used to measure depression in the last two weeks. Nine items are rated from 0 *(Not at all)* to 3 *(Nearly every day)* and form a sum score (range 0–27) that indicates depression severity. Internal consistency ($\alpha = 0.85$) and interrater reliability (ICC $= 0.98$) were satisfying.

Statistical analyses

Statistical analyses were carried out in SPSS 27 (IBM, 2020). Predictive mean matching was used to impute values up to a maximum 5% missing answers (Tsikriktsis, 2005). Chi-squared tests and t-tests were used to analyse differences between survivors with vs without disclosed sexual victimization. Predictors for IRMA were explored using linear regression with backward elimination including the average rape myths acceptance in the home village (calculated as grand group mean of IRMA per community), sex, education, mortality salience (operationalized as threats to physical integrity excluding witness and victimization of sexual violence) and own experiences with sexual violence (no experience, victimization, witness, perpetration). Assumptions of normality, non-multicollinearity and homoscedasticity were met and outliers were included in the model as calculations with and without outliers indicated no substantial differences. Conditional process analysis (Model 81, Hayes, 2017) was carried out to explore the relationship of the average rape myths acceptance in survivors' social environment with victims' recently experienced and felt stigma, own rape myths acceptance and mental illness. The average rape myths acceptance in survivors' social environment was calculated as grand group mean of IRMA among

individuals without a history of sexual victimization per community. Recently experienced stigma represents the THL sum score of threats to social integrity in the last three months, perceived stigma the sum score of the z-transformed SVQ and SAQ scores and mental illness the sum score of the z-transformed PSSI-5 and PHQ-9 scores. The analysis was controlled for sex, education, disclosure, time since last sexual victimization (lifetime vs recent), frequency of sexual victimization (sum score of lifetime victimization and recent victimization by a family member/confidant, community member, stranger/organized violence) and THL threats to physical integrity. Control variables were selected based on prior research findings and a-priori considerations. Assumptions of linearity, non-multicollinearity and independence of residuals were met. Bootstrapped standard errors and confidence intervals were calculated for two the four regression models due to non-normal distribution of residuals. Results are reported including outliers as separate calculations indicated no substantial differences.

Results

Sexual violence experiences and disclosure of victimization

Experiences with sexual violence are presented in Fig. 1. Over half of participants reported at least one experience (52%, $n = 554$). Survivors of sexual violence (33%, $n = 184$ of women, 16%, $n = 84$ of men) were more often female than other community members (69%, $n = 184$, of survivors and 46%, $n = 369$ of others, $\chi^2(1) = 40.4$, $p < .001$), reported lower educational attainment ($t(1064) = -3.7$, $p < .001$), more traumatic exposure ($t(1064) = 9.1$, $p < .001$), threats to social integrity ($t(1063) = 6.5$, $p < .001$), PTSD symptoms ($t(366) = 7.7$, $p < .001$), depression ($t(1063) = 6.6$, $p < .001$), shame ($t(1064) = 3.7$, $p < .001$) and perceived lack of social acknowledgement ($t(1064) = 4.9$, $p < .001$). There was no difference in age, partnership, number of children, immigration or financial wealth ($p > .05$). They further indicated that sexual atrocities which they experienced in the last three months ($n = 53$) were mostly perpetrated by other members of the community (62%, $n = 33$) followed by family members/confidants (19%, $n = 10$) and strangers/organized violence (19%, $n = 10$). Almost one quarter of participants who indicated sexual perpetration (23%, $n = 66$) had been previously involved in an armed group, whereby 23 of them (34%) also reported sexual victimization.

Forty-five percent ($n = 120$) of survivors stated that they had not disclosed that they had been sexually assaulted. In almost half of the disclosed cases, neighbors or the whole community were informed (48%, $n = 44$), otherwise, confidants were the only ones aware of the event. Disclosed survivors were more often female ($\chi^2(1) = 16.6$, $p < .001$), younger ($t(237) = -2.3$, $p = .026$), lived more often in a community where their social environment affirmed less rape myths ($t(266) = -2.7$, $p = .024$) and believed less in rape myths themselves ($t(266) = -2.10$, $p = .036$) compared to non-disclosed cases. There was no significant difference in education, frequency of and time since sexual

victimization or traumatic exposure ($p > .05$). Survivors of both groups indicated at least one social threat that they believe to have experienced it because of their history of sexual victimization (42%, $n = 61$ of disclosed and 13%, $n = 15$ of none-disclosed cases).

Prevalence of stigmatization and predictors of stigmatizing attitudes

Prevalence rates of stigmatizing attitudes among individuals without a history of sexual victimization are shown in Table 2. Survivors reported a variety of recently experienced social threats including homelessness (12%, $n = 32$), unfulfilled need for care (47%, $n = 125$), being locked-in or held in a confined place against the will (9%, $n = 25$), intentional exclusion from a group or insults (40%, $n = 106$), being betrayed or left alone by a partner or close friend, suddenly and unexpectedly (38%, $n = 103$) and loss of status in the community (50%, $n = 133$).

Table 2
Affirmations[a] for stigmatizing attitudes towards sexual violence survivors among individuals without a history of sexual victimization presented as percentages followed by frequencies ($N = 798$).

			% (n)
Attitudes and Beliefs towards Survivors of Sexual Violence (ABSV)			
	1	Survivors of sexual violence have gotten what they deserve.	11 (87)
	2	If I found out that one of my family members were a victim, I would want it to remain a secret.	44 (354)
	3	Survivors of sexual violence should feel ashamed for what they have done.	69 (552)
	4	I would be willing to care for a family member if she was experiencing trouble as a result of sexual violence.	94 (746)
Rape Myths Acceptance (IRMA)			
SA	1	If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control.	66 (528)
	9	A woman who "teases" men deserves anything that might happen.	87 (692)
	10	When women are raped, it's often because the way they said "no" was ambiguous.	41 (325)
	13	A woman who dresses in skimpy clothes should not be surprised if a man tries to force her to have sex.	80 (638) **avg. 69%**
NR	2	If a woman doesn't physically fight back, you can't really say that it was rape.	61 (485)
	6	If the rapist doesn't have a weapon, you really can't call it a rape.	28 (220) **avg. 45%**
MT	11	Men don't usually intend to force sex on a woman, but sometimes they get too sexually carried away.	71 (568)
	14	Rape happens when a man's sex drive gets out of control.	70 (561) **avg. 71%**
DE	4	Men from "the respectable people" in the community almost never rape.	39 (314)
	5	It is usually only women who dress suggestively that are raped.	20 (156)
	8	Rape is unlikely to happen in the woman's own familiar neighborhood.	25 (196) **avg. 28%**
SO	3	If a man wants to marry a woman, it is o.k. To force sex on her.	5 (39)
	7	A woman who receives gifts from a man (i.e., not necessary for covering her basic needs as food, clothes, school fees but for example jewelry etc.), she should not be surprised if he tries to have sex with her.	88 (705)
	12	If a woman receives money from a man to cover her basic needs (e.g., food, clothes, school fees), she should not be surprised if he tries to have sex with her.	89 (712)
	15	Rape cannot occur within a marriage, because the woman would know that she was obligated to have sex with the man she is married to.	42 (338) **avg. 56%**

[a] Likert scaled responses range from 0 to 4; reported percentage represents item affirmation of 3 or 4; SA: She asked for it, NR: It wasn't really rape, MT: He didn't mean to, DE: Rape is a deviant event, SO: She owed him.
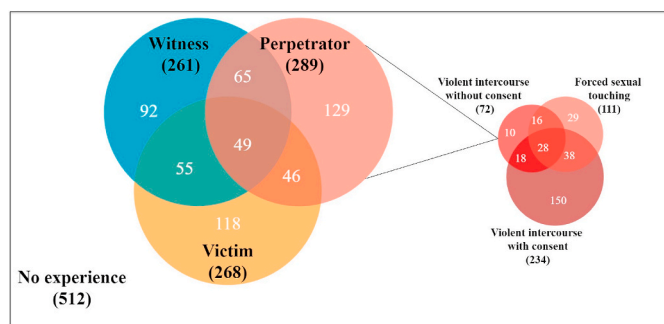

Fig. 1. Venn diagram for experiences with sexual violence. Values are presented as frequencies ($N = 1066$).

The average rape myths acceptance in the home village, education and witness of others' sexual victimization presented as the most significant predictors of own beliefs in rape myths (see Table 3) and together explained a significant proportion of its variance, $R^2 = 0.11$, F (3, 1062) = 42.48, $p < .001$.

Associations of rape myths in the social environment with survivors' experienced and felt stigma, rape myths and mental health problems

Fig. 2 shows the relationship between rape myths acceptance in survivors' social environment and their recently experienced and perceived stigma, own rape myths acceptance and mental illness controlled for sex, education, disclosure, time since and frequency of sexual victimization and threats to physical integrity. Rape myths acceptance in the social environment showed a direct association with survivors' mental illness, $\beta = -.33$, BootSE = 0.12, 95% BootCI = [-0.55, -0.09] and indirect associations through recently experienced stigma, $\beta = 0.03$, BootSE = 0.02, 95% BootCI = [0.01, 0.07] and experienced and felt stigma, $\beta = 0.01$, BootSE = 0.01, 95% BootCI = [0.00, 0.01]. Separate regression models showed that others' rape myths acceptance predicted survivors' (1) experienced stigma, $\beta = 0.15$, BootSE = 0.06, 95% BootCI = [0.02, 0.27], which was associated with mental illness, $\beta = 0.43$, BootSE = 0.12, 95% BootCI = [0.20, 0.65] and (2) perceived stigma, $\beta = 0.15$, SE = 0.06, 95% CI = [0.03, 0.26], which likewise showed an association with mental illness, $\beta = 0.38$, BootSE = 0.12, 95% BootCI = [0.14, 0.63]. Survivors' own beliefs in rape myths was neither associated with rape myths acceptance in the social environment, recently experienced stigma nor mental illness (p > .05).

There was no significant influence of sex, time since or frequency of sexual victimization (p > .05). Education was associated with less experienced stigma, $\beta = -0.17$, BootSE = 0.07, 95% BootCI = [-0.30,-0.03], and less own beliefs in rape myths, $\beta = -0.16$, SE = 0.06, 95% CI = [-0.29,-0.03]. Disclosure was associated with felt stigma, $\beta = 0.24$, SE = 0.12, 95% CI = [0.00, 0.48], and own rape myths acceptance, $\beta = -0.24$, SE = 0.12, 95% CI = [-0.47, 0.00]. Threats to physical integrity significantly predicted experienced stigma, $\beta = 0.40$, BootSE = 0.08, 95% BootCI = [0.26, 0.56], felt stigma, $\beta = 0.28$, SE = 0.08, 95% CI = [0.12, 0.44] and mental illness, $\beta = 0.48$, BootSE = 0.17, 95% BootCI = [0.15, 0.83]).

Discussion

This study emphasized the extent of stigmatizing attitudes towards victims of sexual violence and their experience of social threats in Eastern DRC. It further highlighted the importance of the attitudinal atmosphere in the home village for individual rape myths acceptance and survivors' disclosure. An interplay of rape myths acceptance in the social environment with survivors' experienced and perceived stigmatization showed to contribute to the psychic burden of trauma and to predict their mental illness.

The high prevalence rates of rejecting attitudes towards survivors of sexual violence and their recent experiences of various social threat types present the true abyss of stigma in Eastern DRC. Beliefs in rape myths were particularly pronounced among participants who lived in communities with an overall strong rape myths acceptance. The assimilation of publicly expressed prejudices towards the dominant group opinion has been supported in a meta-analysis of Leslie et al. (2020) and may provide an explanation for this finding. If it corresponds to the internalized beliefs remains, however, unclear. Another predictor of rape myths acceptance was the witnessing of others' sexual victimization. This is an important finding as research has widely neglected differences in stigmatizing attitudes based on own experiences with sexual violence beyond the differentiation between victimization vs no victimization (Baugher et al., 2010; Carmody & Washington, 2001; Finchilescu & Dugard, 2018; Mason et al., 2004). Witnessing sexually violent acts against others' not only evokes an enormous emotional

Table 3
Linear regression analysis with backward elimination on predictors of rape myths acceptance ($N = 1066$).

	b	SE b	β	t	df	p
Step 1						
Constant	5.82	5.07				
Average rape myths in the village	0.87	0.15	0.17	5.80	1057	<.001
Sex	−0.66	0.56	−0.04	−1.19	1057	0.233
Years of education	−0.44	0.06	−0.23	−7.28	1057	<.001
Experience of physical threats[a]	0.04	0.05	0.03	0.80	1057	0.422
No experience with SV[b]	0.30	0.93	0.02	0.33	1057	0.745
Sexual victimization[b]	−0.05	0.76	0.00	−0.06	1057	0.952
Witness of others' sexual victimization[b]	2.31	0.74	0.12	3.15	1057	0.002
Perpetration of sexual violence[b]	0.66	0.76	0.03	0.87	1057	0.385
Step 2						
Constant	5.79	5.05				
Average rape myths in the village	0.87	0.15	0.17	5.80	1058	<.001
Sex	−0.66	0.55	−0.04	−1.20	1058	0.231
Years of education	−0.44	0.06	−0.23	−7.30	1058	<.001
Experience of physical threats[a]	0.04	0.05	0.03	0.80	1058	0.423
No experience with SV[b]	0.34	0.74	0.02	0.45	1058	0.65
Witness of others' sexual victimization[b]	2.32	0.72	0.12	3.24	1058	0.001
Perpetration of sexual violence[b]	0.67	0.71	0.04	0.94	1058	0.347
Step 3						
Constant	6.01	5.03				
Average rape myths in the village	0.87	0.15	0.17	5.82	1059	<.001
Sex	−0.62	0.54	−0.04	−1.15	1059	0.253
Years of education	−0.44	0.06	−0.23	−7.31	1059	<.001
Experience of physical threats[a]	0.04	0.05	0.02	0.74	1059	0.458
Witness of others' sexual victimization[b]	2.16	0.62	0.11	3.48	1059	0.001
Perpetration of sexual violence[b]	0.49	0.58	0.03	0.83	1059	0.406
Step 4						
Constant	5.69	5.01				
Average rape myths in the village	0.89	0.15	0.18	6.08	1060	<.001
Sex	−0.62	0.54	−0.04	−1.13	1060	0.257
Years of education	−0.44	0.06	−0.23	−7.31	1060	<.001
Witness of others' sexual victimization[b]	2.29	0.59	0.12	3.86	1060	<.001
Perpetration of sexual violence[b]	0.54	0.58	0.03	0.93	1060	0.352
Step 5						
Constant	5.67	5.01				
Average rape myths in the village	0.89	0.15	0.18	6.10	1061	<.001
Sex	−0.56	0.54	−0.03	−1.03	1061	0.303
Years of education	−0.44	0.06	−0.23	−7.27	1061	<.001
Witness of others' sexual victimization[b]	2.40	0.58	0.12	4.13	1061	<.001
Step 6						
Constant	5.61	5.00				
Average rape myths in the village	0.89	0.15	0.18	6.09	1062	<.001
Years of education	−0.46	0.06	−0.24	−8.28	1062	<.001
Witness of others' sexual victimization[b]	2.36	0.58	0.12	4.06	1062	<.001

[a] Experience and witness of sexual violence are excluded due to its overlap with other predictors.
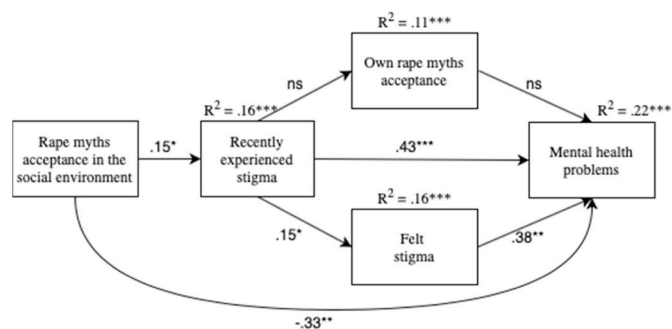[b] Dummy coded.

Fig. 2. Conditional process analysis on the relationship of rape myths acceptance in the social environment (IRMA) with sexual violence survivors' recently experienced stigma (THL threats to social integrity in the last three months), felt stigma (SAQ, SVQ) and own rape myths acceptance (IRMA) on mental health problems (PSS–I, PHQ-9) controlled for sex, education, disclosure of sexual victimization, time since last and frequency of sexual violence and THL threats to physical integrity ($N = 268$). Standardized coefficients are displayed for significant association paths.

burden (witnessing threats to others' lifes has been defined itself as potentially traumatizing event, The American Psychiatric Association, 2013) but also likely increases the awareness of threat to one's own life (salience of sexual victimization). Especially in (post) conflict areas such as the Eastern DRC where traumatic events are prevalent (Johnson et al., 2010; Mels et al., 2009) and their occurrence often unpredictable, people desperately seek to cope with the omnipresent threat which is likely intensified after witnessing such events. To decrease the descended distress and re-establish a sense of controllability and safety, observers may increasingly engage in rape myths that allocate responsibility to victims (cf., Lerner, 1980). Both the experience of sexual violence as well as its perpetration leave less room for prejudiced misinterpretations about victims' contribution, whereas those who lack experiences with sexual violence may perceive a lower salience of own victimization than those who witness it. However, this does not imply that rape myths are only affirmed by witnesses of sexual violence but rather that being witness explains additional variance of mythical beliefs in addition to other factors that are prevalent across individuals, such as the attitudinal atmosphere in the village or low educational attainment (cf., Suarez & Gadalla, 2010). Contrary to prior research findings, participants' sex showed no association with rape myths acceptance. This may be explained by the stronger intercorrelation of sex and education in Eastern DRC compared to Western countries as the US or Canada on which Suarez and Gadalla (2010) focused their meta-analysis. Babalola (2014) on the other hand conducted her research in Eastern DRC but did not include school education as correlate in her analysis and therefore, did not consider its confounding effect with sex.

The extent of stigmatizing attitudes in the home village and own beliefs in rape myths further showed associations to survivors' disclosure of the victimization. Disclosure was higher when survivors lived in a community with lower rape myths acceptance and believed less in rape myths themselves.

Contrary to prior research which indicated behavioural rejection of identified victims (Albutt et al., 2017), disclosure showed no association with social threats. At the same time, rape myths acceptance in the social environment was related to survivors' experience of social threats. This seems counterintuitive at first, as one might expect an association between others' rape myths and survivors' experience of social adversities only if the sexual victimization is disclosed. However, in Eastern DRC armed groups in particular often perpetrate sexual atrocities in public which removes survivors' choice (or even knowledge) of disclosure, if others witness the event (or other traumata which are associated with the event, e.g., abduction) from afar. In our study, we defined disclosure based on survivors' responses. However, even some of those who stated that no one was aware of their victimization also indicated to believe

that they experienced at least one social threat because of their history of sexual victimization. This likely reflects suspicions that others may have witnessed or somehow learned about the incident. Without a large-scale social network analysis, it seems difficult to draw definite conclusions on which sexual victimizations are known about and which are still secret.

Though survivors did not differ in their experience of social threats, those who were certain about the disclosure reported stronger feelings of stigmatization. Many of them attributed social adversities to their history of sexual victimization (more than those who indicated no disclosure, which they knew of), which likely stands in relation to the feeling of being stigmatized.

Importantly, this study showed that a combination of others' rape myths acceptance, experience of social threats and perceived stigmatization is associated with mental health problems of sexual violence survivors. This finding extends prior research that demonstrated the adverse impact of experienced and perceived stigmatization for survivors' mental health (Murray et al., 2018; Schneider et al., 2018; Ullman & Peter-Hagene, 2016) by highlighting the importance of stigmatizing attitudes in the social environment. Trauma-related avoidance, beliefs about own responsibility for the sexual victimization, feeling ashamed or fearing stigmatization can hamper survivors' disclosure and help-seeking even from confidants or medical and therapeutic professionals (e.g., Muganyizi et al., 2004). Comprehensive interventions may therefore include besides medical treatment and evidence-based trauma therapy also community interventions that address stigmatizing attitudes in survivors' social environment. An example of a health system that.

Limitations include the constraint on explicit measures to assess beliefs about sexual violence, which may be either biased due to social desirability or operate on an implicit level which is not accessible through questionnaires. Moreover, only villages with relative security were included. Path analyses were based on cross sectional data which impedes causal interpretations. Survivors' attributions of social threats on sexual violence present conservative estimates. Many were not certain why they were stigmatized and therefore hesitated to attribute the incident to their victimization, without eliminating the possibility. Despite the high prevalence of male victims (Johnson et al., 2010) who likewise face rape myths (Walfield, 2018) and stigmatization (Christian et al., 2011), characteristics of stigmatizing attitudes towards male survivors remain largely unexplored. Our research focused on rape myths against female victims and are therefore based on different assumptions about the causes of sexual violence (e.g., satisfaction of sexual drives when victimizing women vs demonstration of social dominance and violation of social status when victimizing men) and the characteristics of survivors (e.g., joint guilt due to displaying particular attitudes or behaviors among female victims vs physical weakness of male victims). Lastly, some sexual violence survivors indicated past involvement in an armed group. This subgroup likely faces a double stigma for the sexual victimization and the armed group history. Research is sparse and mostly focused on female survivors (Robjant et al., 2019; Tonheim, 2012), though sexual victimization is likewise prevalent among male combatants (Elbert et al., 2013). Stigmatizing attitudes towards this particular group remain scientifically unexplored.

In conclusion, stigmatizing attitudes towards survivors of sexual violence are wide-spread in Eastern DRC. Our study showed that an interplay of rape myths acceptance in the social environment and survivors' experience of social threats and feelings of being stigmatized predict their mental health problems in addition to the psychopathologic effect of trauma. 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 as well as stigmatizing beliefs and discriminatory behavior in their social environment.

Author's statement

Sabine Schmitt: Conceptualization, methodology, formal analysis, investigation, data curation, writing – original draft, review & editing, visualization, project coordination

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Ethical statement

The paper is based on secondary analysis of data that was subject to ethical review at the point of collection. Ethical approval was obtained by the University of Konstanz (31/2016) and the Social Fund of the DRC.

Declaration of competing interest

The authors have declared that no competing interests exist.

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