Journal of Evolutionary Psychology, 2012, 135–147
DOI: 10.1556/JEP.10.2012.3.3

THE ROLE OF LIFE HISTORY STRATEGY IN THE CORRESPONDENCE BETWEEN BEING A VICTIM AND A PERPETRATOR OF SEXUAL COERCION

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Abstract. The current investigation was undertaken to examine the possible role of life history (LH) strategy in the correspondence between being a victim of sexual coercion and being a perpetrator. Although victimhood was associated with LH strategies for males, and LH strategy was associated with perpetration for both sexes, mediation by LH strategy between victimhood and perpetrating was not supported. Support was found for life history strategy as a moderator, but only for females. Females with a fast life history strategy coupled with high levels of victimhood exhibited the highest levels of perpetration. The results were found while controlling for individual differences in age, aggression and self-control. While a correspondence between general (not sex specific) victimhood and perpetration was found, the relationship was not moderated by life history strategy. The role of LH strategy in accounting for individual difference in sexual coercion is discussed. It is speculated that greater plasticity in sexuality is a LH characteristic in females.

Keywords: sexual coercion, victimization, perpetration, life history theory

INTRODUCTION

A number of studies have found a positive correlation between being a victim of sexual coercion and perpetrating sexual coercion (ANDERSON 1996; MATHES and MCCOY 1996; RUSSELL and OSWALD 2001, 2002). ROMANO and DE LUCA (1997, 2001) found that 75% of adult males who had been convicted of child molestation had been abused compared to 29% of men convicted for nonsexual offenses and 16% of the general public. LOH and GIDYEZ (2006) found that college men who had experienced childhood sexual abuse with physical contact (e.g., fondling) were twice as likely to engage in sexual aggression as men who had experienced childhood sexual abuse without physical contact (e.g., requests for sex or exposure to sex) or had not experienced abuse. LYNDON, WHITE and KADIEC (2007) found that college men who had engaged in sexual coercion involving force or threat of force were three times as likely to have been sexually abused as children than college

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men who engaged in consensual or "manipulation" perpetration sex. KRAHE, WAIZANHOFER and MOLLER (2003) found that women who had been sexually abused as children were 2.62 times more likely to be sexually aggressive than women who had not been abused. GAMEZ-GUADIX, STRAUS and HERSHBERGER (in press), using an international sample, found that childhood sexual abuse both directly and indirectly, through antisocial personality and criminal history, predicted adult sexual coercion. BROUSSEAU, HERBERT and BERGERON (in press) found a sex difference; childhood sexual abuse predicted female, but not male sexual coercion perpetration. There is a positive correlation estimated at $r = .50$ between being a victim of and perpetrating sexual coercion (MATHES and MCCOY 2011); thus while the relationship between victimhood and perpetration is significant, it is far from perfect. One possibility is that life history strategy plays a role in whether or not a victim becomes a perpetrator.

Life history theory and sexual coercion

Life history (LH) theory originated to explain the variation in reproductive strategies across species given specific environmental constraints (PIANKA 1970) and has been utilized to explain a wide array of interspecies differences (PROMISLOW and HARVEY 1990, 1991). LH theory posits that the developmental sequence and timing of developmental milestones evolved through natural selection. More recently the theory has been used in the social sciences to explain individual differences in the timing of key events, such as the onset of puberty, and reproductive behaviors (e.g., BELSKY, STEINBERG and DRAPER 1991; DRAPER and HARPENDING 1982). Species and individual differences fall along a single continuum. At one end of the continuum development is *fast* with early maturation and rapid senescence and reproduction is focused on the quantity of offspring over the quality of offspring. With the focus on quantity, sexual behavior is initiated at an earlier age and parental investment is reduced. At the other end of the continuum development is *slow* with later maturation and delayed senescence. Sexual initiation begins later and parental investment is high to increase the quality of the offspring. Where an individual falls on this continuum is referred to as a fast or slow LH strategy.

Child sexual abuse has been implicated in pointing development toward a fast LH strategy trajectory and, in turn, a fast LH strategy has been found to be a significant predictor of the predilection to engage in sexually coercive behaviors. VIGIL, GEARY and BYRD-CRAVEN (2005) conducted a retrospective study examining women's reports of childhood sexual abuse and a number of indicators of LH strategy, such as age at menarche and age at first child birth. In sum, women who reported being sexual abused displayed characteristics of a fast LH strategy, and thus, the results suggest that being the victim of sexual coercion may direct development toward a fast LH strategy. GLADDEN, SISCO and FIGUEREDO (2008) found that a "protective" LH factor was negatively associated with sexually coercive be-

haviors and that the "protective" LH factor fully mediated the relationship between participant sex and perpetration. Taken together the findings of VIGIL et al. (2005) and GLADDEN and associates (2008) suggest that the link between being the victim of sexual coercion and being a perpetrator sexual coercion is mediated by LH strategy.

However, a recent study by DUNKEL and MATHES (2011) suggests a different relationship between LH strategy and sexual coercion exists. Testing the hypothesis based on LH theory that immediate LH behaviors are sensitive to contextual cues signifying life expectancy, DUNKEL and MATHES (2011) found that the willingness to engage in sexual coercion varied by manipulated life expectancy, so that when individuals imagined a shorter life expectancy they were more willing to engage in sexually coercive behaviors. However, they also found that this trend was moderated by short-term and long-term mating preferences. Individuals with a marked preference for short-term mating and individuals with low desire for long-term mating showed increases in the willingness to engage in sexually coercive behaviors as life expectancy was shortened. Because mating preferences are an aspect of LH strategy DUNKEL and MATHES (2011) reasoned that LH strategy moderated the relationship between life expectancy and the willingness to engage in sexual coercion. This leads to the possibility that LH strategy may moderate the relationship between being a victim of sexual coercion and being a perpetrator of sexual coercion.

Purposes of the current investigation

The purpose of the current investigation was to examine the role of LH strategy in the correspondence between being a victim and being a perpetrator of sexual coercion. Two competing hypotheses were tested. One possibility is that LH strategy mediates the relationship between victimhood and perpetrating. That is, victimhood is predictive of a fast LH strategy that, in turn, is predictive of perpetration. An alternative possibility is that LH strategy moderates the relationship between victimhood and perpetrating. This possibility suggests that a stronger link between victimhood and perpetrating is found in individuals with a fast LH strategy. That is, the combination of victimhood status and a fast LH strategy should be associated with the highest levels of sexual coercion.

Alternative explanations for the associations between victimhood, perpetration, and LH strategy exist. The design of the current investigation was developed to control for three of these alternative explanations. It could be that the role of LH strategy in the correspondence between victimhood and perpetrating is simply due to greater levels of general aggression (e.g., DUNKEL, MATHES and PAPINI 2010) and/or lower levels of self-control exhibited by perpetrators and those with a fast LH strategy (DUNKEL, MATHES and BEAVER, in press). Therefore, aggression and self-control were statistically controlled for.

It could also be that the role of LH strategy in the link between victimhood and perpetrating is due to individuals with a fast LH strategy simply exhibiting greater levels of general antisocial or (not specific to sexuality) coercive behavior (e.g., ELLIS 1988). To test this possibility scales measuring general victimhood (not sex specific) and the general perpetration of coercion (not sex specific) were also administered. If LH strategy plays the same role in the correspondence between general victimhood of coercion and general perpetration of coercion that it does in victimhood and perpetration specific to sex then it appears that the role of LH strategy is part of a broader relationship between coercion and victimhood and not particular to sexual victimhood and perpetration.

THE ADDITIONAL ROLE OF SEX

Given differences in male and female sexuality (BAUMEISTER 2000), especially within the evolutionary (e.g., BUSS and SCHMITT 1993) and LH (e.g., DEL GIUDICE 2009) frameworks, sex differences were examined by splitting the sample and running analyses separately for males and females. Whereas the reviewed literature shows that both males and females engage in coercion, although it appears that males do exhibit higher degrees of coercion (e.g., GLADDEN et al. 2008), and that victimhood is positively associated with perpetration for both sexes (GAMEZ-GUADIX et al., in press), replicating the mean level sex differences and association between victimhood and perpetration is not the focus of the investigation. The possible role played by LH strategy in mediating or moderating the relationship between victimhood and perpetration is the focus.

Sex differences in sexual interest (e.g., BUSS and SCHMITT 1993) and especially plasticity (BAUMEISTER 2000) allow for some speculation about the additional moderating role of sex. If male sexuality is less plastic or set early in life (BAUMEISTER 2000) then there is an expectation that individual differences between males would be linear and less susceptible to change contingent upon environmental conditions, while if female sexuality is more fluid it would be more responsive to environmental conditions. Thus a fast LH strategy could be expressed as more of a constant in males' levels of sexual coercion, while for females the expression of a fast LH strategy through sexual coercion may be more contingent upon the environment and experiences (e.g., victimhood).

METHOD

Participants

A sample of 255 college students (139 women, three unspecified) attending a medium-sized Midwestern state university participated. The average age was 20.4 yrs. (*SD* = 2.9). Seventy-five percent were Caucasians, 13% African Americans, 2%

Asians, 7% Hispanics and 2% other or unspecified. The Internal Review Board of the authors' university reviewed and approved the treatment of participants.

Procedure

Participants completed the following measures on line: Sexual Experience Survey-Perpetrator and Victim Forms, Perpetration and Victim of Coercion Scales, Mini-K, Aggression Questionnaire, and the Self-Control Scale.

Sexual Experience Survey-Perpetrator and Victim

To measure the extent to which participants had perpetrated and been victims of sexual coercion the Sexual Experience Survey-Perpetrator and Victim measures (KOSS, GIDYCZ and WISNIEWSKI 1987; KOSS and OROS 1982) were used. Originally the 15-item scales were created to measure the extent to which men engaged in activities which legally qualified as rape or attempted rape (perpetrator version) and the extent to which women had been victims of activities which legally qualified as rape or attempted rape (victim version). Both versions of the scale have subsequently been given to both men and women (e.g., MATHES and MCCOY 2011). A sample Perpetrator item is: "Have you ever had sexual intercourse with a person when the person really did not want to because you used some degree of physical force (twisting the person's arm, holding the person down, etc.)?" A sample Victim item is: "Have you ever had sexual intercourse with a person when you really did not want to give to because the person used some degree of physical force (twisting your arm, holding you down, etc.)?" Participants responded to the items on a scale of 1 (*no, definitely*) to 6 (*yes, definitely*). For this study Internal consistency reliabilities of the Perpetrator and Victim forms were $\alpha = .96$ and .95, respectively.

Perpetrator of Coercion Scale

To measure the extent to which participants generally use coercion to obtain desired outcomes, the Perpetrator of Coercion Scale was created. The Perpetrator of Coercion Scale was constructed by taking the items of the Sexual Experience Survey-Perpetrator and rewording items to create a more general measure of perpetration of coercion. For example, the item, "Have you ever had sexual intercourse with a person when the person really did not want to because you used some degree of physical force (twisting the person's arm, holding the person down, etc.)?" was rewritten as, "Have you ever gotten a favor from a person when the person really did not want to give it to you because you used some degree of physical force (twisting the person's arm, holding the person down, etc.)?" The scale consists of 12 items. Participants responded to the items on a scale of 1 (*no, definitely*) to 6 (*yes, definitely*). For this study the scale's internal consistency reliability was $\alpha = .89$.

Victim of Coercion Scale

To measure the extent to which participants generally are victims of coercion the Victim of Coercion Scale was created. The Victim of Coercion Scale was constructed by taking the items of the Sexual Experience Survey-Victim and rewording the items to create a more general measure of being a victim of coercion. For example, the item, "Have you ever had sexual intercourse with a person when you really did not want to because the person used some degree of physical force (twisting your arm, holding you down, etc.)?" was rewritten as, "Have you ever done a favor for a person when you really did not want to do it, because the person used some degree of physical force (twisting your arm, holding you down, etc.) to make you do it?" The scale consists of 12 items. Participants responded to the items on a scale of 1 (*no, definitely*) to 6 (*yes, definitely*). For this study the scale's internal consistency reliability was $\alpha = .85$.

Mini K

The Mini-K is a 20-item scale developed by FIGUEREDO and associates (2006) in the context of life history theory to measure the extent to which participants tend toward a K or slow life history strategy. Following DUNKEL and DECKER's (2010) recommendation, two items, involving "close and warm relationships" with "own children" and "sexual partner," that seemed inappropriate for a college student sample, were deleted. A sample item is, "I often make plans in advance." Participants responded to the items on a scale of 1 (*disagree strongly*) to 7 (*agree strongly*). For this study the scale's internal consistency reliability was $\alpha = .78$.

Self-Control Scale

GOTTFREDSON and HIRSCHI (1990), in their General Theory of Crime, suggest that that low self-control is at the heart of most criminal behavior. To operationally define self-control, GRASMICK and his associates created the 24-item, Self-Control Scale (ARNEKLEV, GRASMICK and BURSIK 1998; GRASMICK, TITTLE, BURSIK and ARNEKLEV 1993). A sample item is, "I often act on the spur of the moment." Participants responded to the items on a scale of 1 (*definitely disagree*) to 7 (*definitely agree*). For this study the scale's internal consistency reliability was $\alpha = .70$.

Aggression Questionnaire

The Aggression Questionnaire of BUSS and PERRY (1992) is a 29-item measure that consists of four correlated subscales, physical aggression, verbal aggression, anger, and hostility. A sample item is, "I have trouble controlling my temper." Participants responded to the items on a scale of 1 (*definitely disagree*) to 7 (*definitely agree*). For this study the scale's internal consistency reliability was $\alpha = .89$.

RESULTS

Correlation analyses

The distribution of scores for sexual coercion victimhood and sexual coercion perpetration exhibited high levels of skew and kurtosis, therefore the scores were log transformed prior to analysis. The distributions for the other variables were normal. Prior to analyses the sample was split by sex and each analysis was run separately with male and female participants.

Zero-order correlations between the study variables were computed. The results can be seen in *Table 1*. Most notable for the current investigation are the correlations between scores for being a victim of sexual coercion, being a perpetrator of sexual coercion, and LH strategy. While the correlations between victimhood and perpetrating are significant they appear as if they may vary by the sex of the participant, with the association being stronger in males. To test this possibility a Z-test was performed. The results were significant, $Z = 4.42$, $p < .01$. Thus the association between being a victim and perpetrator of sexual coercion was stronger for males.

Table 1. Zero-order Correlations between Study Variables

	1	2	3	4	5	6	7
1. Victim-Sexual	–	.80**	.51**	.43**	–.19*	.12	–.16
2. Perpetrator-Sexual	.49**	–	.50**	.49**	–.20*	.11	–.27**
3. Victim-General	.62**	.26**	–	.55**	–.12	.32**	–.19*
4. Perpetrator-General	.43**	.55**	.50**	–	–.22*	.19*	–.20*
5. LH Strategy	–.15	–.24**	–.11	–.20*	–	.04	.23*
6. Aggression	.32**	.23*	.24**	.37**	–.28**	–	–.38**
7. Self-control	–.23**	–.24**	–.36**	–.36**	.36**	–.47**	–

Note. *$p < .01$, **$p < .001$. Females are below the diagonal and males are above the diagonal.

Looking at the relationships between LH strategy and sexual victimhood and perpetration, it can be seen that there was a significant relationship between perpetration and LH strategy for both females and males, but the link between sexual victimhood and LH strategy was only significant for males. To demonstrate mediation both the independent variable (being a victim of sexual coercion) and the mediating variable (LH strategy) have to correlate with the dependent variable (perpetrating sexual coercion). Although, for females, being a victim correlated with perpetrating sexual coercion, LH strategy was not significantly correlated with perpetrating sexual coercion. The results indicate that the criteria for mediation were not met (BARON and KENNY 1986), and therefore support for the hypothesis, in females, that LH strategy mediates between sexual victimhood and coercion was not found. Thus, additional mediation analyses for females were not needed. However, there was a significant correlation between victimhood and LH strategy for males and thus further tests of the mediation model were warranted.

Regression Analyses

Following the results of the correlational analyses a test of the mediation model for males was performed (BARON and KENNY 1986). LH strategy was not significantly associated with sexual perpetration when entered into a regression model with sexual victimhood and the relationship between sexual perpetration and victimhood was not diminished when controlling for LH strategy. To verify the null results a Sobel test was computed, $z < 1$.

To prepare the data for regression analyses to test for moderation, the following steps were taken. All of the variables were standardized. The interaction term was computed by calculating the product of LH strategy and victimhood of sexual coercion. To test the hypotheses that LH strategy moderates the relationship between being a victim of sexual coercion and being a perpetrator of sexual coercion, and that the moderation is not due to individual differences in aggression and/or self-control the following hierarchical regression was calculated for each sex.

The criterion variable was the perpetration of sexual coercion. In Step 1, age of participant was entered. In Step 2, victimhood of sexual coercion, LH strategy, aggression, and self-control were entered. In Step 3, the product of LH strategy and victimhood of sexual coercion was entered. The results of the analysis can be seen in *Table 2*. As seen in *Table 2*, the interaction between LH strategy and victimhood was significant for females, but not for males. As can be seen in *Figure 1*, a faster LH strategy when combined with high levels of victimhood of sexual coercion is associated with high levels of perpetrating sexually coercive behaviors.

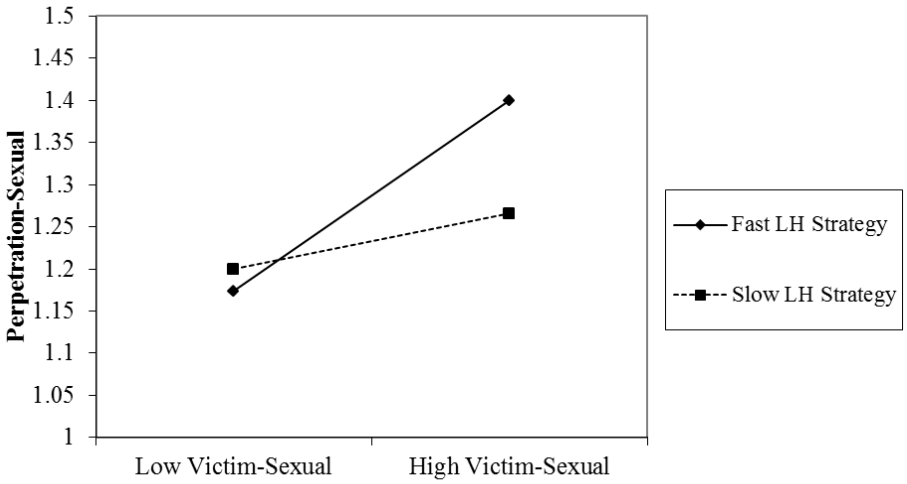

Figure 1. The Moderation of LH Strategy between Victimhood-Sexual and Perpetration-Sexual for Females

Table 2. Summary of Hierarchical Regression Analysis Predicting the Perpetration of Sexual Coercion by Participant Sex

	Step 1		Step 2		Step 3	
Variable	Δ R^2	β	Δ R^2	β	Δ R^2	β
Female:						
	.01		.30***		.06**	
Age		–.07		–.19*		–.18*
Victim-Sexual				.49***		.56***
LH Strategy				–.19*		–.16*
Aggression				.01		–.00
Self-control				–.00		–.04
Victim-Sexual X LH Strategy						–.26**
Male:						
	.00		.68***		.00	
Age		–.04		–.14*		–.13*
Victim-Sexual				.80***		.78***
LH Strategy				–.02		–.03
Aggression				–.04		–.04
Self-control				–.11		–.11
Victim-Sexual X LH Strategy						–.06

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Following the suggestion of SIMMONS, NELSON and SIMONSOHN (2011) a supplemental regression analysis predicting perpetration of sexual coercion was conducted without any of the control variables (age, aggression, and self-control). In this analysis in Step 1, LH strategy and victimhood of sexual coercion was entered. In Step 2, the interaction term was entered. The interaction was still significant when the control variables were not included in the model, $B = –25$, $\Delta R^2 = .06$, $F(1, 135) = 11.39$, $p < .001$.

To examine whether the relationship between being the victim of coercion, perpetrating coercion, and LH strategy is specific to the realm of sexuality or is simply reflective of a more general relationship between the three variables the initial hierarchal regression analyses was rerun with three replacements. Being a perpetrator of general coercion was the criterion variable. In Step 1, age of participants was entered. In Step 2, victimhood of general coercion, LH strategy, aggression, and self-control were entered. In Step 3, the product of LH strategy and victimhood of general coercion was entered. The change in R^2 for the interaction term was not significant for males, $\Delta R^2 = .002$, $F(1, 108) < 1$, or females, $\Delta R^2 = .004$, $F(1, 132) < 1$.

DISCUSSION

The possible role of LH strategy in mediating or moderating the relationship between being a victim of sexual coercion and being a perpetrator of sexual coercion was examined. Correlational analyses can represent an initial examination of mediation models and the correlational analyses confirmed the relationship between victimhood and perpetration (the sex difference in the magnitude of the association between victimhood and perpetration will be addressed subsequently).

The correlation between victimhood and LH strategy was only significant for males. The insignificant finding for females represents a failure to replicate VIGIL et al. (2005). However, two points should be noted. First, VIGIL et al. (2005) assessed LH strategy via a number of sexual and reproductive behaviors and events while the current investigation used the Mini-K. Second, the group differences between women who reported sexual abuse and those who did not on the sexual and reproductive behaviors and events in *Table 3* of VIGIL et al. (2005) allow for the computation of effect sizes. The effect sizes found by VIGIL et al. (2005), with the exception of age at first intercourse which was stronger, were around the $r = -.15$ found in the current investigation, but their larger sample size allowed for more power to reject the null hypothesis. The correlations, for both males and females, between LH strategy and perpetration were significant. These findings are consistent with past research (GLADDEN et al. 2008). However, the mediation model (victimhood→LH strategy→perpetration) was not supported.

Alternatively, support for the moderation model was found, but just for women. A fast LH strategy combined with victimhood was associated with higher levels of sexual coercion. This finding is consistent with the possibility that female sexuality is more responsive to environmental circumstances BAUMEISTER (2000). Taking cues from DEL GIUDICE's (2009) exploration of environmental cues, attachment, LH strategy, and sex differences in reproductive behaviors we speculate that in females a fast LH strategy may exhibit itself not simply in terms of what could be labeled short-term or long-term mating interests and behaviors, but in flexibility itself. Thus, flexibility should be greater in females with a fast LH strategy. This proposition is somewhat analogous to WOODLEY's (2011) explanation for the apparent perplexing orthogonally between LH strategy and general intelligence. WOODLEY (2011) proposes that specialization in intellectual abilities increases when moving from fast to slow across the LH continuum.

Additionally, coupling of sexual plasticity and a fast LH strategy in females could originate from the unpredictability of the environment. Such a relationship was forecast by ELLIS, FIGUEREDO, BRUMBACH and SCHLOMER (2009), who propose the developmental plasticity is a component of a fast LH strategy developing from an unpredictable environment. This plasticity may lead females with a fast LH strategy to respond to sexual coercion by incorporating coercion into their own repertoire of sexual behaviors, while females with a slow LH strategy and those with a fast LH strategy who have not been victims do not.

This position is also consistent with the null finding for moderation in males, and the finding that the association between victimhood and perpetration is stronger in males. If there is a stronger relationship between victimhood and perpetration in males, although given that this is not reported in previous studies with larger and more diverse samples (e.g., GAMEZ-GUADIX et al., in press) signals that caution should be taken, it could point to the role of genetics or early childhood experiences. The association between victimhood and perpetration could be heritable, with an individual who has genes associated with perpetration also more being more likely to be a victim of relatives who also carry the same genes associated perpetration. And/or as has been suggested by BAUMEISTER (2000) there is a type of sexual imprinting in males that reduces the plasticity of sexual behavior later in life.

These possibilities point to important limitations of the current study. Details about the sexual coercion were not collected. The timing of the coercion, the victim's relationship with the perpetrator, and the frequency of the coercion are all important variables that may help to address some of the questions raised by the results. Future research could address the limitations inherent in the current study, by gathering information about these important details.

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