

Anxious, hostile, and sadistic: Maternal attachment and everyday sadism predict hostile masculine beliefs and male sexual violence

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ABSTRACT

This study examined everyday sadism and childhood parental attachment as predictors of male sexual aggression and coercion against women. A nationwide sample of adult men ($N = 489$) completed two common hostile masculinity measures, Rape Myth Acceptance and Hostility towards Women, which were tested as mediators in a path analysis. Physical sadism was expected to have a direct path to sexual violence, and vicarious and verbal sadism were expected to have indirect effects on sexual violence by increasing hostile masculinity. Anxious maternal attachment was also predicted to indirectly increase sexual assault behavior through these same mediators. These hypotheses had mixed support. Hostility towards Women did not directly predict sexual violence; however, it had a strong association with Rape Myth Acceptance, which had a direct path to sexual assault. Physical sadism directly predicted the outcomes, and vicarious sadism and anxious maternal attachment predicted Hostility towards Women. Verbal sadism did not have significant paths in the model. This model accounted for 33% and 27% of sexual aggression and coercion, respectively. A cross-validation procedure was conducted to assure consistency and invariance of the path model.

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1. Introduction

Although males and females can be both perpetrators and victims, men assaulting women is the most common form of sexual violence (Tjaden & Thoennes, 2006). Two types of sexual assault exist in the literature. The first, termed *sexual aggression*, involves physical tactics (e.g., force, substance-induced incapacitation) to gain unwanted sexual contact. The second type, *sexual coercion*, includes non-physical means (e.g., lies, guilt, false promises) to gain unwanted sexual contact (DeGue, DiLillo, & Scalora, 2010). Empirical investigation suggests aggressors and coercers are more similar than different, and they have common etiological factors (DeGue & DiLillo, 2004).

One etiological model of sexual violence is the Confluence Model (Malamuth, Sockloskie, Koss, & Tanaka, 1991). The Confluence Model is a multifactorial model of sexual assault with two proximal, latent constructs—hostile masculinity and unrestricted sociosexuality—predicting sexual assault. There is considerable evidence supporting hypotheses derived from the Confluence Model; however, unrestricted sociosexuality has been challenged as a sexual violence factor (Knight & Sims-Knight, 2003), and others have

found null results (e.g., Baer, Kohut, & Fisher, 2015). Conversely, hostile masculinity has been consistently associated with sexual violence (e.g., Debowska, Boduszek, Dhingra, Kola, & Meller-Prunski, 2015; Parkhill & Abbey, 2008). Two common hostile masculinity components are Hostility towards Women (HTW) and Rape Myth Acceptance (RMA). HTW involves distrustful and aggressive response patterns related to females (e.g., most women lie to get ahead), and RMA consists of persistent rape beliefs that are usually inaccurate (e.g., women's clothing causes rape; Lonsway & Fitzgerald, 1995).

1.1. Attachment theory

Childhood factors have been associated with sexual aggression and coercion (e.g., Malamuth et al., 1991), but one factor less commonly considered is attachment. Attachment theory is an evolutionary approach to explaining lasting, affectionate relationships in humans (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1973). According to attachment theory, infants develop either a secure attachment, or an anxious or avoidant insecure attachment when interacting with primary caregivers. The attachment style developed in childhood is relatively stable over time (Bretherton, 1985), and it often continues to impact many relationships in adulthood (Hazan & Shaver, 1987). This is due to attachment's influence on affective and cognitive components of interpersonal perception (Alexander, 1992; Bretherton, 1985). Individuals attend to and perceive others through a lens colored by

Abbreviations: HTW, Hostility towards Women Scale; RMA, Rape Myth Acceptance Scale.

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childhood attachment relationships, and insecurely attached individuals are prone to cognitive distortions thanks to this lens (Alexander, 1992). Maternal attachment predicts social interactions more than paternal attachment, but a secure attachment to both parents relates to the most optimal life outcomes (Main & Weston, 1981).

Both unspecified insecure attachment and anxious attachment have been associated with sexual aggression. For example, a non-specific insecure attachment indirectly predicted sexual violence, mediated by hostile masculinity (Nguyen & Parkhill, 2014). An overall anxious attachment style, as well as an anxious attachment towards a specific female, predicted college men's perpetration of sexual assault against that woman (Barbaro, Parkhill, & Nguyen, 2016). These findings suggest attachment styles relate to sexual violence.

1.2. Everyday sadism

Narcissism- and psychopathy-related traits have been extensively linked to sexual aggression, and both of these personalities have overlapping malevolent traits (e.g. Malamuth, 2003; Zeigler-Hill, Enjaian, & Essa, 2013). This group of clinical and subclinical personality types, which includes Machiavellianism, is called the Dark Triad (Furnham, Richards, & Paulhus, 2013; Paulhus & Williams, 2002). Investigation of the triad revealed intercorrelated traits (the *dark core*) were callousness and manipulativeness (Jones & Figueredo, 2013). While the Dark Triad personalities have commonalities like callousness, each personality also expresses a distinct trait cluster (e.g., grandiosity in narcissism). Understanding these features resulted in other findings, such as possibly expanding the group.

Everyday sadism has been proposed as a fourth personality deserving inclusion in the dark cluster, as it has the same dark core (Chabrol, Van Leeuwen, Rodgers, & Séjourné, 2009). Its distinct contribution to the group is enjoyment of others' humiliation, pain, and suffering (Paulhus, 2014). Behaviors like watching or participating in violent sports, brutalizing prisoners and helpless others, and bullying are consistent with everyday sadism (Buckels, Jones, & Paulhus, 2013). Support for including everyday sadism in the dark cluster is growing (e.g., Buckels et al., 2013), and some now call the group the Dark Tetrad (e.g., Paulhus, 2014).

Because everyday sadism is a relatively new construct, no known study has investigated its relationship to sexual assault; however, most everyday sadism studies find it predicts an impulsive type of violence. For example, everyday sadism was the only dark personality positively associated with time and energy spent aggressing against an innocent person (Buckels et al., 2013). It is also related to violent video game preferences (Greitemeyer, 2015), seeking conflict with other social media users (i.e., *trolling*; Buckels, Trapnell, & Paulhus, 2014), and using personal resources to punish cooperative individuals (i.e., *antisocial punishment*; Pfattheicher & Schindler, 2015).

2. Planned analyses and predictions

A path analysis is planned for these data; however, because no known studies have analyzed differential parental attachment and everyday sadism in sexual assault, regression analyses will guide the model. In the path analysis, the attachment scales will be entered as exogenous variables, as their temporal order can be established in adult participants. Additionally, everyday sadism scales will be exogenous, consistent with empirical findings of psychopathy- and narcissism-related traits being distal predictors of sexual violence (e.g., Malamuth, 2003). Moreover, placing sadism exogenously is supportive of a Confluence Model premise that a general antisocial attitude contributes to more specific characteristics (e.g., HTW or RMA) disinhibiting sexual violence (Malamuth et al., 1995). In this way, the antisocial behavior is similar to an antisocial G factor (or *p* factor in general psychopathology; Caspi et al., 2013), which interacts with specific proximal sexual violence constructs (Malamuth, 2003). In the present conceptualization,

the antisocial G is everyday sadism. Rather than combine HTW and RMA into one hostile masculinity variable as is common in Confluence Model research (e.g., Abbey, Jacques-Tiura, & LeBreton, 2011), each will be analyzed individually to determine if both predict sexual violence. It is expected both HTW and RMA will have direct associations with sexual assault and mediate the attachment and sadism scales' relationships with sexual aggression and coercion.

Past research established attachment's indirect association with sexual violence, mediated by similar hostile masculinity variables (Nguyen & Parkhill, 2014), and Barbaro et al. (2016) demonstrated anxious attachment specifically relates to sexual aggression. Nguyen and Parkhill (2014) is most consistent with the present research variables, and an indirect relationship between anxious attachment and sexual violence is hypothesized. Moreover, maternal attachment is a better predictor of social interaction than paternal attachment (Main & Weston, 1981); thus, paternal attachment is not expected to be significant, and anxious maternal attachment is expected to emerge as a significant exogenous predictor.

No known empirical findings can guide the everyday sadism hypotheses. Anecdotally, individuals with high levels of physical sadism seem likely to take an active role in others' humiliation and pain, whereas vicarious sadism seems to be a non-active, non-physical role, and verbal sadism seems to be an active, but non-physical role. Thus, physical sadism is expected to have a direct relationship with sexual violence. Vicarious and verbal sadism are also expected to be included, but it is anticipated they will be mediated by RMA and HTW.

3. Methods

3.1. Participants

The adult males in this national sample ($N = 489$) were recruited through Amazon's Mechanical Turk (MTurk). These participants also completed additional measures and were included in another study. The participants were predominantly Caucasian (82%), and the remaining ethnicities were roughly equally distributed (Latino 5%, African American 5%, Asian 3%, Native American 2%, Bi-racial, 2%, Other 1%). Participant ages ranged from 18 to 66 years ($M = 33.98$, $SD = 11.07$).

3.2. Materials

3.2.1. Revised Hostility towards Women Scale (Lonsway & Fitzgerald, 1995)

This instrument assesses mistrust of, and aggression towards, women specifically. Items were rated on a 7-point Likert scale (1 = *Strongly Disagree*; 7 = *Strongly Agree*), and there was strong internal consistency ($\alpha = .90$).

3.2.2. Rape Myth Acceptance Scale (Lonsway & Fitzgerald, 1995)

This instrument assesses beliefs about rape that are widely held, but usually false. Items were rated on a 7-point Likert scale (1 = *Strongly Disagree*; 7 = *Strongly Agree*), and there was strong internal consistency ($\alpha = .95$).

3.2.3. Experiences in Parental Relationships Scale (Limke & Mayfield, 2011)

This instrument assesses anxious and avoidant parental attachment. Items were rated on a 7-point Likert scale (1 = *Disagree Strongly*, 4 = *Neutral/mixed*, 7 = *Agree Strongly*), and the scale was included twice to capture ratings for each parent. Maternal and paternal indices had strong internal consistency (maternal avoidance $\alpha = .88$; maternal anxiousness $\alpha = .92$; paternal avoidance $\alpha = .87$; paternal anxiousness $\alpha = .93$).

3.2.4. Comprehensive Assessment of Sadistic Tendencies (Buckels & Paulhus, 2013)

This instrument assesses the dispositional tendency to hurt others or take pleasure in their pain. Items were rated on a 5-point Likert scale (1 = *Strongly Disagree*; 5 = *Strongly Agree*), and verbal, physical, and vicarious sadism indices were constructed. All indices had acceptable internal consistency (physical $\alpha = .85$; verbal $\alpha = .81$; vicarious $\alpha = .76$).

3.2.5. Revised Sexual Experiences Survey-Short Form Perpetration (Koss et al., 2007)

This instrument assesses acts of sexual aggression from 14 years of age to the present. Participants indicated the frequency of behaviors (0, 1, 2, or 3+ times), ranging from unwanted fondling and kissing to rape. Two indices, sexual aggression and sexual coercion, were created. Sexual aggression included acts consistent with attempted and completed rape, as well as unwanted touching (e.g., unwelcome kissing and removing articles of clothing). Sexual coercion included aggressive non-physical acts (e.g., criticism, lies, threats) resulting in attempted or completed unwanted penetration. Both indices had strong internal consistency (both $\alpha s = .94$).

3.3. Procedure

The authors' institutional review board approved the survey prior to data collection. Adult male participants registered for the study on the MTurk website. After accepting the study, participants were forwarded to the informed consent page on Qualtrics (a survey-hosting website; www.qualtrics.com). After giving informed consent, participants completed the Qualtrics survey. The scale order was counterbalanced, and the survey took <30 minutes.

4. Results

4.1. Descriptive statistics

Regression analyses were conducted to learn the associations between study variables. Table 1 demonstrates predictor variable relationships. The regression weights were calculated in a simultaneous multiple regression with all predictor variables entered into the equation (outcome variable is the variable listed on the top row of the table). Table 2 illustrates the means, standard deviations, and associations between predictors and sexual violence outcomes.

Overall, 30% of participants endorsed an act of sexual aggression (21.5%) and/or an act of sexual coercion (20.2%). Table 3 details participants reporting sexual aggression and coercion. In the sexually aggressive sample ($n = 145$), 41% reported both sexual aggression and

Table 2

Means, standard deviations, and associations between predictors and sexual violence.

	M	SD	Sexual aggression <i>M</i> = 1.64 (<i>SD</i> = 5.30)		Sexual coercion <i>M</i> = 1.42 (<i>SD</i> = 4.11)	
			<i>r</i>	β	<i>r</i>	β
Hostile to women	30.06	11.97	.25	-.12	.26	-.05
Rape myth belief	38.17	20.54	.50	.38	.45	.33
Anxious to mother	30.54	13.21	.31	.07	.25	.06
Anxious to father	32.46	14.21	.23	.08	.17	.02
Avoidant to mother	38.50	12.70	.08	-.01	.02	-.06
Avoidant to father	44.24	12.53	-.01	-.06	-.04	-.06
Physical sadism	7.50	3.82	.48	.33	.43	.28
Verbal sadism	14.28	5.56	.21	-.06	.21	-.03
Vicarious sadism	15.85	5.74	.29	.04	.29	.06

Note. **Bold** = $p \leq .01$; *Italics* = $p \leq .05$. Regression weights are a simultaneous multiple regression with all predictors entered into the equation, with sexual aggression or coercion as the outcome.

coercion, 32% reported sexual aggression only, and 27% reported coercion only.

4.2. Path analysis

A path analysis was performed in AMOS 23.0 (Arbuckle, 2014). Path analyses are superior to several multiple regressions, as they decrease the probability of a Type I error (Schumacker & Lomax, 2004). The hypothesized model was drawn based on the significant regressions in Tables 1 and 2. The three sadism scales and anxious and avoidant maternal attachment were exogenous. HTW was a mediator between most exogenous predictors and RMA (except physical sadism and anxious maternal attachment, which had direct paths to RMA). RMA and physical sadism had direct paths to sexual aggression and coercion.

The hypothesized model was an excellent fit to the data, $\chi^2 (13) = 22.09$, $p = .054$, NFI = .984, CFI = .993, RMSEA = .038, 90% CI [.000, .064], Relative $\chi^2 = 1.699$. However, there were non-significant paths, and avoidant maternal attachment and verbal sadism were removed for non-significance. The final model was also an excellent fit to the data, $\chi^2 (6) = 10.299$, $p = .113$, NFI = .991, CFI = .996, RMSEA = .038, 90% CI [.000, .077], Relative $\chi^2 = 1.717$. It explained 33% of the variance in sexual aggression and 27% of the variance in sexual coercion. Fig. 1 depicts the final model, and Table 4 details the unstandardized and standardized regression weights for the path analysis.

Subsequent analyses investigated sexual aggression and coercion in separate models. The results were similar to the final model. All of the paths were the same, with regression weights no more than $\pm .02$ from the final model. Another analysis reversed the causal order of RMA and HTW. That model was a poor fit to the data, RMA only

Table 1

Correlations and standardized regression weights of study predictors.

Top diagonal: zero-order correlations Bottom diagonal: standardized regression weights										
Index		1	2	3	4	5	6	7	8	9
Mean (SD)										
1	Hostile to women	–	.55	.38	.22	.25	.15	.37	.33	.37
2	Rape myth belief	.40	–	.36	.22	.13	.02	.42	.27	.34
3	Anxious to mother	.16	.14	–	.61	.34	.22	.37	.23	.19
4	Anxious to father	–.05	.02	.52	–	.15	.30	.24	.21	.16
5	Avoidant to mother	.11	–.02	.21	–.13	–	.37	.16	.08	.06
6	Avoidant to father	.06	–.09	–.04	.22	.34	–	.08	.11	.06
7	Physical sadism	.01	.18	.16	–.02	.06	–.04	–	.49	.49
8	Verbal sadism	.12	–.02	–.02	.06	–.04	.06	.28	–	.42
9	Vicarious sadism	.15	.09	–.07	.04	–.05	.02	.28	.20	–

Note. **Bold** = $p \leq .01$; *Italics* = $p \leq .05$. Regression weights are a simultaneous multiple regression with all predictors entered into the equation. The outcome variable is the predictor listed at the top.

Table 3

Total participants endorsing sexual aggression and coercion.

		Sexual aggression	
		Yes	No
Sexual coercion	Yes	59 (12.1%)	40 (8.2%)
	No	46 (9.4%)	344 (70.3%)
Total		105 (21.5%)	384 (78.5%)

Note: Sample percentage in parentheses. $N = 489$.

moderately predicted HTW, and HTW did not directly predict sexual aggression or coercion.

4.3. Model consistency and invariance

Significant regressions informed the path analysis, and multiple specifications occurred before an acceptable model was found. This post hoc method increased the risk of capitalizing on chance (Byrne, 2013). To try to mitigate this possibility, a cross-validation procedure tested model consistency and invariance. Participants were first randomly assigned to one of two roughly equivalent subsamples. Fit statistics for each subsample were analyzed to determine model consistency. All paths remained significant and each subsample maintain adequate fit (Subsample 1 $\chi^2 (6, n = 244) = 3.208, p = .782, NFI = .995, CFI = 1.000, RMSEA = .000, 90\% CI [.000, .055],$ Relative $\chi^2 = 0.535$; Subsample 2 $\chi^2 (6, n = 245) = 7.665, p = .264, NFI = .987, CFI = .997, RMSEA = .034, 90\% CI [.000, .094],$ Relative $\chi^2 = 1.278$). Thus, the model appears consistent (Garson, 2015).

For the invariance determination, the AMOS multi-group function analyzed the model at the structural weights (equal regression weights), structural intercepts (equal path intercepts), and structural residuals (equal residual variance and covariance) levels. Structural residuals is a severe constraint that is excessively stringent (Byrne, 2013; Garson, 2015), so invariance at this level was not expected. The model appears invariant at the expected structural weights and structural intercepts level (Garson, 2015), and Table 5 details the model comparison statistics.

5. Discussion

This study's goals included examining the roles of parental attachment and everyday sadism in sexual aggression and coercion. In pursuit of these goals, several predictions were made, and support for the

Table 4

Unstandardized and standardized regression weights for path analysis in Fig. 1.

Parameter estimate	Unstandardized	Standardized
Rape myth \rightarrow sexual aggression	0.10 (.01)	.40
Physical sadism \rightarrow sexual aggression	0.43 (.06)	.31
Rape myth \rightarrow sexual coercion	0.07 (.01)	.33
Physical sadism \rightarrow sexual coercion	0.31 (.05)	.29
Vicarious sadism \rightarrow Hostile towards Women	0.63 (.08)	.30
Anxious to mother \rightarrow Hostile towards Women	0.30 (.04)	.33
Physical sadism \rightarrow Rape Myth Acceptance	1.39 (.21)	.26
Hostile towards women \rightarrow Rape Myth Acceptance	0.72 (.07)	.42

Note. Standard errors are in parentheses; all paths are significant at $p < .01$.

predictions was mixed. HTW and RMA were hypothesized as having direct paths to sexual violence, which was not supported. Only RMA had a direct path to sexual aggression and coercion, and it mediated HTW's relationship with sexual violence. HTW and RMA were also expected to mediate the relationship between the exogenous variables and sexual assault. This hypothesis was supported, as all exogenous variables were related to either HTW (vicarious sadism and anxious maternal attachment) or RMA (physical sadism). In a test of the model, RMA and HTW's causal order was reversed, which resulted in a poor fit, and HTW did not predict sexual aggression or coercion. Although causation cannot be assumed, this finding suggests RMA is a key proximal sexual assault variable deserving specific attention in prevention and intervention efforts. Additionally, these two variables (and others) are commonly aggregated and combined in Confluence Model research (e.g., Abbey et al., 2011), which may be dampening the hostile masculinity effects.

Anxious maternal attachment was expected to be an indirect predictor of sexual violence, which was supported. Other studies associated anxious attachment with sexual violence (Barbaro et al., 2016), and these maternal attachment findings add support and a degree of specificity to those results. It appears anxious maternal attachment, which often stems from preoccupied caregivers (Mikulincer & Florian, 2001), may be responsible for the interpersonal perception lens color, which distorts the trustworthiness of women. Follow-up studies should consider if anxious maternal attachment is accounting for new variance in a sexual aggression model, or if it is accounting for the same variance as common Confluence Model distal predictors, such as childhood maltreatment and juvenile delinquency (Malamuth et al., 1995).

This research offers initial evidence for adding everyday sadism to sexual violence conceptual models. The physical sadism scale was expected to have direct paths to sexual assault due to the active role

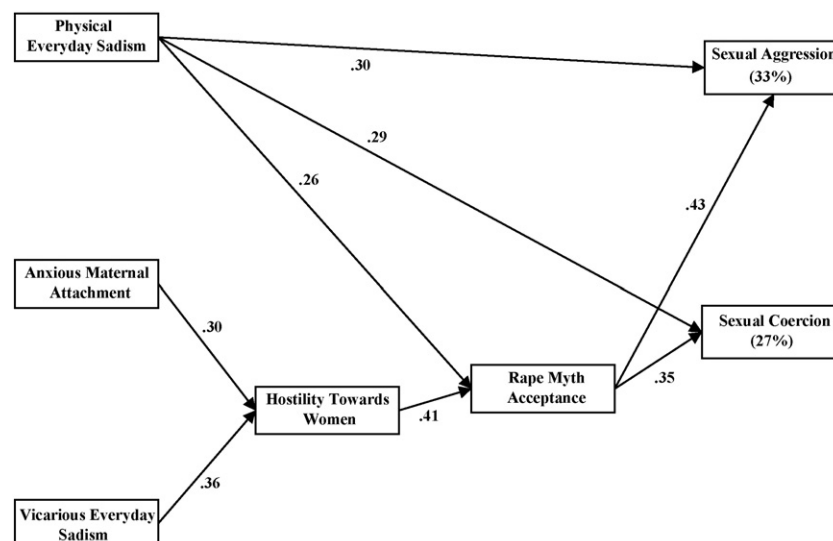


Fig. 1. Final path analysis of associations predicting sexual aggression and coercion. Covariance and disturbance terms are not depicted for visual efficiency.

Table 5

Model comparison statistics for three levels of invariance.

	Comparison χ^2 (df)	p	Relative χ^2	NFI	CFI	RMSEA [90% CI]
Structural weights	21.635 (20)	.361	1.082	.982	.999	.013 [.000, .042]
Structural intercepts	34.298 (27)	.158	1.270	.971	.994	.024 [.000, .045]
Structural residuals	100.795 (41)	.000	2.458	.915	.947	.055 [.041, .068]

physical sadists take in causing pain and suffering, which was supported. Physical sadism was the only sadistic scale to have direct paths to sexual aggression and coercion, and it had an indirect path through RMA, as well. Thus, physical sadism seems especially influential in sexual assault perpetration. Because vicarious and verbal sadism did not seem to take active roles in physical violence, they were expected to have only indirect relationships with the outcomes. This hypothesis was partially supported, as only vicarious sadism predicted HTW. Future research should confirm these results and investigate factors involved in the development of everyday sadism.

This study investigated sexual aggression and coercion separately to determine if the study variables differentially predicted the two outcomes. Both had similar model paths, providing support for aggressors and coercers being similar (DeGue & DiLillo, 2004). The model accounted for 33% of sexual aggression and 27% of sexual coercion, which is an improvement from some sexual violence studies (e.g., Abbey et al., 2011 & Malamuth et al., 1995's 26%). This is not to say the present model is better than models like the Confluence Model; rather, it expands upon those findings and offers new variables to consider.

Study limitations include the self-report, cross-sectional data. The model would benefit from longitudinal data, as the path analysis presumed an unsubstantiated causal order. It also capitalized on relationships found between the study's variables prior to model development. Steps were taken to verify model robustness (i.e., cross-validation), but it is likely the present study represents the maximum fit that would be achieved in subsequent research.

In conclusion, this study offers initial support for adding everyday sadism and anxious maternal attachment to the sexual violence discussion. Narcissism- and psychopathy-related traits are often linked to sexual violence, and it seems likely all of these malevolent personalities are associated with sexual assault due to the Dark Tetrad's callous and manipulative dark core. Determining which dark personality accounts for the most unique sexual assault variance is necessary, and we submit everyday sadism should be included in these investigations. We also hypothesize everyday sadism, not psychopathy or narcissism, will prove most predictive of sexual violence. All dark personalities include the callous disregard required for sexual assault, but taking pleasure in others' pain, a likely factor in the perpetration of sexual aggression and coercion, distinguishes everyday sadism from the rest.

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