

## Sexual coercion and life-history strategy

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### Abstract

The present study evaluates three ultimate theories accounting for individual differences in sexually coercive tendencies: (1) Life History (LH) theory, (2) Competitively Disadvantaged Male theory, and (3) Sexual Coercion as a By-product theory. Three-hundred twenty-four college students completed questionnaires measuring LH strategy, perceived mate value, mating effort, short-term and long-term mating orientation, aggressive tendencies, psychopathy, and sexually coercive behavior. Eight tactical subscales extracted from the Sexual Acts and Perceptions Inventory converged upon one latent Sexual Coercion factor. The predictor variables clustered into a second Protective LH latent factor, which buffered Sexual Coercion. The Protective LH factor fully mediated the relation between sex and Sexual Coercion. Thus, the three evolutionary accounts of sexual coercion describe unique facets of a single LH trait rather than three dissociable alternatives. We discuss the conclusion that reproductive LH strategy partially underlies the variation in predisposition toward sexual coercion.

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### 1. Introduction

Evolutionary psychologists propose three major ultimate-level explanations of individual differences in sexual coercion, each of which specify different proximate mechanisms leading to sexual coercion: (1) Life History (LH) theory (Thornhill & Palmer, 2000, 2004), (2) Competitively Disadvantaged Male (CDM) theory (Figueredo & McCloskey, 1993; Figueredo, Sales, Becker, Russell, & Kaplan, 2000; Thornhill & Thornhill, 1983, 1992), and (3) Sexual Coercion as a By-product theory (Palmer, 1991; Thornhill & Palmer, 2000). In what follows, we first describe these three explanations. Next, we describe how the present study examined predictions derived from each of these accounts. In addition, we examined women's sexually coercive tendencies to determine if the model best accounting for men's sexual coercion also accounts for women's sexual coercion. Finally, we discuss the results in the light of a theoretically integrated ultimate-level account of sexual coercion.

We use the term *sexual coercion* to refer to the use of force, intimidation, lying, or psychoactive substances to receive or perform sexual acts involving another individual or to receive or perform sexual acts involving another individual without that individual's consent, knowledge, or explicit awareness of the act. As used here, sexual coercion is distinct from *rape* or *sexual offending* in that it is not a moral or legal category but rather describes a specifiable set of identifiable behaviors that may be compared across a number of different species.

#### 1.1. LH theory

LH theory is derived from thinking about optimal energy allocation. It posits that, because all organisms have inherently limited bioenergetic and material resources that can be devoted to evolutionarily adaptive activities, there are trade-offs in the optimal allocation of these resources toward various components of fitness (Figueredo et al., 2006). Thus, selection will favor optimal LH or reproductive strategies within the limits of those trade-off constraints (Kaplan & Gangestad, 2005). Because a reproductive strategy composed of an uncoordinated (uncorrelated) set of tactics or traits would not be expected to solve adaptive problems effectively, reproductive strategies should be composed of a

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coordinated composite of multiple facets (tactics) that complement one another (Figueredo et al., 2006).

Some of the major resource trade-offs thought to be relevant to a LH strategy are (1) somatic vs. reproductive effort, (2) present vs. future reproduction, (3) quantity vs. quality of offspring, and (4) mating vs. parental effort. To illustrate the coordinated relations of among these trade-offs, consider that if an individual faces a high-mortality environment and a likely death relatively early in life, then high somatic effort (investment in survival of the individual) would likely be wasted effort because it would seldom be translated into a fitness payoff. Likewise, a “decision” to delay reproduction until later in life would, on average, be wasted in such conditions. A decision to invest heavily in offspring survival would similarly be wasted if each single individual offspring is unlikely to survive. Thus, individuals (and species) low in somatic effort are predicted to be biased toward present over future reproduction, quantity over quality of offspring, and mating effort over parental effort.

In principle, we could place individuals along a single continuum, r-K, where low parental investment in a large number of offspring characterizes r-selected individuals, in part, and high parental investment in a small number of offspring characterizes K-selected individuals (Promislow & Harvey, 1990). This single latent dimension, historically referred to as the r-K continuum, is now more commonly called the “fast-slow” continuum due to a movement away from density-dependent selection as the sole explanation for the observed patterns (Reznick, Bryant, & Bashey, 2002).

Hence, LH theory predicts that, to facilitate their reproductive strategy, “slow LH” humans exhibit a cluster of traits including high parental investment, long-term mating, high group altruism, law abidingness, and low risk-taking (Figueredo et al., 2005, 2006, 2007; Rushton, 1985). Conversely, “fast LH” humans exhibit low parental investment, high mating effort, short-term mating, low group altruism, criminality, and high risk-taking. Consistent with this prediction, Figueredo et al. (2005, 2006, 2007) demonstrated that a diverse array of LH traits, including attachment to romantic partners, attachment to and investment from one’s biological father, low mating effort, low machiavellianism, and low risk propensity, cluster into a single common LH (“K”) factor that, they argue, constitutes a multivariate measurement model for a coordinated LH strategy.

Consistent with LH theory predictions (e.g., Ellis, 1988, 1989a, 1989b; Rushton, 1985), high levels of mating effort are associated with criminality (Rowe, Vazsonyi, & Figueredo, 1997) and delinquency (Charles & Egan, 2005). Extending LH theory, Thornhill & Palmer (2004) predicted associations between fast LH strategies and sexual coercion. We term this hypothesis the *LH strategy hypothesis of sexual coercion*.

### 1.2. *LH strategy hypothesis of sexual coercion*

Short-term sexual strategies, low parental investment, risk taking, and perhaps impulsiveness and criminality

characterize fast LH strategies (Figueredo et al., 2006). These traits seem facilitative, or at least permissive, of the use of sexually coercive tactics (Thornhill & Palmer, 2004). Unpredictable environmental conditions (e.g., high mortality, stress, uncertain parental investment), which may not support a strategy of “investing” in future reproduction or of investing in any individual offspring because one’s future survival is uncertain, may lead fast LH individuals to multiple short-term sexual encounters (e.g., Figueredo et al., 2006). Further, because the potential reproductive “payoffs” of a fast LH strategy depend on obtaining a high number of sexual partners, associated traits are likely to support risk-taking mating strategies, strategies that may include the use of coercion. We can see criminality, in general, as a potential tactical element within precisely this kind of fast LH risk-taking strategy (Ellis, 1988; Rushton, 1985; Thornhill & Palmer, 2004). Thus, in the present study, we examined the LH strategy hypothesis that a cluster of slow LH traits predicts decreased frequencies of sexually coercive behaviors.

The LH strategy hypothesis of sexual coercion is consistent with either a special adaptation or a by-product view of sexual coercion (Thornhill & Palmer, 2000, 2004). That is, overall LH strategies may be specialized adaptations. On the one hand, engaging in sexual coercion (or refraining from it) could be one adaptive feature of an overall LH strategy; or, on the other, sexual coercion could be a by-product of particular LH traits that lead to sexual coercion as a side effect (i.e., traits that were not selected for sexual coercion). For example, if a slow LH strategy entails strong emotional and long-term bonds that involve high degrees of emotional empathy and mutual caring suitable for long-term parental investment in children, it is difficult to see how sexual coercion and this approach to mating behavior could coexist. Conversely, if a fast LH strategy involves risk taking, promiscuity, and multiple short-term, quickly terminated relationships, then this approach and sexually coercive tactics could coexist. Thus, LH strategy itself would be an adaptation, while sexual coercion may or may not be. The present study is the first to test the LH strategy hypothesis of sexual coercion directly.

### 1.3. *The CDM theory of sexual coercion*

The CDM theory of coercion (Figueredo & McCloskey 1993; Figueredo et al., 2000; Thornhill & Thornhill, 1983) is a specific adaptation theory suggesting that sexual coercion is a conditional (environmentally contingent) strategy. Its central claim is that, over evolutionary time, when individuals perceived themselves to be competitively disadvantaged in some domain of mate value—when they either failed in the intrasexual competition for sufficient resources or status to attract desirable mates (Thornhill & Thornhill, 1983) or were relative failures at pursuing noncoercive sexual strategies due to psychosocial deficits (Figueredo et al., 2000)—it became adaptive for these CDMs to use sexual coercion to increase their number of

sexual partners. The CDM account is consistent with the fact that rapists tend to be lower in socioeconomic status (SES), but because violent criminals in general tend to be of lower SES, this is not conclusive evidence of a coercion-specific mechanism (adaptation) (Malamuth, Huppin, & Paul, 2005; Thornhill & Palmer, 2000).

On the average, rapists report a larger number of previous sexual partners than noncoercive men (Malamuth et al., 2005). This appears inconsistent with the CDM account. If, however, sexual coercion results from mating-effort tactics conditional on perceptions of one's mate value, then the CDM account could be seen as consistent with this finding: intensity of mating effort (including coercive mating effort) predicts more sexual activity, not less (Rowe et al., 1997). The present study examined the CDM-based prediction that low mate value predicts increased frequencies of sexually coercive behaviors.

#### 1.4. *Sexual coercion as a by-product of other adaptations*

Palmer (1991) correctly argued that there is no conclusive evidence that sexual coercion is an adaptation for those men lacking the “resources and status necessary to attract and reproduce successfully with desirable mates” (Thornhill & Thornhill, 1983). Instead, as first suggested by Symons (1979), sexual coercion may be a by-product of selection for traits that differ between the sexes and ensure that men do not miss consensual sexual opportunities. Selection for a greater interest in sexual variety or impersonal (casual) sex by men and a willingness to use instrumental aggression to obtain a goal (such as using force to rob a store) could result in sexual coercion as a side effect of these traits. The present study examined the prediction that an interaction between a short-term sexual strategy and aggression predicts increased frequencies of sexually coercive behaviors.

#### 1.5. *Purpose of the present study: testing multiple hypotheses*

The present study simultaneously examined the viability of predictions derived from three evolutionary accounts of sexual coercion: LH theory, CDM theory, and By-product theory, each implicated as potential motivators of criminality (Ellis, 1988; Figueredo et al., 2000; Rowe et al., 1997). The three theories specify unique relations between specific predictors and sexual coercion. The degree of multicollinearity among the predictors was expected to be sufficiently small to permit empirical differentiation among the predictions of the theories. For example, if specialized mechanisms that facilitate coercion when an individual perceives himself or herself to be competitively disadvantaged exist, then low mate value should account for a larger portion of the variance in coercive behavior than either an interaction between a short-term sexual strategy and aggressive tendencies or a measure of fast LH strategy. If fast LH strategies lead to sexual coercion, then a composite of fast LH traits should predict frequencies of sexually coercive behaviors better

than predictors associated with the CDM model or the Sexual Coercion as a By-product model. Finally, if the interaction between a short-term sexual strategy and aggression accounted for frequency of coercive behaviors better than one's LH strategy or mate value, this would constitute evidence for the By-product model.

Two additional possibilities are examined in the present study. First, LH, CDM, and By-product theories may apply to different types of sexual coercers. Sexual coercers might be a heterogeneous group in which multiple etiologies lead to different forms or varieties of coercion. For example, unique contextual cues might trigger different types of sexual coercers, or sexual coercers might respond to different contexts with unique coercive tactics.

A considerable literature demonstrates that personality traits do not predict individual behavioral acts across different contexts consistently (Mischel, 2004). This finding is consistent with evolutionary theories of behavioral flexibility (West-Eberhard, 2003). Individuals that adapt behavioral tactics to contextually specified adaptive problems tend to out-compete individuals that pursue invariant behavioral tactics across contexts. Many evolutionary psychologists emphasize domain-specific adaptive mechanisms that respond differently to different contextual input, a position consistent with the facts of context-specific behavioral tactics, as well as systematic individual differences in the deployment of those tactics (Mischel, 2004).

Extending these findings, context-specific cues may trigger specific coercive tactics used by different offender types. For example, those that coerce as a byproduct of an interest in casual sex and a willingness to use aggression may be high in psychopathy and willingness to use direct force because they lack normal inhibitions (e.g., low empathy, self-control) that guard against causing harm to others (Malamuth et al., 2005). Conversely, a CDM may have normal inhibitions against the use of force but may circumvent these inhibitions by finding victims that are drunk, high, or unconscious. Based on this view, different predictors of sexual coercion will correlate preferentially with different types of offenses. Specifically, we should see different types of coercers, as characterized by their different etiologies, preferentially making use of context-specific tactics.

Second, these alternative theories may not describe different types of sexual coercers at all but instead describe different traits possessed by the same individuals. The truth of the matter could be more like the ancient Jain parable of the Blind Men and the Elephant, with each theory describing different aspects of the same phenomenon in ignorance of other perspectives. Based on this view, all predictors of sexual coercion will cluster together into a single common factor. Furthermore, it could be that each aspect is a facet of an overall LH strategy. Integrating facets of the same phenomenon would, in this case, synthesize a more complete picture of the multidimensional characteristics of individuals prone to sexual coercion.

## 2. Method

### 2.1. Participants

Three-hundred twenty-four undergraduate students, 180 males and 144 females, enrolled in an Introductory Psychology course participated. We oversampled males to correct for the sex ratio characteristic of Psychology classes.

### 2.2. Procedure

After consenting, participants completed a series of self-report questionnaires pertaining to personal LH strategy, mate value, mating effort, sexual strategies, aggression, psychopathy, machiavellianism, and sexually coercive behavior. The participants were then debriefed and excused. No participants reported distress while participating in this study.

### 2.3. Measures

*Mini-K Life History Strategy Short Form* (Figueredo et al., 2006) is a 20-item measure of slow LH strategy. This measure correlates around 0.7 with the full Arizona K-battery of questionnaires (Figueredo et al., 2006). The scale, which ranges from  $-3$  (*disagree strongly*) to  $+3$  (*agree strongly*), includes items such as “I often make plans in advance” and “I often get emotional support and practical help from my blood relatives.” The Cronbach’s  $\alpha$  in our sample was .74.

*Mate Value Inventory* (Kirsner, Figueredo, & Jacobs, 2003) is a 17-item measure of personal perception of the personal qualities that are desirable in a romantic or sexual partner. The scale, which ranges from  $-3$  (*extremely low on this characteristic*) to  $+3$  (*extremely high on this characteristic*), includes items such as “good sense of humor” and “intelligent.” The Cronbach’s  $\alpha$  in our sample was .79.

*Mating Effort Scale* (MES) (Rowe et al., 1997) is a 10-item measure of perceived effort (time, energy) allocated toward attracting and maintaining sexual partners. The scale, which ranges from  $-2$  (*strongly disagree*) to  $+2$  (*strongly agree*), includes items such as “I think girls find me naturally attractive” and “I would rather date several boys at once than just one boy.” The Cronbach’s  $\alpha$  in our sample was 0.71.

*Multidimensional Socio-Sexual Orientation Inventory* (MSOI) (James-Jackson & Kirkpatrick, 2007) is a two-dimensional measure. Each subscale contains 10 items. One measures personal preference for short-term sexual relationships (STSRs), the other measures person preference for long-term sexual relationships (LTSRs). The scales range from  $-3$  (*strongly disagree*) to  $+3$  (*strongly agree*). The STSR scale includes items such as “Sex without love is ok” and “Sometimes I’d rather have sex with someone I didn’t care about.” The Cronbach’s  $\alpha$  in our sample for this subscale was .95. The LTSR scale measures personal preference for long-term sexual relationships. The LTSR scale includes items such as “I would like to have at least one long-term committed relationship during my lifetime” and

“I can see myself settling down romantically with one special person.” The Cronbach’s  $\alpha$  for this subscale in our sample was .86.

*Levenson Psychopathy Self-Report* (Levenson, Kiehl, & Fitzpatrick, 1995) is a two-dimensional measure. The first is a 16-item inventory measuring primary psychopathy; the second is a 10-item inventory measuring secondary psychopathy. Each scale ranges from  $-2$  (*disagree strongly*) to  $+2$  (*agree strongly*). Sample items include “Success is based on survival of the fittest; I am not concerned about the losers” (primary), and “When I get frustrated, I often ‘let off steam’ by blowing my top” (secondary). The Cronbach’s  $\alpha$ ’s in our sample were .85 for the primary psychopathy and .68 for secondary psychopathy.

*Machiavellianism Short Form* (Christie & Geis, 1970) is a 10-item measure of Machiavellian attitudes. The scale, which ranges from  $-2$  (*disagree strongly*) to  $+2$  (*agree strongly*), includes items such as “The best way to handle people is to tell them what they want to hear” and “Anyone who trusts anyone else is asking for trouble.” The Cronbach’s  $\alpha$  in our sample was .51.

*Buss–Perry Aggression Questionnaire* (Buss & Perry, 1992) is a 29-item measure of physical aggression, verbal aggression, anger, and hostility. The scale, which ranges from 1 (*strongly agree*) to 7 (*strongly disagree*), includes items such as “I can think of no good reason for every hitting a person” and “I have threatened people I know.” The Cronbach’s  $\alpha$  in our sample was .93.

*Sexual Acts and Perceptions Inventory* (SAPI) (Sisco & Figueredo, in preparation) is a 109-item measure of sexually coercive acts performed within the past year. All acts included in the scale are by legal definition nonconsensual. The scale, which ranges from 0 (*never*) to 3 (*three times or more*), includes items such as “Orally, digitally (with a finger), genitally (with a penis), or with an object, I contacted the anus of a person over or under the clothes without penetrating it when the person was unconscious or ‘passed out’” and “Got a person to perform orally or manually stimulate my or someone else’s penis or vagina when the person was drunk or high.” This measure was divided up into eight subscales by the tactic used or context exploited but aggregated across specific sexual acts (e.g., vaginal intercourse, anal intercourse, digital penetration, and oral sex); 66 of the 109 total items (the ones that specified the contextual tactics used) were included in these eight subscales. Six of the eight subscales had Cronbach’s  $\alpha$ ’s between .79 and .95, indicating that the specific sexual acts included within each contextual/tactical category were highly correlated with each other. The remaining two subscales contained only three items each and thus had lower Cronbach’s  $\alpha$ ’s purely as a result of a low number of items. All 66 items aggregated together had a Cronbach’s  $\alpha$  of .96, indicating that even the subscales categorized according to specific contextual tactics were highly correlated with each other.

The Cronbach’s  $\alpha$  internal consistency reliability coefficients for each scale are presented in Table 1 along

Table 1

Cronbach’s  $\alpha$  reliabilities and unit-weighted factor loadings of scales on protective LH factor and Sexual Coercion factor

	Cronbach’s $\alpha$ reliabilities	Protective LH factor	Sexual Coercion factor
Mini-K	.74	0.61 *	
Mate Value Inventory	.79	0.45 *	
Short-term Mating MSOI	.95	–0.64 *	
Long-term Mating MSOI	.86	0.60 *	
MES	.71	–0.56 *	
Levenson Psychopathy (Primary)	.85	–0.65 *	
Levenson Psychopathy (Secondary)	.68	–0.69 *	
Machiavellianism Short Form	.51	–0.71 *	
Buss–Perry Aggression Questionnaire	.93	–0.63 *	
SAPI-Victim High or Drunk (nine items)	.82		0.63 *
SAPI-Victim Unconscious (seven items)	.79		0.76 *
SAPI-Without Victim’s Knowledge (three items)	.40		0.47 *
SAPI-Victim Under-18 (12 items)	.88		0.72 *
SAPI-After Victim said “No” (14 items)	.89		0.90 *
SAPI-Without Victim’s Permission (three items)	.34		0.49 *
SAPI-Use of Force (eight items)	.95		0.70 *
SAPI-Use of Lying (10 items)	.91		0.83 *

\*  $p < .0001$ .

with the corresponding common factor loadings described further below.

2.4. Statistical analyses

We used SAS version 9.1 to conduct the statistical analyses. We used the PROC CORR procedure to calculate Cronbach’s  $\alpha$ ’s and bivariate correlations and the PROC FACTOR procedure to perform Exploratory Factor Analyses; principle axis estimation used squared multiple correlations as initial communality estimates. Cumulative and incremental proportions of variance accounted for and scree tests were used to determine the optimal number of factors to be retained. Promax rotation was used to obtain oblique common factors. We used the PROC CALIS procedure to test the alternative path-analytic structural equation models described below.

Table 2

Path-analytic structural models

Alternative models: causal pathways ( $\beta$ weight)	$\chi^2$	DF	$p(H_0)$	NFI	CFI	RMSEA
Subject sex $\rightarrow$ protective LH (.35)	0.62	1	.43	.99	1.00	.00
Protective LH $\rightarrow$ sexual coercion (–.33)						
Subject sex $\rightarrow$ sexual coercion (–.15)	34.13*	1	<.0001	.56	.55	.32
Sexual coercion $\rightarrow$ protective LH (–.33)						
Subject sex $\rightarrow$ protective LH (.35)	28.57*	1	<.0001	.63	.63	.29
Subject sex $\rightarrow$ sexual coercion (–.15)						

Ho, null hypothesis; NFI, normed fit index; CFI, comparative fit index; RMSEA, root mean squared error of approximation.

3. Results

The hypothesized predictor variables correlated significantly, indicating that the alternative predictor variables were not orthogonal. The eight coercive tactic subscales of the SAPI correlated highly, indicating a considerable degree of cross-contextual consistency for sexual coercion. We conducted an exploratory factor analysis among the predictor and criterion variables to determine if (1) any of the protective or risk variables would preferentially cluster with particular sexual coercion subscales or (2) the multiple predictor variables were convergent indicators of one overall protective factor. If the latter finding held, then the sexual coercion subscales constituted convergent indicators of a second factor representing a cross-contextual disposition for sexual coercion.

An oblique two-factor solution was optimal, explaining 85% of the reliable variance. The first *Sexual Coercion* factor was composed of the eight SAPI tactical subscales. The second *Protective LH* factor was composed of the eight predictor variables. Because the predictors all converged upon a single common factor, it was unnecessary to disaggregate the predictor variables to test the three alternative evolutionary accounts of sexual coercion. Individuals that possessed one of these Protective factor traits were likely to be characterized by each of the other traits hypothesized, albeit by different theories, to be important in explaining sexual coercion.

After disaggregating our sample by sex, we repeated the exploratory factor analysis and obtained nearly identical oblique two-factor solutions for the male-only and the female-only subsamples. Obtaining the same two-factor solution does not, however, imply the mean levels of either factor were equivalent across the sexes or that the correlations between the factors were statistically equivalent across males and females. Statistically, the mean number of coercive behaviors among men (mean=10.66, S.D.=16.17) was significantly greater [ $t(314)=3.34, p < .001$ ] than the mean number among women (mean=5.33, S.D.=12.17).

To test the hypotheses regarding the equivalence of the structural relations among the two latent factors across both sexes and to determine the most appropriate causal order among the three major predictors [(1) subject sex, (2) the Protective LH factor, and (3) the Sexual Coercion factor], first, we estimated unit-weighted factor scales for both

common factors, using the unweighted means of the standardized salient indicators for each (Gorsuch, 1983). As a validity check on this procedure, and as a test of the common factor model, we computed the correlations of each component scale with its corresponding unit-weighted factor and then tested for statistical significance. Table 1 shows these results. All the component scales were correlated with their corresponding common factors at a significance level of  $p < .0001$ . Next, we tested three alternative, path-analytic structural models. Table 2 shows the results of these structural models.

In the first alternative model tested, we hypothesized that the Protective LH factor mediates the relationship between subject sex and Sexual Coercion, indicating that being female led to increased likelihood of possessing the Protective LH trait and that possessing this trait explains women's decreased likelihood of Sexual Coercion compared to men. The model had an excellent fit [ $\chi^2(1)=0.62$ ,  $p=.43$ , NFI=0.99, CFI=1.0, RMSEA=0.00].

The second alternative model tested if Sexual Coercion mediates the relationship between subject sex and the Protective LH factor. The hypothesis tested was that being male leads directly to increased likelihood of Sexual Coercion and that the act of engaging in sexual coercion leads to decreased levels of the Protective LH trait. In other words, engaging in sexual coercion earlier in life developmentally leads to a more short-term and risk-taking reproductive strategies. This model had a poor fit [ $\chi^2(1)=34.13$ ,  $p < .0001$ , NFI=0.56, CFI=0.55, RMSEA=0.32].

The third alternative model tested a spurious correlation between Protective LH and Sexual Coercion. The model tested if subject sex directly caused both the Protective LH trait and Sexual Coercion with no causal relationship between the protective trait and sexual coercion. This model also had a poor fit [ $\chi^2(1)=28.57$ ,  $p < .0001$ , NFI=0.63, CFI=0.63, RMSEA=0.29].

Thus, tests of three alternative structural models indicated that the model positing a mediating effect of the Protective LH factor on the relationship between subject sex and Sexual Coercion was an acceptably fitting model; the second and third models were not. We conclude that the Protective LH factor fully mediates the relationship between Sex and Sexual Coercion, indicating that females have an increased likelihood of possessing the cluster of Protective LH traits identified, and possessing this trait explains women's decreased likelihood of Sexual Coercion compared to men's.

#### 4. Discussion

This study evaluated the strength of three alternative evolutionarily derived accounts of sexual coercion: (1) LH theory (Thornhill & Palmer, 2004), (2) CDM theory (Thornhill & Thornhill, 1983; Figueredo & McCloskey, 1993; Figueredo et al., 2000), and (3) By-Product theory (Palmer, 1991). The evaluation was more difficult than

expected due to the multicollinearity among the theory-based predictors, predictors intended to distinguish the constructs pertaining to the three purportedly alternative theories. When factor analyzed, all predictor variables clustered into a single "Protective LH" factor. Therefore, disaggregation of this factor to distinguish between the three theories was unjustifiable because the traits, presented as alternative hypotheses by previous researchers, co-occurred largely within individuals. Thus, these predictors were best represented as multiple convergent indicators of a single, higher-order latent construct, rather than fully dissociable traits. Hence, the three ultimate-level theories of sexual coercion examined here may not describe true alternative traits but complementary facets of a single higher-order trait possessed by sexually coercive individuals.

Eight tactical/contextual subscales (66 items) of the SAPI converged on a second common factor, the Sexual Coercion factor, suggesting a high degree of cross-tactical/cross-contextual consistency for sexual coercion. The fact that the eight SAPI subscales converged on a single multivariate construct indicates that we could not identify different types of sexual coercers based on contextually specific tactics. The oblique two-factor solution nevertheless showed that the statistics could discriminate between Sexual Coercion and the Protective LH factor, although the traits were significantly correlated.

The SAPI items include sexual behaviors that are nonconceptive in nature (e.g., anal penetration). These are not adaptive behaviors. Nevertheless, the clustering of these items into a single factor empirically justifies aggregating them rather than excluding them from the Sexual Coercion construct. Importantly, a specialized adaptation for sexual coercion could result in nonconceptive behaviors as a by-product of adaptive mechanisms selected for conceptive coercive acts. For example, all nonconceptive sexual acts (not just coercive ones) may depend on evolved proximate mechanisms (e.g., desire for sexual pleasure) that were adaptive for conceptive sexual behavior. Similarly, non-conceptive coercive acts may occur as a side effect of mechanisms selected for conceptive coercive acts. Given this, the aggregation of conceptive and nonconceptive coercive behaviors is not evidence against an adaptationist explanation of sexual coercion.

The Protective LH factor predicted decreased Sexual Coercion and fully mediated the relation between subject sex and Sexual Coercion, suggesting that a slow LH strategy buffers against the use of sexual coercion. Furthermore, in this model, being a woman served as a mere proxy for possessing higher average levels of the Protective LH trait that lead to decreased use of sexual coercion. According to the model, a proximate explanation for why men are more sexually coercive than women is that men possess decreased levels of the protective LH trait. This proximate account is consistent with Parental Investment Theory (Trivers, 1972), which predicts there are a smaller number of sexually willing women than men, and that men, more often than

women, attempt to enhance their reproductive success by pursuing a high mating-effort strategy, characterized by a high number of sexual partners, high risk-taking, and reduced parental investment.

Almost as interesting as what did happen in these results is what did not. If different protective and risk factors (positive and negative indicators) had been specifically associated with different contextual tactics of sexual coercion, we would have found a preferential clustering of specific predictors of sexual coercion with specific contextual tactics. Because all the predictor variables clustered together and all contextual tactics clustered together, we detected no unique relationships between predictors and specific contextual tactics. These results conflict with the view that there are distinct coercer subtypes (Knight & Prentky, 1990; Malamuth et al., 2005). It appears that the characteristics of some purportedly distinguishable groups cluster together into a LH trait that tends to be shared by coercers, at least in the population we sampled.

#### 4.1. LH strategy and social deviance

Ellis (1988) and others (e.g., Rushton, 1985) argue that a fast LH strategy underlies general criminality. Consistent with this view, we found that the short form of the Arizona LH Battery converged on the Protective LH factor with measures of socially deviant attitudes (e.g., aggression, psychopathy, machiavellianism), which served as inverse indicators of that factor. As noted above, LH strategies are composed of coordinated tactics. Our findings suggest that if men possess evolved specialized adaptations for sexual coercion, then sexual coercion may be one tactic among many subsumed by a general fast LH strategy, that is, a suite of tactics characterized by a diverse repertoire of socially deviant adaptive tactics. For example, if general social deviance is driven by fast LH strategies (e.g., Ellis, 1988; Figueredo et al., 2006), then sexually coercive individuals could be “criminal-generalists” (Malamuth et al., 2005), yet also be specialized to use sexual coercion as one of the tactics characteristic of their fast reproductive strategies. In short, sexual coercion could be one specialized adaptive tactic that contributed to the reproductive success of fast LH individuals in certain social contexts. One possibility is that fast LH strategies develop partly in response to self-assessments of low mate value and that these strategies are specialized for sexual coercion. Alternatively, sexual coercion may not have directly contributed to reproductive success but instead might be generated as a side effect of selection for fast LH traits that were under direct selective pressure such as interest in casual sex and risk-taking (Palmer, 1991; Symons, 1979; Thornhill & Palmer, 2000).

#### 4.2. Limitations of the study

There are at least two major limitations to the present study. First, we sampled college students exclusively. This restricted the amount, degree, and kinds of sexual coercion

reported, perhaps explaining why we did not identify different types of coercers using different context-specific tactics. That is, we might have sampled a preponderance of coercive behaviors that were within the “normal” range for college students. Other populations might show greater heterogeneity. Replicating our single Protective LH factor as a predictor in general community samples is necessary to generalize our findings across other populations. Second, we recorded self-report measures, leaving open the possibility of self-presentation bias.

To summarize, slow LH strategy, mate value, low mating-effort, a long-term sexual strategy, low psychopathy, low machiavellianism, and low aggression clustered into one common Protective LH factor that was negatively associated with a Sexual Coercion factor. The Protective LH factor fully mediated the relation between subject sex and Sexual Coercion. Therefore, Protective LH predictors co-occurred within individuals, indicating a single underlying construct that buffers individuals against using sexually coercive tactics. The LH view is consistent with either the idea that sexual coercion is a specific adaptation or that it is a by-product of traits adaptive for fast LH individuals (Palmer, 1991; Thornhill & Palmer, 2000; 2004; Thornhill & Thornhill, 1992). The Protective LH factor found in the present study must be replicated in other samples to support or refute the view that the three seemingly alternative evolutionary accounts describe different features of fast LH individuals.

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