Psychology and Behavioral Sciences
2024, Vol. 13, No. 3, pp. 56-74
https://doi.org/10.11648/j.pbs.20241303.11

Research Article

Stockholm Syndrome and Gender-Related Ideologies and Attitudes: A Psychometric Assessment

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Abstract

Stockholm syndrome, a paradoxical phenomenon, characteristic of the particular psychological functioning of people in captivity and victims of mistreatment, sexual abuse and gender-based violence, arouses significant interest in psychological sciences. However, the related instrumentation remains limited, due to the fact that there is not a significant number of measurements that can evaluate it. In addition, the current main measure (the *scale for identifying "Stockholm Syndrome" reactions in young dating women/Escala para identificar reacciones de s ńdrome de Estocolmo (SISSR) relacionada con violencia de pareja*), only exists in the English and Spanish languages; which constitutes a linguistic obstacle for its administration to individuals who speak other languages, such as French. However, the simple translation of the items of a measurement does not guarantee its reliability from a psychometric point of view. In this vein, this study proposes the translation in French and validation of the Spanish version of this measure. It also proposes, as part of testing the predictive validity of the measure, to link the construct of Stockholm syndrome with gender-related ideologies and attitudes. The validation of the French version of the Stockholm syndrome measurement scale was carried out with two samples (N = 836) consisting entirely of women. The exploratory test (EFA) carried out with 400 participants reveals a reliable tri-factorial structure of 16 elements, after the elimination of 33 elements, due to factor loadings lower than .40. The confirmatory analysis of this factorial structure, using the Structural Equation Method (CFA-SEM), carried out on a sample of 436 participants, supports the tri-factorial structure which fits the data better. Tests of factorial invariance of the measurement, depending on marital status (n1 = 215 married women; n2 = 221 concubine) reveal a structural equivalence between the groups. The predictive validity of the measure reveals that Stockholm syndrome is linked to attitudes towards gender-based violence, sexism, feminism, non-justification of the gender system and gender-based social dominance.

Keywords

Stockholm Syndrome, Psychometric Assessment, Romantic Relationships, Gender-Related Ideologies, Gender-Related Attitudes

1. Introduction

Stockholm syndrome is a fascinating phenomenon [26]. Its paradox, celebrity and strangeness are linked to the fact that it refers to the bond that develops between an aggressor (captor) and a victim (captive) [6]. It is observed in religious sects, relationships between war prisoners and their jailers, as well as in family or romantic relationships [27, 45]. This syndrome

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Received: 5 April 2024; **Accepted:** 23 April 2024; **Published:** 10 May 2024

appears in situations of terror, hostage-taking, captivity, aggression, mistreatment, harassment, threats to well-being, violence (based on gender including sexual abuse, incest, rape), trafficking and abusive in romantic relationships [1, 4, 7, 19, 35, 39, 45, 47, 53, 54]. We realize its existence through the development, in the victim, of positive feelings (empathy for example) towards the aggressor/abductor, the unconscious identification with the kidnapper and the conscious adaptation of the victim to the situation in order to give herself hope in the absence of hope [18, 28, 29, 31, 32, 34, 41, 42, 45]. In short, it is a pattern of behavior likely to appear in situations of vulnerability or captivity; hence the fact that it can be included in the register of survival and adaptation strategies [2, 36, 43]. In the specific context of romantic relationships, Stockholm syndrome is likely to appear in situations of domestic violence, unequal distribution of power between partners and occasional abuse. Victims feel obligated to stay and try to save the relationship, especially because of their investments; thus reducing the risk of breakage. They develop cognitive distortions such as denial, rationalization and minimization; reducing their fear linked to constant threats. The isolation and help-seeking observed among them comes from shame, guilt, self-blame and low self-esteem [18].

Among women in abusive romantic relationships, four main components of Stockholm syndrome have been identified: 1) perceived threat to survival; 2) perceived kindness on the part of the attacker; 3) perceived isolation; 4) perceived inability to escape [5, 18, 20, 21, 28, 29, 40, 49]. These components underpinned the construction of the measurement scale for this phenomenon proposed by [29] (*A scale for identifying "Stockholm Syndrome" reactions in young dating women*). The 49 items of this scale were grouped into three latent factors (subscales): (1) *Core* Stockholm syndrome, which assesses the main aspects of Stockholm syndrome, such as cognitive distortions (rationalization of perpetrator' behavior, feelings of self-blame and reporting acts of love and concern in place of fear) and the victim's interpersonal trauma; (2) psychological damage (*Damage*) that leads to low self-esteem, depression/anxiety and other interpersonal problems; and (3) love dependence (*Love*) relating to the conviction that the victim's survival depends exclusively on the violent partner' attention, idealization and love, and that without this partner she has no reason to live [29, 51].

To the best of our knowledge, only the English (see [29] for the initial version of this measure and [27] for the short version) and Spanish (*Escala para identificar reacciones de s ńdrome de Estocolmo (SISSR) relacionada con violencia de pareja*; [51]) versions of the scale for identifying reactions to Stockholm Syndrome have been developed to date. This study is particularly interested in this Spanish version which is, moreover, the most recent. Like the scale proposed by [29], this measure includes 49 items grouped into the three latent factors described above. It uses a response format ranging from 0 ("Never or almost never" or "not applicable") to 4 ("Always or almost always"); 4 representing the highest degree of the syndrome. The main problem posed by this measurement relates to the language in which it is validated; hence the fact that it seems obvious that it is difficult to apply it to individuals who do not speak that language, without a prior translation. This therefore poses the methodological problem of its administration outside its linguistic context of development. It is undoubtedly with a view to overcoming this linguistic limit that it has been suggested to researchers interested in the evaluation of Stockholm syndrome to take into account cultural differences (notably language) when administering this instrument [51]. In this perspective, the present research, which wants to fill this methodological limit linked to language, sets itself the objectives of: 1) translating and validating the French version of the scale for identifying reactions to Stockholm syndrome among Cameroonian women living in couples and victims of domestic violence; and 2) link the phenomenon of Stockholm syndrome to gender-related attitudes and ideologies, particularly because Stockholm syndrome can be linked to issues relating to the unequal distribution of power between partners; a predominant characteristic of patriarchal societies like those in which Cameroonian women live [22-24].

2. Method

2.1. Participants

The sample of this study is composed of 836 Cameroonian women living as a couple and victims of domestic violence. They were divided into two subsamples used, one during the exploratory phase and the other during the confirmatory phase of the study.

(i) Subsample A

The exploratory factorial test of the scale for identifying reactions to Stockholm syndrome was carried out on a sample of 400 women aged between 25 and 61 years (M = 31.71 years; SD = 6.95). From the point of view of research ethics, the confidentiality of their responses was guaranteed.

(ii) Subsample B

To establish evidence of confirmatory validity and invariance of the measurement translated and validated in this study, 436 women were contacted. Their age varies between 29 and 59 years (M = 32.80; SD = 5.90). They are either married women (n1 = 215) or concubine (n2 = 221). They received the same guarantees as their counterparts in subsample A regarding the confidentiality of their responses.

2.2. Procedure for Adapting the Stockholm Syndrome Scale in the Cameroonian Context

The translation of the Stockholm syndrome scale from Spanish to French followed the procedure for cross-cultural validation of questionnaires suggested by the International

Testing Commission and Churchill's model [16]. This research obtained the tacit agreement of authors to translate their measurement into French [51]. Indeed, they suggested that subsequent research take cultural differences into account when administering their instrument, in order to enrich their results. This implies the possibility of applying it to other samples, including those of French-speaking people.

The translation of the Spanish version of the Stockholm syndrome scale was carried out using the standardized "back-translation" process. In this logic, the 49 items of this measure were first translated independently from Spanish to French, from Spanish to English, and from French to English (version not validated in the present research) by a specialist in trilingual Spanish-English-French translation. Then, independently, two trilingual translators also judged the concordance between the items of the measure and its facade validity. Finally, two researchers in social psychology discussed the versions obtained in line with the Spanish version and a provisional French version was retained. For example, an item from the Spanish version which stated that: "*Si mi relación de pareja terminara, sentir á tanto dolor que querr á suicidarme*" became: "*Si ma relation prend fin, je vais ressentir tellement de douleur au point de vouloir me suicider*" (If my relationship ended, I would feel so much pain that I would want to commit suicide). The response format ranging from 0 ("Never or almost never" or "not applicable") to 4 ("Always or almost always") in the Spanish version was replaced by a 7-point Likert-type scale, ranging from 1 (Strongly disagree) to 7 (Strongly agree). A pre-test was carried out in accordance with Churchill's model [16]. It proved favorable for more extensive data collection.

2.3. Measures and Procedure

2.3.1. Measures of the Exploratory Phase

During this phase, sociodemographic characteristics of the participants (age and marital status) were collected and their reactions to Stockholm syndrome were measured using the 49 items constituting the initial French version of the scale. The goal was to analyze the metric qualities of this measurement. At the end of this exploratory phase, 16 items out of the 49 from the version of the scale initially administered were retained. This means that 33 items were eliminated, notably due to factor loadings lower than .40.

2.3.2. Measures of the Confirmatory Phase

During the confirmatory phase of the assessment of the metrological qualities of the Stockholm syndrome scale, several measures were administered. They relate not only to Stockholm syndrome, but also to gender ideologies and attitudes. For all these self-administered measures, participants were asked to give their opinions on the different items using a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Three-factor scale measuring Stockholm syndrome reactions

This is the version of the scale comprising 16 items, obtained at the end of the exploratory phase. It was administered with the aim of confirming the factorial structure of this scale and evaluating the fit of this structure to the data. Its reliability parameters are satisfactory (16-items, $\alpha = .88$; $\omega = .86$). The dimension relating to the main Stockholm syndrome (Core) includes eight items (8-items, $\alpha = .81$; $\omega = .81$). One item states that: "*Il y a quelque chose en moi qui fait que mon partenaire perd le contrôle de sa colère*" (There is something inside me that makes my partner lose control of his anger). The love dependence (Love) dimension has five items (5-items, $\alpha = .90$; $\omega = .89$). For example, an item suggests that: "*Pour moi, mon partenaire est comme un dieu*" (For me, my partner is like a god). The psychological damage (Damage) dimension has three items (3-items, $\alpha = .82$; $\omega = .83$). As an illustration, one item suggests that: "*Je ne sais même plus qui je suis*" (I don't even know who I am anymore).

Five-factor scale measuring femininity ideology

The scale of adherence to feminist ideology was administered to participants to assess adherence to the movement against inequalities, injustices and abuse against women according to five factors: stereotypical images and activities (6-items, $\alpha = .77$; $\omega = .75$), dependence/deference (7-items, $\alpha = .84$; $\omega = .84$), purity (6-items, $\alpha = .81$; $\omega = .80$), support (6-items, $\alpha = .80$; $\omega = .80$) and emotionality (3-items, $\alpha = .68$; $\omega = .69$) [25]. One of the items states that: "*Les femmes devraient laisser les hommes prendre des décisions pour elles*" (Women should let men make decisions for them). This scale has good internal consistency ($\alpha = .83$; $\omega = .79$).

Measures of sexism

Modern Sexism

Two items were used to measure this construct [9]. An item is formulated as follows: "*Les femmes ne sont généralement pas aussi intelligentes que les Hommes*" (Women are generally not as intelligent as men). This measure has an acceptable reliability index ($\alpha = .63$).

Contemporary Sexism

This study uses a short version of the Contemporary Sexism scale [11]. One item suggests that: "*Les femmes feront plus de progrès en étant patientes et à ne pas trop penser au changement*" (Women will make more progress by being patient and not thinking too much about change). This scale is reliable (3-items, $\alpha = .65$; $\omega = .66$).

Internalized Sexism

The measurement of this construct was made with the internalized sexism scale [9]. One of the items in this instrument proposes that: "*Je préfère qu'un homme me donne des ordres et non une femme*" (I prefer a man to give me orders and not a woman). This scale is reliable ($\alpha = .77$; $\omega = .76$).

Scale of attitudes towards gender-based violence

This scale assesses three aspects of attitudes towards gender-based violence with 6 items ($\alpha = .75$; $\omega = .77$) [58]. The first dimension assesses approval of masculine power

(2-items, α = .62). The second measures approval of situation-specific structural violence (2-items, α = .71) and the third estimates the perceived lack of alternatives for dealing with structural violence (2-items, α = .67). One of the items on this scale suggests that: *"Un mari ou un amant a le droit de frapper sa femme si elle refuse de cuisiner et de garder la maison"* (A husband or lover has the right to hit his wife if she refuses to cook). Another item states that: "*un mari ou un amant a le droit de discipliner sa femme*" (A husband or lover has the right to discipline his wife).

Domestic Violence Suffered scale

This measure includes twelve items formulated on the basis of work on domestic violence [2] to assess the domestic violence experienced on a daily basis by women. It is based on indicators of moral, psychological or physical violence present in the literature [15, 31, 46, 58, 59]. For example, an item suggests that: "*Mon partenaire me maltraite; me rappelle qu'il ne veut plus de moi; me viole; me parle ou me répond violemment*" (My partner abuses me; reminds me that he doesn't want me anymore; rapes me; speaks to me or responds violently to me). The reliability of this instrument is very good (α = .95; ω = .95).

Gender-Specific System Justification scale

This scale makes it possible to assess gender system justification. Four items from this measure were used. For example, an item suggests that: "*Les femmes exag èrent quand elles se plaignent du comportement que certains hommes ont envers elles*" (Women exaggerate when they complain about the behavior that certain men have towards them) [56]. This measure is reliable (α = .71; ω = .72).

Gender-Based Social Dominance scale

An item adapted from a short version of the Social Dominance Orientation scale made it possible to assess gender-based social dominance [3]. This item states that: "*Il est normal que le groupe des hommes domine sur celui des femmes*" (It is normal for the male group to dominate the female group).

2.4. Data Analysis Procedure

As part of this study, we used the statistical software SPSS.27 (Statistical Package for Social Sciences) to manage missing values by automatically replacing them with the mean of the series. This software made it possible to code sociodemographic variables such as marital status (1 = married; 2 = concubine), level of education (1 = primary; 2 = secondary; 3 = higher) and duration of the relationship (1 = between 1 and 5 years; 2 = 6 years and over). The JASP.17.1 software (Jeffreys's Analyses Statistics Program), for its part, was used to perform the descriptive statistics (M, SD), determine the Pearson coefficients (r) and explore the factorial structure of the Stockholm syndrome scale. In psychometrics, to determine the number of factors in a measuring instrument, it is recommended to produce the scree diagram [12], to estimate the explained variance of the factor model and the factor loadings [50]. Thus, to analyze the quality of the items in order to reduce the number of items in the instrument based on the relationships between all the manifest variables and the latent factors and their level of validity, multivariate statistical techniques, notably Factorial Analyzes Exploratory tests (EFA) using the Varimax orthogonal rotation method were applied.

Measures of sampling adequacy [38] and Bartlett's chi-square ($\chi 2$) were also determined. These methods made it possible to summarize and reduce the structure of the Stockholm syndrome scale. It is indicated that elements with very low loadings (≤ .3) can be removed [8]. To give the most credence to the reliability of the scale, the present research followed the recommended ideal procedure [8], which consists of constructing the scale on a first sample, whether cross-sectional or longitudinal, then to test it on a second independent sample. The reliability of the elements and that of the latent factors explored, as well as the complete correlation of the corrected elements (CI-TC) were evaluated using the alpha (α; [17]) and the omega (ω; [46]) models in both samples.

The confirmatory test of the first and second-order factor structure and the analysis of the invariance of the Stockholm syndrome scale were carried out under JASP.17.1. In this sense, the overall fit of all confirmatory factor models (CFA) was evaluated using the chi-square goodness-of-fit test. This test, which makes it possible to compare the observed covariance matrix with a proposed theoretical covariance matrix, was supplemented by alternative adjustment indices [44], including in particular the Comparative Adjustment Index (CFI ≥ .95, acceptable fit) and the Tucker-Lewis Index (TLI ≥ .95, reasonable fit), the Root Mean Square Error of Approximation (RMSEA ≤ .08, reasonable fit) and the Standardized Root Mean Square Residual (SRMR ≤ .06, acceptable fit). The TLI index is based on the idea of comparing the proposed factor model to a model in which no relationship is assumed between the elements, while the CFI coefficient is an incremental relative fit index that measures relative improvement of the adjustment of the model developed, compared to that of a reference model [8, 30]. The developed latent and manifest variable measurement models can be improved based on the modification indices. These indices produced under JASP.17.1 can help, during the scale validation process, to identify elements that need to be modified in order to improve the models. Factor loadings of manifest variables are acceptable from .40 [30]. A higher order factor structure, in which the correlations between the main factor (Stockholm syndrome) and its three latent factors were determined and its structural adjustment coordinates were established [8].

To compare groups, we generally use the overall scale score as the mean or sum of the item scores. It would be sufficient to use a Student's t-test to compare the overall scores between these groups. However, if a difference is indeed observed, we would not know whether it can be attributed to a differential

functioning of the items depending on the groups or to a real difference between the means of the latent factor of these groups. The Stockholm syndrome scale equivalence test establishes evidence of configural invariance (the model is the same across groups in qualitative terms), metric (equality of factor loadings between groups) and scalar (unbiased statistical comparison of means on latent constructs) of this scale among married women and women living together. So, are they likely to respond generally in the same way to the same items as a result of their marital status? This test makes it possible to verify whether the Stockholm syndrome scale validated in this study does not suffer from a problem of measurement equivalence between groups, as is often the case with certain psychometric scales. Metric invariance is tested by constraining the factor loadings to intergroup equality, by labeling the loadings in the Lavaan syntax [52]. Comparison of relative fits of multi-group CFA models using scaled Chi-square (χ^2) difference tests was performed (Kline, 2016). A value of $\Delta\chi^2$ was calculated. If it is significant, this indicates that there is metric invariance. The ΔCFI was estimated and a value of ΔCFI < .01 indicates support for the more parsimonious model constrained by equality [13, 14]. Since metric invariance does not allow comparing scores on latent factors between groups, this involves comparing structural relationships between latent variables between groups. To ensure scalar invariance, the mean scores on the three Stockholm syndrome factors were compared without bias and the intercepts were introduced so as to label the two groups identically, in order to constrain them to be equal.

After evaluating the structure of the scale, the construct of Stockholm syndrome was linked to sexism (modern, contemporary and internalized), to attitudes towards ideologies legitimizing gender inequalities (the gender system justification and the gender-based group dominance), feminism and attitudes towards gender-based violence and domestic violence experienced. Thus, the correlation coefficients and the linear regression model involving the latent variables were estimated by running the Lavann syntax from the JASP.17.1 software [52].

3. Results

The results firstly relate to exploratory analyses of the internal structure of the Stockholm syndrome measure translated and validated in this research. Second, they present confirmatory factor analyses of the structure of the said measure. Third, they test its invariance. And fourth, they link the components of this measure to feminist ideology, different types of sexism, attitudes towards ideologies legitimizing gender inequalities and attitudes towards gender-based violence.

3.1. Exploratory Latent Variable Analyses of the Internal Structure of the Stockholm Syndrome Scale

Exploratory factor analyses summarize the structure of the Stockholm syndrome measure into three factors: love dependence (Love), central Stockholm syndrome (Core), and psychological damage (Damage). These are the same as those of Raykov and Marcoulides' scale [51]. However, on the basis of the factor loadings, the structure of the scale went from 49 (the Spanish version) to 16 items (the proposed French version) distributed as follows: five (05) items for the first factor, eight (08) for the second factor and three (03) for the third factor. These elements are those which make it possible to accurately capture Stockholm syndrome and whose factor loadings vary between .45 and .89 (See Table 1). It is this logic that underlies the elimination of the 33 items whose factor loadings were less than .40 [48, 50]. This demonstrates that the crossing of the retained elements with the extracted latent factors is not done in a unique way; that is to say that the factor loadings vary [8].

Table 1. *Item Statistics of the French version of the scale for identifying Stockholm Syndrome reactions.*

Three-Factors								
Factor 1: Love-Dependence	**M (SD)**	**EFA-FL**	**MSA**	**I-RC**	**Sk.**	**Ku.**	**α**	**ω**
1. Pour moi, mon partenaire est comme un dieu. / Para mí, mi pareja es como un dios. // For me, my partner is like a god.	2.99 (1.82)	.85	.86	.63	.46	-.95	.87	.86
2. Sans mon partenaire, je n'ai aucune raison de vivre. /Sin mi pareja, no tengo motivos para vivir. // Without my partner, I have no reason to live.	2.81 (1.70)	.75	.84	.63	.53	-.72	.87	.86
3. Si ma relation prend fin, je vais ressentir tellement de douleur au point de vouloir me suicider. /Si mi relación de pareja terminara, sentiría tanto dolor que querría suicidarme. // If my relationship ended, I would feel so much pain that I would want to commit	2.66 (1.70)	.66	.90	.58	.70	-.49	.87	.86

Three-Factors								
Factor 1: Love-Dependence	**M (SD)**	**EFA-FL**	**MSA**	**I-RC**	**Sk.**	**Ku.**	**α**	**ω**
suicide.								
4. Sans mon partenaire, je ne saurais pas qui je suis. /Sin mi pareja, no sabría quién soy. // Without my partner, I wouldn't know who I am.	2.95 (1.67)	.64	.91	.63	.43	-.73	.87	.86
5. Je ne peux pas imaginer vivre sans mon partenaire. /No puedo imaginarme viviendo sin mi pareja. // I can't imagine living without my partner.	2.96 (1.70)	.63	.90	.64	.52	-.55	.87	.86
Factor 2: Core (main Stockholm syndrome)	**M (SD)**	**EFA-FL**	**MSA**	**I-RC**	**Sk.**	**Ku.**	**α**	**ω**
6. Le problème n'est pas que mon partenaire est une personne colérique, mais c'est parce que je le provoque. /El problema no es que mi pareja sea una persona enojona, sino que yo lo provoco. // The problem is not that my partner is an angry person, but that I provoke him.	3.59 (1.68)	.65	.90	.49	.05	-.89	.87	.87
7. Mon partenaire ne se mettrait pas aussi en colère contre moi si les autres ne lui avaient pas été aussi nuisibles. / Mi pareja no se enojaría tanto conmigo si otras personas no le habrían sido tan nefastas. // My partner wouldn't be so angry with me if other people hadn't been so disastrous to him.	3.69 (1.58)	.65	.91	.56	-.08	-.79	.87	.86
8. Il y a quelque chose en moi qui fait que mon partenaire perd le contrôle de sa colère. /Hay algo en mí que hace que mi pareja pierda el control de su ira. // There is something in me that makes my partner lose control of his anger.	3.85 (1.71)	.61	.87	.44	-.15	-.84	.87	.87
9. Je ne veux pas que les autres sachent à quel point mon partenaire est en colère contre moi. /No quiero que otras personas se enteren de cuánto se enoja mi pareja conmigo. // I don't want other people to know how angry my partner is with me.	4.10 (1.74)	.57	.89	.45	-.26	-.91	.87	.87
10. J'aime mon partenaire, mais j'ai aussi peur de lui. /Amo a mi pareja, pero también le tengo miedo. // I love my partner, but I am also afraid of him.	3.74 (1.77)	.53	.90	.48	-.00	-1.02	.87	.87
11. Mon partenaire n'est pas une personne violente; c'est juste qu'il perd le contrôle. / Mi pareja no es una persona violenta; es solo que pierde el control. // My partner is not a violent person; It's just that he loses control.	3.85 (1.85)	.49	.90	.48	-.06	-1.13	.87	.87
12. Mon partenaire est comme moi: il est aussi victime de la colère des autres. / Mi pareja es como yo, una víctima de la ira de otros. // My partner is like me, a victim of other people's anger.	3.94 (1.75)	.47	.89	.47	-.11	-.91	.87	.87
13. Mon partenaire est une victime autant que moi. / Mi pareja es una víctima tanto como lo soy yo. // My partner is a victim as much as I am.	3.82 (1.75)	.45	.88	.41	-.08	-1.0	.88	.87
Factor 3: Damage (Psychological damage)	**M (SD)**	**EFA-FL**	**MSA**	**I-RC**	**Sk.**	**Ku.**	**α**	**ω**
14. Quand je commence à être proche des gens, quelque chose de mauvais arrive. / Cuando empiezo a ser cercana con las personas, pasa algo malo. // When I start getting close to people, something bad happens.	3.30 (1.76)	.89	.92	.50	.32	-.84	.87	.87

Factor 3: Damage (Psychological damage)	M (SD)	EFA-FL	MSA	I-RC	Sk.	Ku.	α	ω
15. J'ai l'impression de devenir folle. / Siento como si me estuviera volviendo loca. // I feel like I'm going crazy.	3.01 (1.74)	.74	.77	.51	.50	-.63	.87	.87
16. Je ne sais même plus qui je suis. / Ya no sé ni quien soy. // I don't even know who I am anymore.	2.88 (1.67)	.54	.80	.51	.53	-.55	.87	.87

χ^2	Df	p-value	Factors scale	Eigenvalues	Cumulative %	Scale	ω	α
2700.19	120	< .001	Love	5.89	36.86	Love	.88	.88
			Core	1.99	49.33	Core	.81	.81
			Damage	1.29	57.43	Damage	.83	.82
						SSS	.88	.87

Note. SSS = Stockholm Syndrome Scale; M = Mean; SD = Standard deviation; EFA-FL = Exploratory Factorial Analysis-Factor Loadings; MSA = Measure of Sampling Adequacy; I-RC = Item-Rest Correlation; Sk. = Skweness; Ku. = Kurtosis; α = Cronbach's alpha; ω = McDonald's gama; Df = Degree of freedom.

The descriptive statistics also indicate that the selected items have average distributions which vary from 2.66 to 4.1. The reliability indices of the extracted items and factors are acceptable. Those of the items vary between .87 and .88 according to the Cronbach alpha method [17] and between .86 and .87 according to the McDonald method [46]. According to these reliability estimation methods, the Stockholm syndrome factors (Love Dependence (Love), Central Stockholm Syndrome (Core) and Psychological Damage (Damage)) are reliable. The same is true for the global scale (See Table 1). Inter-item relationships range from .41 to .64. These data report that the 16 manifest variables summarize the internal structure of the Stockholm syndrome measure in 3 latent factors constituting a tri-factor model with EigenValues varying between 1.29 to 5.89. The shared variance of responses between the multiple manifest variables (variance explained by the factor model) is estimated at 57.43% (See Table 1); hence the plot of the scree graph [12] as a function of the EigenValues and the latent factors of the factorial model obtained (See Figure 1).

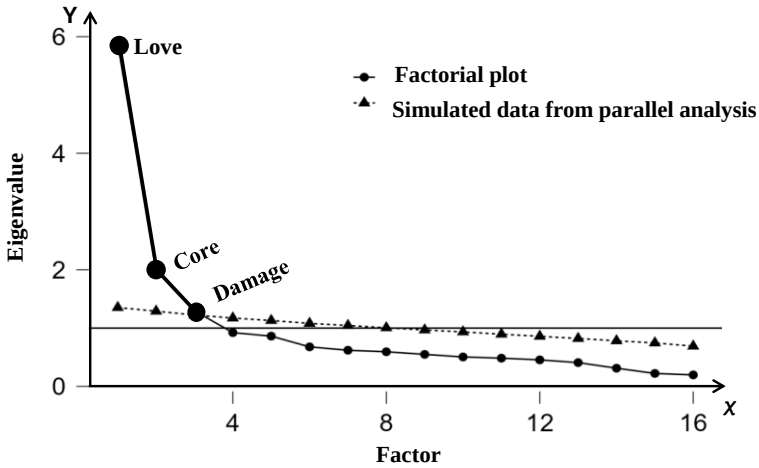

Figure 1. *Scree graph.*

The scree graph describes a clear break in the curve of the manifest variables retained according to the Eigenvalues of the established factor model. Indeed, when reading the graph, we observe that the curve decreases, presenting a clear break from the first latent factor (Love Dependency). It is at this level that the EigenValues go from 5.89 to 1.29 (Psychological damage), thus indicating a variation in factorial information.

3.2. Confirmatory Factor Analyses, Scale Invariance and Evaluation of the Links Between Stockholm Syndrome and Gender Attitudes and Ideologies

The results of these analyses come from sample B of the study and were obtained from the measures administered during the confirmatory phase of the assessment of the metrological qualities of the Stockholm syndrome scale (See subsection *2.3.2.*).

3.2.1. CFA-SEM of the Structure of the Stockholm Syndrome Scale

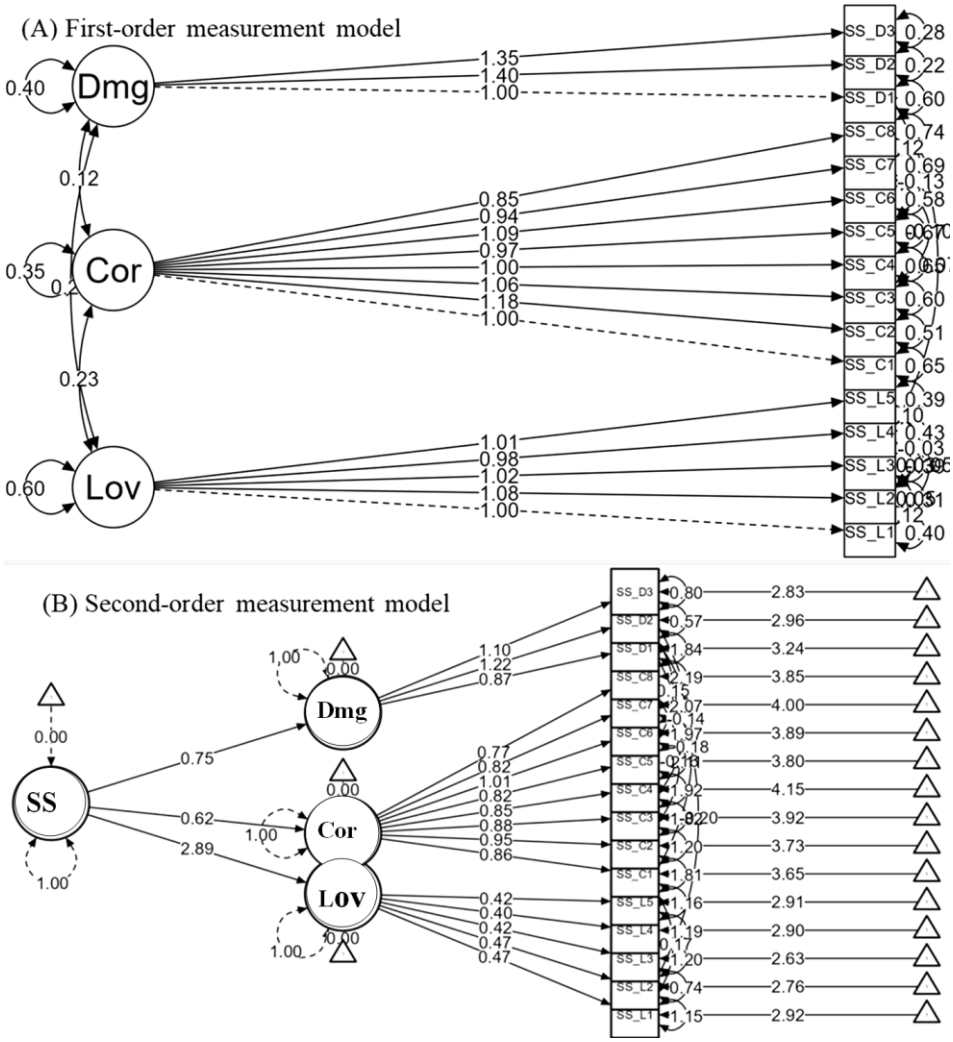

Figure 2. *First and second-order confirmatory tri-factor structures (CFA) of the Stockholm syndrome scale.*

Note. SS = Stockholm syndrome; Lov = Love-Dependence; Cor = Core/main Stockholm syndrome; Dmg = Damage/Psychological damage; (A) First-order model fit*:* χ^2(df) = 157.57 (91); p < .001; Comparative Fit Index (CFI) = .98; Tucker-Lewis Index (TLI) = .97; Akaike Information Criteria (AIC) = 16978.72; Bayesian Information Criteria (BIC) = 17162.22; Standardized Root Mean Square Residual (SRMR) = .04; Root Mean Square Error of Approximation (RMSEA [90%CI] = .04[.03,.05]; (B) Second-order model fit: χ^2(df) = 169.60 (92); p < .001; CFI = .97; TLI = .96; AIC = 24475.97; BIC = 24720.63; RMSEA [95%CI] = .04[.03,.05]; SRMR = .04

The analyses confirm the tri-factorial structure of the Stockholm syndrome scale. Indeed, consistent with the psychometric literature [8, 30], first-order confirmatory factor analyzes report an acceptable fit of the factor structure to the empirical data of the sample (χ^2(df) = 157.57 (91); p < .001; CFI = .98; TLI = .97; AIC = 16978.72; BIC = 17162.22; SRMR = .04; RMSEA [90%CI] = .04 [.03,.05]). The factor loadings of the manifest variables are acceptable (>.40). They vary between .98 and 1.08 for love addiction, between .85 and 1.18 for central Stockholm syndrome and between 1 and 1.40 for psychological damage (See Figure 2(A) First-order measurement model).

The data test the higher order factor structure in which the main latent construct (Stockholm syndrome) is related to its latent factors which, in turn, are related to the manifest variables believed to represent them (See Figure 2(B) second-order model). Thus, this second-order confirmatory model shows that the measured latent construct, notably Stockholm syndrome, is positively associated with the latent factors, with factor loadings above .40. Love dependence, central Stockholm syndrome and psychological damage saturate at 2.89, .62 and .75 respectively. The factor loadings of all the manifest factors vary between .40 and .95. This second-order confirmatory factor structure adequately fits the empirical data (χ^2(df) = 169.60 (92); p < .001; CFI = .97; TLI = .96; AIC = 24475.97; BIC = 24720.63; RMSEA [95%CI] = .04[.03,.05]; SRMR = .04). These factorial data confirm the fact that the 16 items of the French version of the Stockholm syndrome measurement validated in the present research effectively assess this syndrome, summarize the factorial structure of the related scale in 3 latent factors (love dependence, central Stockholm syndrome and psychological damage). Despite these interesting metric parameters, it is important to evaluate the factorial stability of this measure, by comparing the factorial data from two groups of participants in this study who, as a reminder, were selected in the sample due to the fact that they suffer domestic violence. They are either married or concubine.

3.2.2. Measurement Equivalence Analyses of the Stockholm Syndrome Scale (SSS) by Marital Status (Married vs. Concubine)

Table 2. *Adjustment of the (first-order) measurement model to empirical data following the test of configurational, metric and scalar invariances.*

Model	Information criteria			Baseline test		Fit indices				Difference test		
	AIC	BIC	AIC/BIC	χ^2 (df)	P	CFI	ΔCFI	TLI	RMSEA [95%CI]	$\Delta\chi^2$	Δdf	p
Model 1	24437.12	24959.06	.979	295.69 (176)	< .001	.960		.94	.05 [.04,.06]			
Model 2	24419.46	24888.39	.981	304.04 (189)	< .001	.961	-.001	.95	.05 [.04,.06]	8.34	13	.82
Model 3	2442.15	24823.83	.098	336.72 (205)	< .001	.956	.005	.94	.05 [.04,.06]	32.68	16	.008

Latent variables	Indicator	Concubine		Married	
		Model 2	Model 3	Model 2	Model 3
		Factor Loadings	Mean	Factor Loadings	Mean
Core	SS_C1	1	3.62	1	3.62
	SS_C2	1.03	3.75	1.03	3.75
	SS_C3	.97	3.94	.97	3.94
	SS_C4	.93	4.16	.93	4.16
	SS_C5	.87	3.80	.87	3.80
	SS_C6	1.13	3.89	1.13	3.89
	SS_C7	.85	3.98	.85	3.98
	SS_C8	.80	3.85	.80	3.85
Damage	SS_D1	1	3.24	1	3.24
	SS_D2	1.33	2.99	1.33	2.99
	SS_D3	1.23	2.86	1.23	2.86
Love-Dependence	SS_L1	1	2.92	1	2.92
	SS_L2	1.06	2.76	1.06	2.76

Latent variables	Indicator	Concubine		Married	
		Model 2	Model 3	Model 2	Model 3
		Factor Loadings	Mean	Factor Loadings	Mean
	SS_L3	.92	2.62	.92	2.62
	SS_L4	.96	2.91	.96	2.91
	SS_L5	1	2.90	1	2.90

Note. N = 436; n_1 = 215 married women and n2 = 221 concubines; ***p < .001; AIC = Akaike Information Criteria; BIC = Bayesian Information Criteria; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; CI = Confidence Interval; Model 1 = Configural model; Model 2 = Metric model; Model 3 = Scalar model.

The results report that the configuration model (model 1) is mainly fitted and ensures that in general the factor model can be applied to the two groups of women compared (see Table 2). This means that in qualitative terms, the measurement model is the same from one group to another (χ^2(df) = 295.69 (176), p < .001; CFI = .96; TLI = .94). The RMSEA value argues for a better fit of model 1 (RMSEA [95%CI] = .05[.04,.06]). In the case of metric invariance (model 2), the results indicate that the factor loadings are equal in the two groups (varying between .80 and 1.33) and the chi-square difference is not significant ($\Delta\chi^2$ = 8.34; Δdf = 13; p > .05). Model 1 has a relatively low AIC/BIC value (AIC/BIC = .98). The literature does not define the threshold level of this ratio. The value obtained shows that this model justifies an acceptable compromise between the fit and the complexity of the model. The metric model constrains a better fit (CFI = .96; TLI = .95). The RMSEA value is favorable for a better fit of model 2 (RMSEA [90%CI] = .05[.04,.06]). The ΔCFI is less than .01 (ΔCFI = -.001 < .01); which indicates a parsimonious model constrained by equality. These results support the metric invariance of the Stockholm syndrome scale. Individuals interpret the items on this measure in the same way.

The scalar invariance test was carried out by comparing the average structure of model 2 to that of model 3 (see Table 2). Thus, average scores on the latent Stockholm syndrome factors of the group of married women (varying between 2.62 and 4.16) and those of the group of concubine are equal (varying between 2.62 and 4.16). In addition to the factor loadings, the intercepts are equal between these groups (χ^2(df) = 336.72 (205), p < .001; CFI = .95; TLI = .94). The Root Mean Square Error Approximation (RMSEA) better represents the adequacy of the model not only to the population of women, but also to the sample of women surveyed. The RMSEA value decreases and indicates a better model fit. The RMSEA of model 3 of the analysis is good (RMSEA [90%CI] = .05[.04,.06]). The ΔCFI difference test indicates that model 3 is parsimonious (ΔCFI = .005 < .01). The chi-square difference is significant ($\Delta\chi^2$ = 32.68; Δdf = 13; p < .01) and the value of the AIC/BIC ratio is very low (AIC/BIC = .098). This value indicates a better arrangement or accommodation between the fit and the complexity of model 3. Thus, these two categories of women interpret the items of the Stockholm syndrome scale in the same way. These data support the hypothesis of scalar invariance of the validated scale. Considering all these results, we conclude that the French version of the Stockholm syndrome scale presents acceptable psychometric parameters. It can be recommended in the evaluation of this phenomenon among people who are victims of gender-based violence. The present research further establishes links between Stockholm syndrome and gender-related ideologies and attitudes.

Table 3. *Descriptive statistics, study of the links between Stockholm syndrome, femininity ideology, sexism, attitudes towards gender-based violence and ideologies legitimizing gender inequalities.*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Love-Dependence	•																
2. Core	.43***	•															
3. Psychological Damage	.50***	.30***	•														
4. SIA	.29***	.30***	.29***	•													
5. Dependency	.40***	.14**	.28***	.43***	•												
6. Purety	.23***	.18***	.17***	.17***	.10*	•											
7. Caretaking	-.07^{ns}	.07^{ns}	-.13^{ns}	.18***	.04^{ns}	.13**	•										
8. Emotionality	.33***	.22***	.31***	.19***	.35***	.20***	.01^{ns}	•									
9. Modern Sexism	.36***	.22***	.32***	.29***	.33***	.28***	.09*	.3***	•								
10. Contemporary Sexism	.30***	.21***	.26***	.20***	.26***	.44***	.10^{ns}	.32***	.54***	•							
11. Internalized Sexism	.03^{ns}	.004^{ns}	.04^{ns}	.14***	.22***	.19***	.29***	.10*	.24***	.30***	•						
12. Male Approval	.29***	.20***	.22***	.20***	.26^{ns}	.30***	.23^{ns}	.26***	.31***	.38***	.34***	•					
13. ESSSV	.11*	.004^{ns}	.02^{ns}	.19***	.24***	-.03^{ns}	-.05^{ns}	.17***	.18***	.13**	.13**	.11*	•				
14. PLACSV	-.16^{ns}	-.17^{ns}	-.16^{ns}	-.02^{ns}	-.12^{ns}	.12**	.23^{ns}	-.17^{ns}	.07^{ns}	.10*	.19***	.01^{ns}	.03^{ns}	•			
15. GSSJ	-.02^{ns}	-.08^{ns}	-.09^{ns}	.02^{ns}	-.01^{ns}	.16***	.32^{ns}	-.03^{ns}	.12**	.10*	.32***	.22***	-.04^{ns}	.33** *	•		
16. GBSD	-.07^{ns}	.02^{ns}	.06^{ns}	-.08^{ns}	-.03^{ns}	-.03^{ns}	.10^{ns}	-.01^{ns}	.12^{ns}	-.05^{ns}	.32**	.02^{ns}	-.05^{ns}	.14**	.22***	•	
17. DVE	.41***	.29***	.48***	.23***	.33***	.17***	-.20^{ns}	.36***	.12***	.32***	.31^{ns}	.21***	.09*	-.2^{ns}	-.08^{ns}	-.04^{ns}	•
Median	14	32	9	21	22	23	30	10	7	11	17	9	4	9	19	4	32.50
M	14.12	40	9.3	20.51	20.96	23	30.37	9.90	7.01	11.30	16.7	8.8	4.87	8.84	12	4.20	33.92
SD	7.10	9.05	4.38	7.03	8.65	7.64	6.8	3.97	2.82	3.98	5.5	3.22	2.94	3.60	4.16	1.683	16.66
Shapiro-Wilk test	.94***	.98***	.96***	.98***	.97***	.99***	.98***	.98***	.97***	.99***	.98***	.96***	.87*** *	.94**	.98*** *	.94** *	.94**

Note. SIA = Stereotypic Image and Activities; ESSSV = Endorsement of Situation-Specific Structural Violence; GSSJ = Gender-Specific System Justification; GBSD = Gender-Based Social Dominance; DVE = Domestic Violence Experienced; PLACSV = Perceived Lack Of Alternative To Confront Structural Violence; M = Mean; SD = Standard Deviation; *p < .05, ** p < .01, ***p < .001, ns = non-significant

3.2.3. Predictive Qualities of the Stockholm Syndrome Scale: Stockholm Syndrome and Gender Related Ideologies and Attitudes

The results in Table 3 present the associations between the dimensions of Stockholm syndrome, attitudes towards ideologies legitimizing gender inequalities and attitudes towards violence against women. In detail, love dependence (Love), central Stockholm syndrome (Core) and psychological damage (Damage) have positive and significant relationships with the components of feminist ideology: stereotypical image, dependence/deference, purity and emotionality ($p < .001$). Only the dimension of support for feminist ideology is insignificantly related to Stockholm syndrome ($p > .05$). Likewise, we observe that love dependence, central Stockholm syndrome and psychological damage are significantly associated with modern and contemporary sexism. We also note that the internalization of sexism is significantly linked to central Stockholm syndrome and not significantly linked to psychological damage and love dependence. The data collected also reported non-significant negative links between the gender-specific system justification and the dimensions of Stockholm syndrome. Gender-based social dominance is negatively and non-significantly associated with love dependence and psychological damage. It is, on the other hand, positively and not significantly related to central Stockholm syndrome (Core).

The relationships between Stockholm syndrome and attitudes towards gender-based violence show that: approval of masculinity has positive and significant links with the components of Stockholm syndrome. Endorsement of situation-specific structural violence, on the other hand, is significantly related to central Stockholm syndrome and love dependence; but it is not significantly related to psychological damage. On the other hand, the perceived lack of alternatives to deal with structural violence is negatively associated with love dependence, central Stockholm syndrome and psychological damage. The results reveal that Stockholm syndrome is positively linked to experienced domestic violence. The study of all these relationships is further explored by testing the structural relationships and the fit of the regression models developed.

(i). Empirical and Explanatory Approach to Attitudes Towards Gender-Based Violence (GBV) Through Stockholm Syndrome

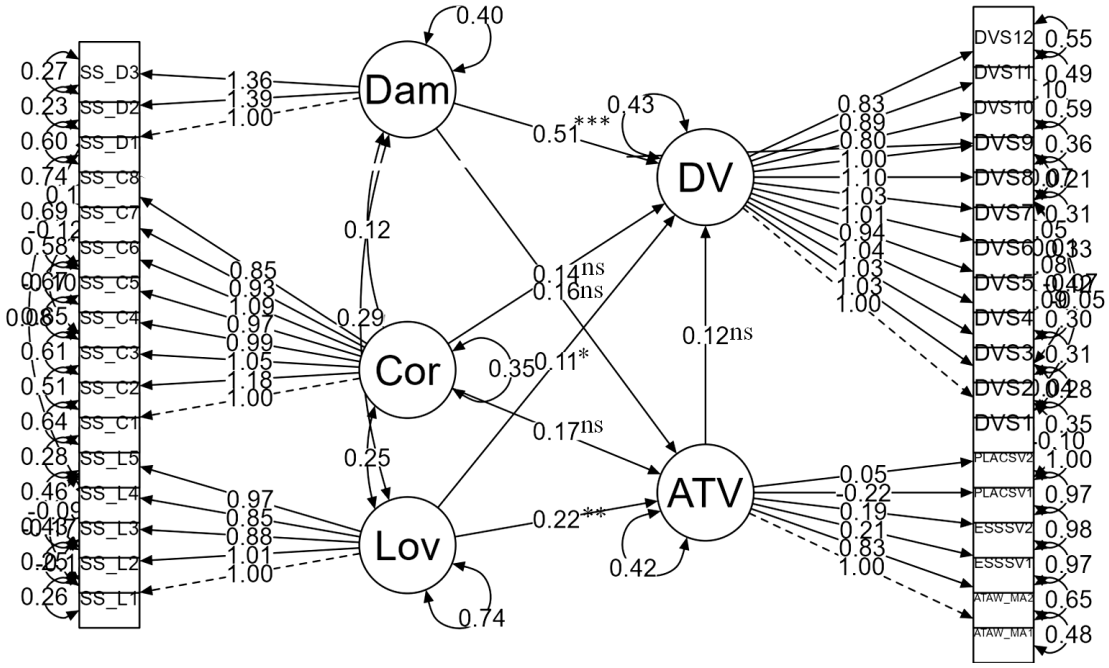

Figure 3. *Evaluations of structural relationships between Stockholm syndrome, attitudes towards gender-based violence and experienced domestic violence.*

Note. Dam = Damage; Cor = Central Stockholm Syndrome; Lov = Love; DVE = Domestic Violence Experienced; ns = non-significant; Model fit: $\chi^2(df) = 1572.87$ (230); $p < .001$; AIC/BIC = .99; CFI = .95; TLI = .95; RMSEA = .04 [.02;.05]; SRMR = .05; *p < .05, **p < .01, ***p < .001

The present study reports that there is a positive link between dimensions of Stockholm syndrome and attitudes towards gender-based violence and domestic violence (see also [51] for a similar observation). Indeed, while psychological damage is positively and not significantly associated with attitudes towards gender-based violence (β = .16, SE = .08, p > .05, 95%[-.01,.32]), it is however positively and significantly linked to experienced domestic violence (β = .51, SE = .07, p < .001, 95%[.35,.66]). Furthermore, central Stockholm syndrome is both positively and non-significantly related to attitudes towards gender-based violence (β = .17, SE = .09, p > .05, 95% [-.01,.34]) and experienced domestic violence (β = .14, SE = .07, p > .05, 95%[-.01,.28]). Regarding love dependence, it has positive and significant relationships with attitudes towards gender-based violence (β = .22, SE = .06, p < .01, 95%[.08,.34]) and domestic violence experienced by women (β = .113, SE = .05, p < .05, 95%[.01,.22]). Overall, these results provide empirical evidence regarding the relationships between latent factors of Stockholm syndrome and gender-based violence.

(ii). Stockholm Syndrome and Sexism

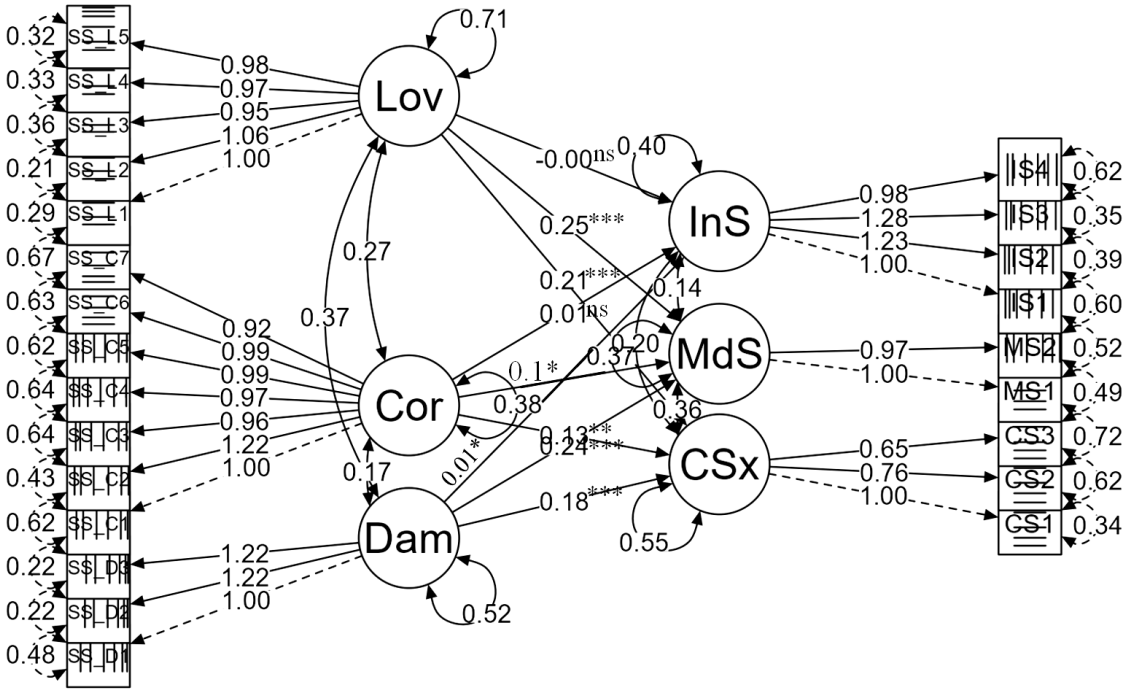

Figure 4. *Structural model predicting attitudes towards sexism through Stockholm syndrome.*

Note. Dam = Damage; Cor = Central Stockholm Syndrome; Lov = Love; InS = Internalized Sexism; MdS = Modern Sexism; CSx = Contemporary Sexism; Model fit: χ^2(df) = 507.58 (237), p < .001; BIC = 22991.245; AIC = 22779.208; CFI = .99; TLI = .99; RMSEA = .04[.03,.05], SRMR = .04

Figure 4 explains women's attitudes towards sexism based on Stockholm syndrome. It reports that Stockholm syndrome positively and significantly explains contemporary, modern sexism and internalized sexism; these three forms of sexism being significantly linked to each other (p < .001). Concretely, the Stockholm syndrome, under its damage dimension, significantly induces attitudes in favor of contemporary (β = .18, SE = .05, p < .001, 95%CI [.08,.28]), modern (β = .24, SE = .05, p < .001, 95%CI [.14,.34]) and internalized sexism (β = .01, SE = .03, p < .05, 95%CI [-.05,.08]). Under its central dimension (Core), Stockholm syndrome significantly impacts attitudes in favor of contemporary (β = .13, SE = .04, p < .01, 95%CI [.03,.21]) and modern sexism (β = .1, SE = .04, p < .05, 95%CI [.01,.20]). However, central Stockholm syndrome does not significantly impact internalized sexism (β = .01, SE = .03, p > .05, 95%CI [-.04,.07]). Furthermore, love dependence (Love) significantly strengthens attitudes towards modern (β = .24, SE = .04, p < .001, 95%CI [.15,.33]) and contemporary sexism (β = .21, SE = .04, p < .001, 95%CI [.12,.30]), but it does not significantly affect internalized sexism (β = -.003, SE = .03, p > .05, 95%CI [-.06,.05]). These different model variables have a better fit to the empirical data (χ^2(df) = 507.58 (237), p < .001; AIC/BIC = .99; CFI = .99; TLI = .99; RMSEA = .04[.03,.05], SRMR = .04). These re-

sults statistically report that women with Stockholm syndrome support sexist acts and attitudes underlying the legitimization of gender inequalities.

(iii). Stockholm Syndrome and Adherence to Ideologies Legitimizing Gender Inequalities

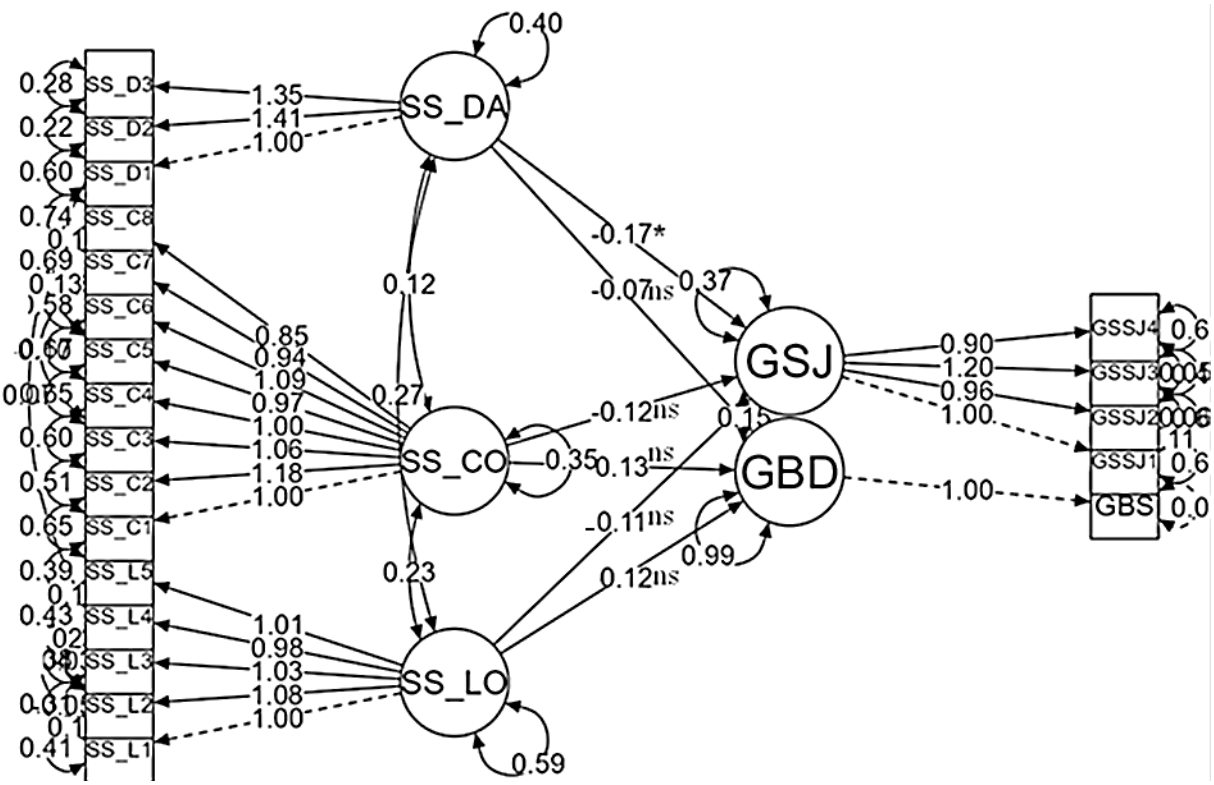

Figure 5. *Explanatory model of adherence to ideologies legitimizing gender inequalities through Stockholm syndrome.*

Note. Dam = Damage; Cor = Central Stockholm Syndrome; Lov = Love; GSJ = Gender-specific System Justification; GBD = Gender-Based social Dominance; Model fit: χ^2(df) = 233.54 (167), p < .001; CFI = .98; TLI = .96; RMSEA = .03[.02;.03]; SRMR = .04; AIC/BIC = .98

Does Stockholm syndrome induce adherence to ideologies that legitimize gender-based intergroup inequalities? The model in Figure 5 fits the data better empirically (χ^2(df) = 233.54 (167), p < .001; CFI = .98; TLI = .96; RMSEA = .03[.02;.03]; SRMR = .04). These data establish that psychological damage significantly induces a weak tendency towards gender-specific system justification (β = -.17, SE = .05, p < .05, 95%CI [-.01,.19]) and gender-based social dominance (β = -.07ns, SE = .08, p > .05, 95%CI [-.34, -.03]). Central Stockholm syndrome has a non-significant impact on the tendency to justify the gender system (β = -.12ns, SE = .07, p > .05, 95%CI [-.26,.02]), but explains, on the other hand, the tendency towards gender-based social dominance (β = .13ns, SE = .04, p > .05, 95%CI [-.09,.18]). We also observe that love dependence does not predict the tendency to justify the system (β = -.11ns, SE = .06, p > .05, 95%CI [-.01,.25]); but it explains gender-based social dominance (β = .12, SE = .06, p > .05, 95%CI [-.02,.13]). From these results it follows that women with Stockholm syndrome do not justify the gender system, but are inclined to adhere to gender-based social dominance; which appears paradoxical.

The model in Figure 6 fits the data better (χ^2(df) = 233.54 (167), p < .001; CFI = .97; TLI = .95; RMSEA = .03[.02;.05]; SRMR = .04) and reports positive structural relationships between dimensions of Stockholm syndrome and adherence to feminist ideology among participants. The structure of these relationships presents a very weak and significant regression coefficient, indicating that psychological damage explains feminist ideology at .9% (β = .09, SE = .04, p < .05, 95%CI [. 01,.17]). The love dependence dimension also significantly explains feminist ideology at 23% (β = .23, SE = .04, p < .001, 95%CI [.14,.31]). On the other hand, central Stockholm syndrome (Core) induces adherence to feminist ideology very weakly and not significantly (β = .01, SE = .04, p > .05, 95% CI [-.06,.09]). These data indicate that Stockholm syndrome is negatively related to adherence to feminist ideology.

(iv). Stockholm Syndrome and Feminism

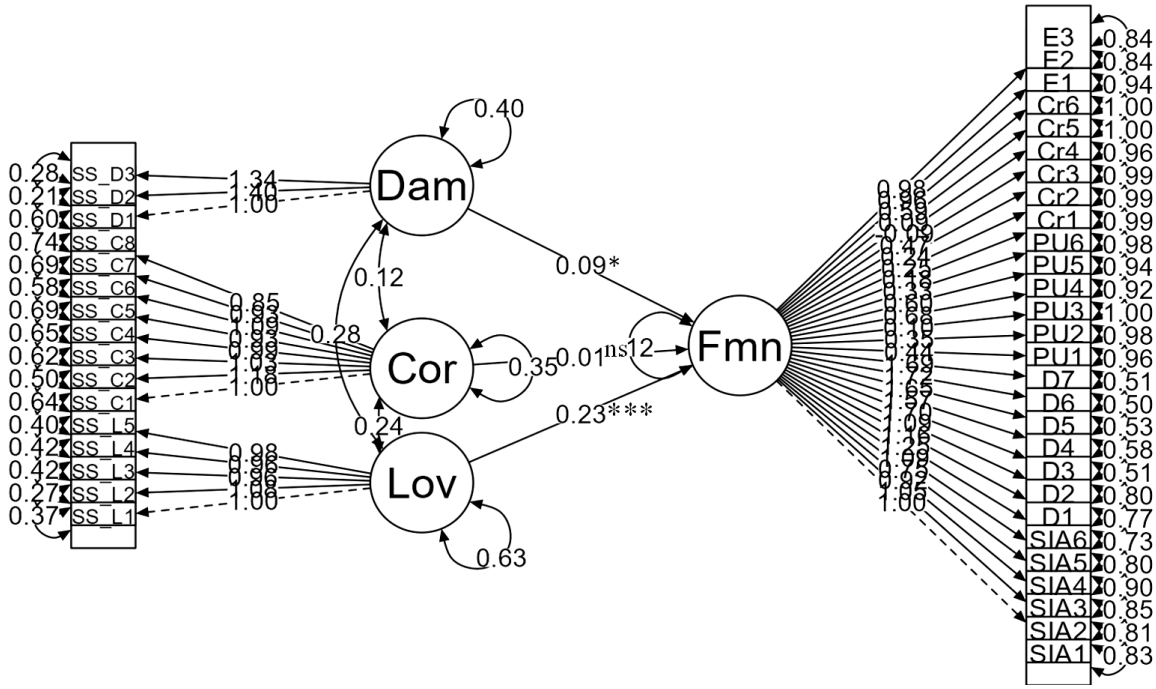

Figure 6. *Analysis of the structural relationships between Stockholm syndrome and feminist ideology.*

Note. Dam = Damage; Cor = Central Stockholm Syndrome; Lov = Love; Fmn = Feminism; ns = non-significant; *p < .05; ***p < .001; Model fit: χ^2(df) = 233.54 (167), p < .001; CFI = .98; TLI = .96; RMSEA = .03[.02;.03]; SRMR = .04; AIC/BIC = .98

4. Discussion

The objective of this study was to translate and validate the French version of the *Escala para identificar reacciones de s ńdrome de Estocolmo (SISSR) relacionada con violencia de pareja* [51]. The translation from Spanish to French was done following the standardized "back-translation" process. The validation of the French version of this measure of Stockholm syndrome focused first on the exploration of its factorial structure and the analysis of the quality of its items. Exploratory analyses (EFA) reduced the content of this measure to 16 items (instead of 49 like the original version) grouped into three latent factors, on the basis of EigenValues (>1) and factor loadings (≥ .40). This version therefore includes the same dimensions as the original version of the measure: love dependence (Love), central Stockholm syndrome (Core), and psychological damage (Damage) [27, 29, 51]. The EFAs revealed satisfactory metric properties. The factors explored and the overall scale are reliable from the point of view of alpha and omega methods [17, 46].

The validation of the French version of the Stockholm syndrome measurement also focused on its confirmatory evaluation and its invariance. Systematic suitability assessment procedures have been determined by satisfactory and statistically significant thresholds [8, 30]. The equivalence test of this measure revealed conclusive metric properties, consistent with the standards defined by the psychometric literature [14, 44]. As a result, evidence for the equivalence of the factor structures of the Stockholm syndrome scale has been established [10, 33, 55].

Finally, this study explained several gender-related attitudes and ideologies based on Stockholm syndrome to ensure the predictive validity of the Stockholm syndrome measure. It emerges that Stockholm syndrome is linked to adherence to feminist ideology, to ideologies legitimizing gender inequalities (gender-based social dominance), sexism (modern, contemporary and internalized), attitudes towards gender-based violence and domestic violence experienced by women in couples. The most striking results from these relationships indicate that in the present research, women with Stockholm syndrome: 1) do not legitimize the specific gender system, that is, they do not perceive the gender social system as legitimate, good and fair; 2) they accept the gender-based social hierarchy, that is to say, they accept a social hierarchy in which men dominate women; 3) they internalize sexism, hence their acceptance of forms of discrimination and violence against them; which further supports the phenomenon of Stockholm syn-

drome (see [51]); and 4) they do not adhere to feminist ideology, which can reflect the absence of the desire for women empowerment. These contributions follow the work of [28] who explained certain paradoxical behaviors observed in women who are victims of domestic violence, but who feel love for the people who mistreat them, defend their attackers and minimize the nature of the abuse suffered [51]. In view of these results, we conclude that the confirmation of the three latent factor model of the French version of this scale and the empirical relationships established between Stockholm syndrome, feminist ideology, gender attitudes and legitimizing ideologies of gender inequalities make both methodological and theoretical contributions to the literature on gender issues.

5. Limitations and Perspectives

Despite the methodological and theoretical contributions of the present study to the field of research on gender-based violence in general and on Stockholm syndrome in particular, some weaknesses must be noted. First, it did not check the structural and residual invariance of the validated measure. Future research can verify these parameters. Second, it did not associate the Stockholm syndrome scale with scales measuring constructs such as experience of sexual violence, attitudes towards female genital mutilation, sexual harassment and feminicide, attitudes towards gender-based violence (torture in detention, rape, etc.) committed or tolerated by government forces (police officers, gendarmes and soldiers), the feeling of victimization, the feeling of love and negative emotions and positive (anger, disgust, distrust, fear and despair). The reason is that the concept of Stockholm syndrome underlies the development of positive emotions favoring the maintenance of the relationship between the victim and the predator [37]. Future research will be able to establish these connections. Third, following [7], we can analyze Stockholm syndrome as a survival strategy and link it to resilience. In patriarchal societies, it is understood that women must submit to male hegemony. They are kept in a secondary role compared to men and violence is regularly deployed to ensure the maintenance of this sexist order. It would have been interesting if the present study assessed the attitude towards patriarchy in relation to Stockholm syndrome.

6. Conclusion

This study aimed to remove the obstacle due to the fact that the scale for identifying "Stockholm syndrome" reactions in young dating women only exists in English and Spanish; which prevents its administration to individuals who do not speak these languages. It translated and validated this scale into the French language, with Cameroonian women victims of domestic violence. Exploratory results (EFA) revealed a reduced structure of sixteen items of the Stockholm syndrome, summarizing the three latent factors of the English and Spanish versions [29, 51]. The confirmation and invariance results revealed that this structure is stable and invariant depending on marital status (married vs. concubine), which indicated that women victims of domestic violence, regardless of their marital status, interpret the items of this tool for identifying reactions to Stockholm syndrome in the same way. Thus, the reliability of this measure having been established, it can now be used to determine whether women victims of domestic violence are victims of Stockholm syndrome. This study also set out to test the predictive validity of this tool. The results established that the construct of Stockholm syndrome has links with gender-related ideologies and attitudes: attitudes towards gender-based violence, sexism, feminism, non-justification of the gender system and gender-based social dominance.

Funding

This research did not benefit from any institutional funding.

Conflicts of Interest

The authors declare no conflicts of interest.

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