



Development and assessment of the Partner Exploitation Inventory

Lisa L.M. Welling^{a,*}, Anna Wysocki^{a,b}, Alex Orille^a, Virginia E. Mitchell^a

^a Department of Psychology, Oakland University, 654 Pioneer Drive, Rochester, MI 48309, USA

^b Center for Mind and Brain, Department of Psychology, University of California, Davis, 1 Shields Avenue, Davis, CA, 95616, USA

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ABSTRACT

Differences in mating preferences, strategies, and goals can lead to romantic relationship conflict. One method of addressing conflict is exploitation, which occurs when deception, manipulation, coercion, or force is used to obtain a resource that the exploited is reluctant to provide. Here we create and provide initial assessment of the Partner Exploitation Inventory, which measures the use of tactics to exploit a romantic partner. Participants ($n=172$) used an act nomination procedure to generate 62 exploitative acts that may be used against a romantic partner. Next, using a new group of participants ($n=516$), we grouped the acts into three components that represent different forms of partner exploitation: Harm-Inducing, Ego-Boosting, and Emotional Manipulation. Men reported greater use of Ego-Boosting and Harm-Inducing exploitation, and women reported greater use of Emotional Manipulation exploitation. Evidence for the validity of the Partner Exploitation Inventory was also found through positive associations with questionnaires measuring similar constructs. This study expands our knowledge of men's use of exploitation strategies and is the first study to directly investigate women's use of exploitation strategies. We also created a tool that can be used to examine exploitation in the future.

Introduction

Exploitative resource acquisition occurs when a resource is acquired from an individual through deception, intimidation, manipulation, or force (Buss and Duntley, 2008). There can be negative consequences of exploitation, such as gaining a bad reputation, retaliation, or legal punishment (Buss and Duntley, 2008). Thus, exploitation is only adaptive if the potential benefits outweigh the potential downstream costs for the exploiter. For example, there are more sexual assault cases during war times (when there is a lower chance of consequences; Brownmiller, 1975; Littlewood, 1997), women are less likely to be exploited when they have more male relatives living nearby (presumably because this signifies a greater chance of retaliation; Lalumiere, 2005), and financial exploitation of the elderly is highest among those with cognitive impairments (i.e., those less likely to be able to reliably report offences; e.g., Choi et al., 1999; Lachs and Pilmer, 1995; Tueth, 2000). Exploitative strategies could be adaptive in a mating context. However, given the potential consequences of using exploitative strategies, humans have likely evolved ways of assessing the probability that an exploitative endeavor will be successful.

The ability to assess exploitability has been observed across various species (e.g., de Waal, 1989; Fitzgibbon and Fanshawe, 1988). For example, capuchin monkeys frequently steal meat from their conspecifics.

Victims are not randomly chosen, but tend to rate high in 'muggability', which relates to size and rank (de Waal, 1992). The ability to assess 'muggability' was also found in a male prison population, where inmates showed high inter-rater agreement on which women would be easier to mug (Grayson and Stein, 1981). Sakaguchi and Hasegawa (2006) replicated this design in a non-prison population, finding high agreement regarding which women would be easier to sexually exploit. There were similarities between the women who were rated as sexually exploitable, such as slower gait and poorer posture. Victimization is therefore unlikely to be totally random, but likely reflects (at least to an extent) the outcome of a cost-benefit analysis by the perpetrator.

Sexual exploitation is most commonly used by males to gain sexual access to females (Goetz et al., 2012). In humans, different mating goals of men and women can result in conflict, and the use of sexual exploitation could result in a reproductive advantage for the man (Buss and Duntley, 2008). Goetz and colleagues (2012) proposed four tactics used by exploiters in sexual exploitation: sexual seduction (e.g., excessively touching someone of interest), verbal or nonverbal pressure (e.g., physically trapping them in a room alone), deception (e.g., pretending to be committed to a partner to increase the likelihood of sex), and assault (i.e., rape). These authors found a link between sexual exploitability cues, which can consist of psychological cues (e.g., low self-esteem, flirtatiousness), cues to incapacitation (e.g., intoxication, fatigue), and

* Corresponding author.

E-mail address: welling@oakland.edu (L.L.M. Welling).

physical cues (e.g., incoordination, slow gait), and attractiveness that was moderated by the mating orientation of the observer (see also Goetz et al., 2014a). Specifically, men were shown pictures of women varying in apparent exploitability, as assessed by third-party raters, and rated the women on their attractiveness as a long- and short-term mate. Women who exhibited high levels of exploitability were rated as more attractive as a short-term mate than those who exhibited low levels of exploitability. This association was stronger when the male participants indicated that they were more orientated towards short-term mating (i.e., casual sex).

There are reasonable assumptions to be made regarding how women may exploit their male partners. Given the greater minimum parental investment by women than men, women tend to select long-term partners that are both able and willing to invest in them and their offspring (Buss, 1989, 2003, 2006). For example, men who advertised their high levels of resources in a personal ad received more positive responses from women compared to men who did not advertise these qualities (Baize and Schroeder, 1995). Women are also more likely to remain friends with their ex-partner after terminating the relationship if their ex-partner provided resources during the relationship and periodically provides resources after relationship dissolution (Busboom et al., 2002). Men apparently recognize this preference in women and are more likely to advertise their resources and financial prospects when looking for a new mate (Guégen and Lamy, 2012). Considering the importance women place on men's resources and resource earning potential, this may be an area in which women use exploitative strategies. Indeed, there has been indirect evidence of women's use of exploitative strategies to secure resources by taking advantage of men's overestimation of sexual interest. For men, overestimating women's sexual interest is an adaptive reproductive strategy because a missed reproductive opportunity is costlier than the potential embarrassment that comes from being rejected (Farris et al., 2008). However, there are also costs associated with this overestimation, such as expending time and resources on a woman who is not interested sexually or romantically (Perilloux et al., 2012), and some women report taking advantage of this overestimation by flirting or hinting at sexual interest to gain resources from men they have no intention of having sex with (Buss, 2003), suggesting the use of a resource exploitation tactic.

Research into men's use of *sexual* exploitation has progressed in recent years (Buss and Duntley, 2008; Goetz et al., 2012, 2014b; Lewis et al., 2012; Sakaguchi and Hasegawa, 2006), but little research has been done on men's use of other forms of partner exploitation, and no previous research to our knowledge has explicitly investigated women's use of exploitation strategies. Although there are inventories in the literature that are used to measure similar constructs, such as mate retention tactics (Buss et al., 2008), or elements of exploitation, such as sexual coercion (Camilleri et al., 2009), no inventories currently exist that we are aware of that are designed to specifically measure men's and women's use of partner exploitation tactics. The present study outlines the creation of a Partner Exploitation Inventory (PEI) to categorize different types of partner exploitation and identify sex differences in the use of these strategies. We hypothesized that components based on the resource being exploited from a partner (e.g., sex, finances) would emerge from participant-nominated items, and that these components would differ predictably by participant sex. For example, should components based on sexual and financial exploitation emerge, we would predict that men would more often engage in sexual exploitation compared to women, whereas women would more often engage in financial exploitation compared to men. We also predict that scores on the PEI will be associated with constructs related to exploitation, such as sexual deception (see Goetz et al., 2012) and dark personality traits (e.g., narcissism; Jonason et al., 2014). All study procedures received Oakland University's Institutional Review Board approval (approval number 857181) prior to data collection. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Act nomination methods

First, we generated a preliminary list of items that describe exploitation tactics using an act nomination procedure, which requires participants to list a number of acts relating to the provided prompt (Buss and Craik, 1983). This procedure was chosen because it has been successfully used in a variety of other studies for scale development (e.g., Buss, 1988; McCoy et al., 2015), and it increases the ecological validity by having participants contribute items rather than having researchers generate the items, which could introduce experimenter bias or could overlook important items.

Participants

One hundred and seventy-two participants ($n = 111$ women) with a mean age of 22.89 years ($SD=8.28$) took part in this portion of the study. Our sample was mostly White ($n = 143$; Black/African American=14, Asian=8, and "Other"=7) and heterosexual ($n=152$; bisexual=7, "prefer not to say"=13). The majority ($n = 139$) were enrolled in psychology courses and participated in exchange for course credit, but some ($n=33$) were recruited through links posted on social media websites (Facebook and Reddit) and participated on a voluntary basis.

Procedure

This study was conducted online through the survey distribution platform Qualtrics. Participants first reported their age, sex, sexual orientation, and ethnicity. For the act nomination, participants were asked to provide up to 10 responses to the following prompt:

In a romantic relationship, men and women sometimes will use each other in order to get something they want, but know that their partner may be reluctant to give. What are some specific examples of ways people take advantage of each other in a relationship?

We are interested in specific behaviors. One should be able to answer the following questions about each of your responses. Have you ever performed this act? If so, how often have you performed it?

Please think of three people you know, including yourself, who have done things to get their partner to give them something they knew their partner may be reluctant to give and list them below. First, list the things that males you know have done to take advantage of their partner. Then, list the things females you know have done to take advantage of their partner.

Act nomination results

Participants nominated a total of 858 separate responses. After removing duplicate, irrelevant (e.g., "who cares"), and unintelligible items, there were 55 items remaining. The literature was consulted and the advice of colleagues was solicited to provide suggestions on the items. This resulted in 7 additional acts (62 acts total) that a person may use to exploit their partner.

Act frequency methods

Next, a second set of participants used the generated items of exploitation tactics from the act nomination procedure to complete an act frequency procedure. An act frequency task prompts the participants to indicate how often they have engaged in the listed behaviors within a certain timeframe and provides information on past patterns of behavior that can be used as a basis for predicting possible future behavior. It also allows for the assessment of related behaviors (Buss and Craik, 1983) and has been used in previous studies to group acts and to assess individual differences (e.g., Buss, 1988; Church et al., 2007; McCoy et al., 2015). These responses were used to refine the items and create the

Partner Exploitation Inventory. These participants also completed questionnaires assessing hypothetically related constructs to establish convergent validity for our measure.

Participants

Participants were recruited from the Psychology Subject Pool ($n=441$), social media (Facebook and Reddit, $n=31$), and Amazon's Mechanical Turk (MTurk; $n=200$). MTurk participants had to have a completion rate of 95% or higher, meaning that participants had received credit for 95% or more of the surveys that they had begun. Participants recruited from the psychology subject pool were compensated with class credit, whereas participants recruited from MTurk were compensated with US \$2.00. Social media participants were not compensated. Participants ($n=672$) had to be at least 18 years of age, heterosexual, and currently in a romantic relationship that had lasted longer than 3 months ($M=3.17$ years, $SD=4.83$ years). Participants were removed from the study if they did not meet these requirements or if they did not fully complete the PEI items of the survey. This resulted in a sample of 516 (205 men, 311 women) predominantly White (422 [32 of Hispanic, Latin, or Spanish origin]; 35 Black/African American, 29 Asian, and 28 "Other"; 2 did not report) participants (age: $M=25.19$ years, $SD=9.29$).

Materials and procedure

Participants completed the study through Qualtrics. In addition to the act frequency task, we included a number of established questionnaires to assess convergent validity of the new inventory. First, each participant gave informed consent and completed the same demographics questionnaire that was used with the act nomination participants. Next, participants completed the Sociosexual Orientation Inventory - Revised (SOI-R; Penke and Asendorpf, 2008). The SOI-R evaluates individuals' attitudes, desires, and behaviors with respect to uncommitted sexual encounters (i.e., casual sex) via their agreement or disagreement with statements such as "Sex without love is OK." Low scores on the SOI-R indicate a more restricted sociosexual orientation, whereas high scores indicate an unrestricted orientation (i.e., a tendency towards promiscuity). Since men and women vary in their orientation towards short-term mating (Schmitt and Buss, 1993), it follows that men who have a more unrestricted sociosexual orientation may be more likely to use exploitation tactics, particularly those that may gain them sexual access. Indeed, men who score higher on the SOI-R perceive women exhibiting exploitability cues as more attractive (Lewis et al., 2012). This inventory was included to assess whether sociosexual orientation predicts the likelihood of engaging in exploitation tactics, particularly those of a sexual nature and among men.

Next, participants completed the act frequency procedure where they were presented with the following prompt:

"Below is a list of possible ways in which someone may exploit their partner in a relationship. Please rate on a scale of 0 (never) to 8 (very frequently) how often you have engaged in any of these behaviors in a relationship over the past year".

Finally, participants completed the Short Dark Triad (SD3; Jones and Paulhus, 2014), the Tactics to Obtain Sex Scale (TOSS; Camilleri et al., 2009), and the Sexual Deception Scale (SDS; Marelich et al., 2008) in a random order. The SD3 (α range=.68-.72) has items divided into three subscales: Machiavellianism (e.g., "I like to use clever manipulation to get my way"), Narcissism (e.g., "Many group activities tend to be dull without me"), and Psychopathy (e.g., "I like to get revenge on authorities"). Dark triad traits have been linked to higher levels of deception in both men and women (Jonason et al., 2014) and, therefore, these traits should be higher among those who more frequently use exploitation tactics (see Jonason et al., 2009).

The TOSS ($\alpha=.90$; Camilleri et al., 2009) and the SDS (Marelich et al., 2008) were included to establish convergent validity. The TOSS is di-

vided into Coercive (e.g., "waiting until partner is asleep") and Coaxing tactics (e.g., "softly kissing neck, face, and ears"). Given previous research (Buss and Duntley, 2008; Goetz et al., 2012) and the overlap between the coercive tactics and the previously noted sexual exploitation tactics, it was hypothesized that sexual exploitation would emerge as one of the tactics used to exploit a partner and that the TOSS – particularly the coercive tactics – would positively correlate with the PEI. Correspondingly, given that exploitation tactics employ deception (Buss and Duntley, 2008; Goetz et al., 2012), the SDS (Marelich et al., 2008) should positively correlate with the PEI. The SDS contains 15 items that are divided into three subscales based on the type of relationship-relevant deception: Blatant Lying ($\alpha=.65$; e.g., "Have you ever told someone 'I love you' but really didn't just to have sex with them?"), Self-Serving ($\alpha=.69$; e.g., "Have you ever had sex with someone in order to get resources from them?"), and Avoiding Confrontation ($\alpha=.69$; e.g., "Have you ever had sex with someone even though you didn't want to?"). All SDS items can be answered "Yes" or "No", with a greater percentage of "Yes" answers meaning higher sexual deception.

Act frequency results

Exploratory factor analysis (EFA) was used to assess the underlying structure of the items generated from the act nomination and to investigate psychometric properties. EFAs are appropriate for use in scale development when the aim is to determine the underlying latent construct(s) that are present in the data (Fabrigar and Wegener, 2011). Analyses were performed in Mplus 7 and SPSS. Factor models with 1-6 factors were estimated using maximum likelihood estimation with robust standard errors (MLR) with a Goemin rotation (an oblique rotational method that allows factors to covary). Maximum likelihood estimation assumes multivariate normality, with skewness around 2 and kurtosis around 7 causing problems with correct model fit estimation (Curran et al., 1996; Ryu, 2011). Because a number of preliminary items from the act nomination procedure were both substantially skewed and kurtotic, MLR was used to estimate the factor models described below because it is more robust to violations of normality than maximum likelihood estimation (Lai, 2018).

In order to determine the appropriate number of factors to retain, a number of criteria were used. Model fit data including the root mean square error of approximation (RMSEA), chi-square test, Standardized Root Mean Square Residual (SRMR), the Comparative Fit Index (CFI), and Tucker Lewis Index (TLI) were used in addition to a visual inspection of the scree plot of Eigen values to determine which factor model fit the data best. A well-fitting model should meet the following requirements: $RMSEA/SRMR \leq .050$, $CFI/TLI \geq .950$ (Marsh et al., 2005). Moderately well-fitting models should have RMSEA values of ≤ 0.06 and recommended values for SRMR are < 0.08 (Hu and Bentler, 1999). The chi-square test is a global measure of fit whose value, when sample size is large, is very sensitive to small model misspecifications (Hu and Bentler, 1998). Thus, a wide range of indices (i.e., RMSEA, SRMR, TLI, and CFI) in addition to the chi square test were used to make decisions about factor retention. One of the benefits of using a maximum likelihood approach to model estimation is that it allows for model fit comparisons between models with a different number of factors. Here, a modified version of the chi-square difference test using loglikelihood values and scaling correction factors was employed to test relative fit of nested models from the EFA (Satorra and Bentler, 2010).

The EFA indicated that the factor model with three factors fit the data best relative to the alternative models (see Table 1 in the Supplementary Materials). Investigating the scree plot, Eigen values appear to plateau between a three- and four-factor model. Although none of the estimated models had extremely high fit based on the CFI and TLI values (all model values for both measures of fit were $< .90$), the increase in CFI and TLI values from the single-factor model ($CFI=0.793$, $TLI=0.786$) to the two-factor model ($CFI=0.853$, $TLI=0.843$), and again from the two-factor to the three-factor model ($CFI=0.881$, $TLI=0.868$), do show increasing

Table 1

The results of the EFA on the reduced number of items indicated that the three-factor model had superior fit compared to alternative models. Items loaded onto the expected factor based on results from the initial EFA on the 62 item list. This list of 31 items was retained as the final version of the PEI.

Item	Factor 1	Factor 2	Factor 3	Item Text
1	0.933*			Used force or threat of force to make my partner have sex
2	0.939*			Threatened to hit my partner if they did not have sex with me
3	0.887*			Withheld sex from partner so they would buy me something
4	0.888*			Compared my current partner to an ex-partner to get them to pay for something
5	0.914*			Spread negative rumors about my partner to prevent them from leaving the relationship
6	0.870*			Faked or threatened suicide in order to prevent partner from leaving me
7	0.884*			Hit my partner in order to make them have sex with me
8	0.869*			Threatened to cheat/leave my partner if they did not pay for something
9	0.870*			Made my partner financially dependent so that they would be more likely to stay in the relationship
10	0.839*			Flirted with someone in order to get my partner to buy me something
11	0.830*			Threatened to cheat/leave my partner if they did not have sex with me
12	0.851*			Exaggerated my problems to my partner in order to get them to pay for something
13	0.800*			Compared my current partner to an ex-partner to get them to have sex with me
14	0.778*			Threatened to cheat/leave my partner if they went out with friends
15	0.722*			Took something from my partner and did not give it back until favor was done
16	0.734*			Withheld financial support so my partner would have sex with me
17		0.838*		Reminded my partner of something bad they had done in the past to make them more likely to be attentive to me
18		0.752*		Made my partner feel guilty about going out with friends so that they would spend time with me
19		0.716*		Pretended more sexual excitement than I actually felt so my partner would feel more attached to me
20		0.761*		Got mad at my partner so that they would spend time with me
21		0.657*		Withheld sex from my partner so they would be more attentive
22		0.703*		Ignored my partner so that they would give me more attention
23		0.662*		Cried or whined until my partner spent time with me
24		0.657*		Told my partner 'if you loved me, you would spend more time with me'
25		0.514*		Faked orgasm so partner would be more invested in the relationship
26			0.756*	Flattered my partner in order to get them to have sex
27			0.601*	Gave my partner a massage so that they would have sex
28			0.605*	Flattered my partner in order to get them to give me attention
29			0.599*	Seduced my partner in order to get them to have sex with me
30			0.442*	Bought gifts for my partner so they would give me more attention
31			0.538*	Dressed/acted sexier than normal in order to get my partner to have sex

levels of fit. The CFI and TLI values drop following the three-factor model, although they increase again for the five and six-factor models. The RMSEA and SRMR values also indicate that the two-factor model (RMSEA=0.048, SRMR=0.04) fit the data better than the single-factor model (RMSEA=0.056, SRMR=0.064), and that the three-factor model (RMSEA=0.044, SRMR=0.031) fit better than the two-factor model, as both the RMSEA and SRMR values decrease moving from models one to two and two to three. The nested model comparison using the adjusted chi-square values (see Table 2 in the Supplementary Materials) indicated that the model fit of the two-factor model was better than the one-factor model ($\chi^2_{\text{dif}}(61)=600.38, p<.001$), and that the three-factor model was better than the fit of the two-factor model ($\chi^2_{\text{dif}}(60)=321.37, p<.001$). Adjusted chi-square difference tests also indicated that the three-factor model fit the data best: the four-factor model did not significantly improve model fit compared to the three-factor model ($\chi^2_{\text{dif}}(59)=54.45, p=.6438$). Thus, the three-factor model was retained (for the initial factor structure and factor loadings, see Table 3 in the Supplementary Materials).

Parallel analysis (with 50 iterations) was used as an additional confirmation that the three-factor model fit the data best. Parallel analysis (Horn, 1965) is used to compare the factor structure of the target data with a randomly generated set of values with no factor structure that contains the same number of observations and variables as the target data. If the eigenvalues of the real dataset are greater than the average of the random data values, the parallel analysis suggests that that factor should be retained. The results of the parallel analysis on the original 62 item dataset corroborated the other estimations of model fit and suggested that the three-factor model best fit the data (see also Fig. 1 in the Supplementary Materials).

Following the initial EFA, the retained model was refined to increase model fit and interpretability. Items with loadings of ≥ 0.40 were considered to belong to a specific factor and were retained. Items with small loadings (< 0.40) and ambiguous cross-loadings were removed. No items

had negative residual variances. Item 45 ("Reminded my partner of something bad they had done in the past to make them more likely to be attentive to me") and item 55 ("Seduced my partner in order to get more attention") significantly cross-loaded onto two factors and had a loading above .40 for each, so these items were removed. Item 62 ("Played dumb so my partner would give me attention") did not significantly load on to any of the three factors and was also removed. There were considerably more items that loaded onto factor one ($n=44$) compared to factor two ($n=9$) and factor three ($n=6$), so we removed items that loaded onto the first factor below the .80 threshold. This reduced the number of items that loaded onto factor one to $n=16$. Following this reduction, another EFA was performed to determine that the new 31-item model fit the data well. The three-factor ($\chi^2(375)=636.33, p<.001, RMSEA=.037, CFI=0.952, TLI=0.941, SRMR=0.026$) model still fit the data better than models with more or fewer factors. For example, the chi-square difference test indicated that the three-factor model with the reduced items provided significant improvement of model fit over the two factor model ($\chi^2_{\text{dif}}(29)=429.03, p < .001$), and the four-factor model did not improve model fit over the three-factor model ($\chi^2_{\text{dif}}(28)=34.74, p=0.178$). The final PEI scale with 31 items that loaded onto three factors fit the data well based on the criteria described above (for final items and factor loadings, see Table 1).

Factor 1, hereafter referred to as the Harm-Inducing component ($\alpha=.98$), included negative or costly behaviors used to obtain a resource (e.g., "Threatened to hit my partner if they did not have sex with me"). All of the items on this component present a significant cost to the exploited individual outside of the direct goal of the exploitative action (i.e., loss of a resource). This cost could be physical (e.g., violence) or emotional (e.g., loss of self-esteem). In other words, the common link between items in this factor is that they all involve directly harming the exploited party (e.g., through threats, violence, loss of choice, etc.) for a resource that benefits the exploiter. The second factor, labeled Emotional Manipulation ($\alpha=.90$), described exploitative behaviors that were

Table 2
Correlation table showing Pearson's *r* and *p*-values.

Correlations		Average PEI Score	PEI: Harm Inducing	PEI: Emotional Manip.	PEI: Ego Boosting	TOSS: Coercive	TOSS: Coaxing	SDS: Blatant Lying	SDS: Self Serving	Total SOI-R	SD3: Machiavellian	SD3: Narcissism	SD3: Psychopathy	Age	Gender
Average PEI Score	Pearson Correlation	1	.909**	.874**	.750**	.748**	.180**	-.281**	-.475**	.181**	.341**	.177**	.492**	0.080	-.176**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.069	0.000
PEI: Harm Inducing	Pearson Correlation	.909**	1	.669**	.507**	.801**	0.048	-.189**	-.473**	.166**	.230**	.125**	.469**	0.078	-.217**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.281	0.000	0.000	0.000	0.000	0.004	0.000	0.076	0.000
PEI: Emotional Manip.	Pearson Correlation	.874**	.669**	1	.590**	.554**	.190**	-.283**	-.348**	0.048	.322**	.185**	.415**	-0.016	0.017
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.280	0.000	0.000	0.000	0.713	0.705
PEI: Ego Boosting	Pearson Correlation	.750**	.507**	.590**	1	.461**	.328**	-.294**	-.364**	.283**	.386**	.162**	.344**	.166**	-.249**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOSS: Coercive	Pearson Correlation	.748**	.801**	.554**	.461**	1	.216**	-.191**	-.475**	.124**	.272**	.141**	.471**	0.026	-.178**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.005	0.000	0.001	0.000	0.566	0.000
TOSS: Coaxing	Pearson Correlation	.180**	0.048	.190**	.328**	.216**	1	-.199**	-.154**	0.073	.205**	.106*	0.085	-0.002	0.018
	Sig. (2-tailed)	0.000	0.281	0.000	0.000	0.000		0.000	0.000	0.102	0.000	0.017	0.056	0.972	0.681
SDS: Blatant Lying	Pearson Correlation	-.281**	-.189**	-.283**	-.294**	-.191**	-.199**	1	.519**	-.262**	-.181**	-.117**	-.116**	-.128**	-0.008
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.008	0.008	0.004	0.862
SDS: Self Serving	Pearson Correlation	-.475**	-.473**	-.348**	-.364**	-.475**	-.154**	.519**	1	-.368**	-.209**	-0.068	-.278**	-.208**	.241**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.123	0.000	0.000	0.000
Total SOI-R	Pearson Correlation	.181**	.166**	0.048	.283**	.124**	0.073	-.262**	-.368**	1	.226**	-0.061	.196**	.396**	-.483**
	Sig. (2-tailed)	0.000	0.000	0.280	0.000	0.005	0.102	0.000	0.000		0.000	0.164	0.000	0.000	0.000
SD3: Machiavellian	Pearson Correlation	.341**	.230**	.322**	.386**	.272**	.205**	-.181**	-.209**	.226**	1	.395**	.638**	0.082	-.176**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.063	0.000
SD3: Narcissism	Pearson Correlation	.177**	.125**	.185**	.162**	.141**	.106*	-.117**	-0.068	-0.061	.395**	1	.356**	-.138**	.101*
	Sig. (2-tailed)	0.000	0.004	0.000	0.000	0.001	0.017	0.008	0.123	0.164	0.000		0.000	0.002	0.022
SD3: Psychopathy	Pearson Correlation	.492**	.469**	.415**	.344**	.471**	0.085	-.116**	-.278**	.196**	.638**	.356**	1	0.017	-.180**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.056	0.008	0.000	0.000	0.000	0.000		0.700	0.000
Age	Pearson Correlation	0.080	0.078	-0.016	.166**	0.026	-0.002	-.128**	-.208**	.396**	0.082	-.138**	0.017	1	-.414**
	Sig. (2-tailed)	0.069	0.076	0.713	0.000	0.566	0.972	0.004	0.000	0.000	0.063	0.002	0.700		0.000
Gender	Pearson Correlation	-.176**	-.217**	0.017	-.249**	-.178**	0.018	-0.008	.241**	-.483**	-.176**	.101*	-.180**	-.414**	1
	Sig. (2-tailed)	0.000	0.000	0.705	0.000	0.000	0.681	0.862	0.000	0.000	0.000	0.022	0.000	0.000	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

used to gain emotional investment, commitment, or attention from the exploited individual (e.g., “Reminded my partner of something bad they had done in the past to make them more likely to be attentive to me”). The final factor, Ego-Boosting Exploitation ($\alpha=.86$), included positive or beneficial behaviors used to obtain a resource from the exploited party (e.g., “Seduced my partner in order to get more attention”). All three factors were positively correlated with each other. The total scale Cronbach’s alpha equaled .96, which suggests that the items on the PEI, assuming the construct is unidimensional, have high internal consistency.

To assess if there were sex differences in exploitative behaviors, a number of *Mann-Whitney U* tests were conducted with sex as the grouping variable and both the individual components and total PEI score as the dependent variables. Non-parametric tests were used because of the severe skewness of the data and the violation of homogeneity of variance. The results showed a significant difference between men and women for the average ranks of the total PEI score ($U=28390$, $p=.035$, $d=.096$), the Harm-Inducing score ($U=24965$, $p<.001$, $d=.211$), the Emotional-Manipulation score ($U=27667.6$, $p=.015$, $d=.107$), and the Ego-Boosting score ($U=23022$, $p<.001$, $d=.236$). Men reported using both Harm-Inducing (Mean Rank=292.22) and Ego-Boosting (Mean Rank=301.70) exploitative behaviors more than women (Harm-Inducing: Mean Rank=236.27, $p<.001$; Ego-Boosting: Mean Rank=230.03, $p<.001$). Women reported using Emotional-Manipulation (Mean Rank=271.39) behaviors more than men (Mean Rank=238.94, $p=.015$).

A number of additional questionnaires were included to establish convergent validity (for scale means and standard deviations, see Table 4 in the Supplementary Materials). The Coercive component of the TOSS was positively associated with the Harm-Inducing ($r=.80$, $p<.001$), Ego-Boosting ($r=.46$, $p<.001$), and Emotional Manipulation ($r=.55$, $p<.001$) components. The Coaxing component of the TOSS was positively associated with the Ego-Boosting ($r=.33$, $p<.001$), and Emotional Manipulation ($r=.19$, $p<.001$) components, but not with the Harm-Inducing ($r=.05$, $p=.281$) component. Total PEI score and each of the three factors were correlated with the percentage of “Yes” answers in the SDS Blatant Lying (PEI Total: $r=.28$, $p<.001$; Harm-Inducing: $r=.19$, $p<.001$; Emotional Manipulation: $r=.28$, $p<.001$; Ego-Boosting: $r=.29$, $p<.001$) and Self-Serving (PEI Total: $r=.48$, $p<.001$; Harm-Inducing: $r=.47$, $p<.001$; Emotional Manipulation: $r=.35$, $p<.001$; Ego-Boosting: $r=.36$, $p<.001$) subscales. For a full list of correlations, see Table 2.

The SOI-R (Penke and Asendorpf, 2008) and the SD3 (Jones & Paulhus, 2013) were both included in the study to establish convergent validity. It was expected that SOI-R would predict exploitative behaviors such that those with a higher score on the SOI-R would engage in more exploitative behavior (especially any component related to sexual exploitation). It was also predicted that SD3 scores would positively predict exploitative mating behavior. A series of linear, multiple regression analyses were conducted separately for men and women because prior research has shown that men and women differ on measures of the dark triad (e.g., Goncalves and Campbell, 2014; Jonason and Webster, 2010; Semenyina and Honey, 2015). Psychopathy, Machiavellianism, and Narcissism were entered as predictor variables and PEI components as the criterion variable. The SD3 explained a significant amount of variance in Harm-Inducing scores in both men ($F(3,201)=25.70$, $p<.001$, $R^2=.277$) and women ($F(3,307)=19.90$, $p<.001$, $R^2=.163$). Machiavellianism ($\beta=-.214$, $t=-2.61$, $p=0.010$) and Psychopathy ($\beta=.600$, $t=7.79$, $p<.001$) predicted Harm-Inducing scores in men, but only Psychopathy ($\beta=.453$, $t=6.58$, $p<.001$) scores predicted Harm-Inducing scores in women. The SD3 also explained a significant amount of variance in the Emotional Manipulation subscale in men ($F(3,201)=18.32$, $p<.001$, $R^2=.215$) and women ($F(3,307)=25.89$, $p<.001$, $R^2=.202$). For men, Narcissism ($\beta=.181$, $t=2.48$, $p=0.014$) and Psychopathy ($\beta=.395$, $t=4.93$, $p<.001$) were positively associated with Emotional Manipulation, whereas in women Machiavellianism ($\beta=.197$, $t=2.95$, $p=.003$) and Psychopathy ($\beta=.334$, $t=4.97$, $p<.001$) were positively associated with Emotional Manipulation scores and Narcissism

was negatively associated with Emotional Manipulation scores ($\beta=-.122$, $t=-2.19$, $p=0.030$). The SD3 also explained a significant amount of variance in the Ego-Boosting subscale for both men ($F(3,201)=9.72$, $p<.001$, $R^2=.114$) and women ($F(3,307)=34.65$, $p<.001$, $R^2=.167$). For men, only scores on the Machiavellianism subscale predicted Ego-Boosting scores ($\beta=.229$, $t=2.54$, $p=.012$). For women, Machiavellianism ($\beta=.267$, $t=3.90$, $p<.001$) and Psychopathy ($\beta=.195$, $t=2.84$, $p=.005$) were significantly associated with Ego-Boosting scores.

Additionally, a series of linear regressions were used to determine if sociosexuality predicted PEI scores. Sociosexuality explained a significant proportion of the variance in Harm-Inducing scores in women ($F(1,309)=9.92$, $p=.002$, $R^2=.031$), but not in men ($F(1,203)=.000$, $p=.985$, $R^2=.000$). Less restricted scores on the SOI-R were associated with higher Harm-Inducing behaviors in women ($\beta=.176$, $t=3.15$, $p=.002$). Sociosexuality also explained a significant proportion of variance in Emotional Manipulation scores in women ($F(1,309)=7.13$, $p=.008$, $R^2=.150$), but not in men ($F(1,203)=.123$, $p=.726$, $R^2=.150$). Higher scores on the SOI-R predicted higher scores on the Emotional Manipulation subscale ($\beta=.150$, $t=2.67$, $p=.008$). The same pattern of results was found on the Ego-Boosting subscale: SOI-R predicted scores on the Ego-Boosting subscale in women ($F(1,309)=35.10$, $p<.001$, $R^2=.102$), but not in men ($F(1,203)=.956$, $p=.329$, $R^2=.005$). Higher SOI-R scores predicted higher scores on the Ego-Boosting subscale ($\beta=.319$, $t=5.09$, $p<.001$). Finally, a Pearson correlation analysis was used to assess if there was an association between relationship length and exploitative behaviors based on gender. For men, but not women, relationship length was negatively correlated with Harm-inducing Behaviors ($r=-.152$, $p=.029$) and Emotion-Manipulation behaviors ($r=-.141$, $p=.044$). Relationship length was not significantly associated with any of the PEI subscales in women (all r s<.022, all p s>.695).

Finally, a linear, multiple regression was used to investigate how age, gender, scores on the Coercive and Coaxing components of the TOSS, scores on the SD3’s Machiavellianism, Narcissism, Psychopathy scales, the Blatant Lying and Self-Serving subscales of the SDS, and SOI-R scores predicted average PEI scores when entered into a model together. These variables explained a large portion of the total variance in PEI average scores ($F(10,495) = 77.55$, $p < .001$, $R^2 = .603$). With all variables entered in the same step, only Blatant Lying scores ($\beta = .337$, $t = 2.59$, $p = .01$), the Coercive component of the TOSS ($\beta = 1.17$, $t = 17.05$, $p < .001$), and SD3 Psychopathy scores ($\beta = .303$, $t = 3.36$, $p = .001$) significantly predicted average PEI scores after correcting for multiple comparisons. The Self-Serving subscale of the SDS was marginally predictive of average PEI scores ($\beta = .347$, $t = 2.11$, $p = .035$).

Discussion

Conflicts inevitably arise within relationships and may be dealt with in a variety of ways, such as through communication, compromise, or relationship dissolution. However, when one partner has something that they are reluctant to give, but that the other partner wants, partner exploitation can occur through deception, manipulation, coercion, or force (Buss and Duntley, 2008; Goetz et al., 2012). The goals of this study were to (1) identify the tactics used to exploit a romantic partner and (2) create a scale for use in future research that measures partner exploitation. First, we used act nomination to identify 62 acts that may be used to exploit a partner. Then, we had a new group of participants complete an act frequency procedure in order to group those acts into three exploitation components: (1) Harm-Inducing, (2) Emotional Manipulation, and (3) Ego-Boosting Exploitation.

The *Harm-Inducing* component (e.g., “Threaten to cheat/leave my partner if they did not have sex with me”) contains exploitative acts that are costly to the exploited person beyond the loss of the exploited resource. If the exploiter was successful, their partner would lose the targeted resource (e.g., sexual choice) and would suffer in other respects, such as the loss of self-esteem, confidence, status, or physical or emotional damage. The *Emotional Manipulation* component (e.g., “Made

my partner feel guilty about going out with friends so that they would spend time with me”) contains items where the exploitative goal is to acquire more emotional investment or commitment from the exploited partner, especially by manipulating the partner’s emotions. This component differs from the other two in that the items all involve acquiring one specific resource, whereas the other components describe different strategies (i.e., inducing harm vs. using flattery) to attain any desired resource. The acts vary in their costliness to the exploited, but the common goal is to acquire more investment from their partner. Emotional exploitation for investment may be used to increase efficacy of exploitation in other domains, particularly given that investment is positively associated with commitment to a relationship and negatively associated with likelihood of leaving a relationship, even if it is an abusive relationship (Katz et al., 2006; Le and Agnew, 2003). Thus, Emotional Manipulation exploitation may function to keep the exploited partner in a relationship and increase ease of exploitation more generally. Finally, the *Ego-Boosting* component (e.g., “Flattered my partner in order to get them to have sex with me”) contains exploitative acts that, although still resulting in the exploited partner losing a resource (e.g., sexual choice, finances, or time that may have been invested in other endeavors), are less costly to the exploited. Tactics within this component involve manipulating the exploited through pleasant means, including flattery, seduction, and/or bribery.

We expected the components would group based on the exploited resource (e.g., sex, finances), and this hypothesis was supported in the Emotional Manipulation component. However, the Harm-Inducing and Ego-Boosting components were grouped based on the potential costs of the exploitative tactics to the exploited. This suggests that people who use exploitation are more likely to use it in more than one area of their romantic relationship, so long as the exploitative tactics are similar in their impact on the partner (i.e., harmful or ego-boosting). Additionally, the individual differences seem to reside in the severity of the exploitative tactics rather than the domain wherein exploitation is used. There are examples in the literature of groups of behaviors such as mate retention (Buss et al., 2008) and sexual coercion (Camilleri et al., 2009) falling into similar categories. For example, the Mate Retention Inventory has a Benefit-Provisioning category that contains tactics that provide some benefit to the partner to increase the likelihood of retaining them as a mate. The Cost-Inflicting category, however, contains tactics that inflict a cost on the partner to increase the likelihood of retaining them as a mate (Miner et al., 2009). Ego-boosting and Harm-inducing components appear to similarly divide based on negative or positive approaches.

There were some interesting sex differences with respect to reported components used, albeit with small effect sizes. Within the current sample, men were more likely to report using exploitative tactics than women, and reported higher scores on the Harm-Inducing and Ego-Boosting components. Four out of six items of the Ego-Boosting component described tactics used to obtain sexual access. Men’s reproductive fitness, relative to women, benefits more from mating more frequently and less discriminately (Symons, 1979; Trivers 1972). This disparity results in men being more likely to be sexually coercive and use sexual exploitation (Buss and Duntley, 2008; Prusik et al., 2021), which may explain why male participants scored higher on the Ego-Boosting component. Moreover, women may report fewer Harm-Inducing exploitative behaviors due to men’s higher average physical strength. A number of items on the Harm-Inducing component describe using force or threat of force to exploit a partner. This may not be a realistic tactic for many women to use against their male partners, given that men are often larger and stronger compared to women. Additionally, men are more likely to perpetrate violence against their partner in comparison to women (e.g., Archer, 2002; Tanha et al., 2010). Therefore, using or threatening to use force to exploit a male partner has the potential to be ineffective and may result in physical retaliation wherein the woman stands to suffer tremendous costs. Certainly, although partner exploitation can be a risky strategy regardless of sex, exploitative behaviors

that are more damaging to the target may be riskier for the exploiter and increase the likelihood of retaliation from the exploited. In general, women may use Harm-Inducing exploitative behavior less frequently due to potential retaliation from a male partner. Future research could compare women in same-sex relationships to those in opposite-sex relationships to tease apart differences in exploitative behavior caused by biological sex differences versus risks associated with a male partner.

By contrast, women scored higher than men on the Emotional Manipulation component. This is somewhat surprising because previous research has found that men (Bacon and Regan, 2016; Hyde and Grieve, 2018) and those espousing more masculine gender roles (Grieve et al., 2019) are more likely to use emotional manipulation compared to women and those espousing more feminine gender roles, respectively. Although it is possible that unmeasured views on gender roles are impacting our findings, this interpretation seems unlikely. A more likely explanation is that men have more partner exploitation tactics available to them compared to women. In other words, if Ego-Boosting tactics are more in line with men’s reproductive strategies and Harm-Inducing tactics play to men’s greater average physical strength, then it follows that women would be best served using Emotional Manipulation tactics compared to the other two strategies, if they are to use any partner exploitation tactics at all. In other words, women may, on average, have fewer potential options for successfully exploiting their male partners. This interpretation is hypothetical, however, and should be investigated further.

The TOSS (Camilleri et al., 2009) and the SDS (Marelich et al., 2008) were included to establish convergent validity for the PEI. The Coercive component of the TOSS, as predicted, was positively associated with all three components of the PEI and with total average PEI scores. The association between the Coercive component and the Emotional Manipulation component is of particular interest. The Coercive component exclusively describes coercive or exploitative tactics to obtain sex, whereas the Emotional Manipulation component describes exploitative tactics to gain further relationship investment from the exploited partner. Their association, despite describing different exploitative goals, further supports the idea that a stronger commonality is the severity and costliness of the exploitative tactics to the exploited person, rather than the resource that is attempting to be acquired from the exploited person. Fittingly, the Coaxing component of the TOSS was only associated with the Ego-Boosting and Emotional Manipulation components, and not the Harm-Inducing component. Both the Blatant Lying and Self-Serving subscales of the SDS were also positively associated with total PEI scores and each of its components. These results are not surprising because exploitation is, by definition, acquiring a resource by depriving someone else of it (i.e., being self-serving; Buss and Duntley, 2008). Similarly, many of the individual tactics employ deception (e.g., “Pretended more sexual excitement than I actually felt so my partner would feel more attached to me”) or manipulation (e.g., “Bought gifts for my partner so they would give me more attention”).

The SOI-R and the SD3 were also included to assess validity. For the SD3, Psychopathy positively predicted average total PEI scores and Harm-Inducing scores in both sexes, whereas Machiavellianism negatively predicted Harm-Inducing scores in men only. Psychopathy is related to the likelihood of perpetrating acts of physical violence (e.g., Fox and DeLisi, 2019; Grann et al., 1999; Thomson et al., 2019), so it makes sense that psychopathic traits would predict Harm-Inducing exploitative behaviors, several of which describe violence (e.g., “Threatened to hit my partner if they did not have sex with me”). Impulsivity is a characteristic of psychopathy, whereas those high in Machiavellianism are more calculating and manipulative. Thus, men scoring high in Machiavellianism may be more aware of social consequences of violence (e.g., retaliation, reputation damage) and be more willing to instead use other types of manipulation. Machiavellianism also positively predicted Ego-Boosting exploitative behaviors in both sexes, and Emotional Manipulation exploitative behaviors among women. These findings corroborate the assertion that those scoring higher in Machiavellianism are

more likely to use exploitative tactics that do not cause physical harm to the exploited, but instead choose to manipulate their partners through positive behaviors (e.g., flattery) or by appealing to their partner's emotions (e.g., guilt). Psychopathy was also positively associated with Emotional Manipulation scores in men and women, and Ego-Boosting scores in women. That psychopathy predicts partner exploitation is perhaps unsurprising given that it also predicts the use of self-serving deception (Brewer et al., 2019), but the sex difference in the association with Ego-Boosting scores was unexpected. Likewise, Narcissism was positively associated with men's use of Emotional Manipulation tactics, but negatively associated with women's use of Emotional Manipulation tactics. These sex differences suggest that dark triad traits differentially influence the use of partner exploitation tactics in men and women, and may be related to how these traits are expressed across the sexes. For example, male narcissists tend to exhibit more maladaptive narcissism (e.g. Exploitativeness/Entitlement), whereas female narcissists exhibit comparably more adaptive narcissism (e.g., Leadership/Authority; Watson and Biderman, 1994). The relationships between dark triad trait expression, biological sex, and exploitation behaviors should be investigated further.

For the SOI-R, sociosexuality was positively associated with all three factors of the Partner Exploitation Inventory for women, but, surprisingly, not for men. In other words, women who indicated a greater acceptance of, and a proclivity towards, casual sex were more likely to report using Harm-Inducing, Ego-Boosting, and Emotional Manipulation exploitation tactics with a partner compared to women who were less open to casual sex, but this relationship was not found in men. An association between sociosexuality and use of exploitation tactics was expected because many of the tactics on the PEI describe exploiting a partner for sex, and a preference for casual sex is related to a partner quantity-over-quality approach to mating (e.g., Goetz et al., 2012; Hirsch and Paul, 1996). Moreover, those using the "quantity" approach are more likely to use exploitative tactics and be less concerned with the potential costs to their partner (Hirsch and Paul, 1996). Although this agreement in women provides partial support for the validity of the PEI, it is unclear why we did not see this association among men, for whom a quantity approach to mating is relatively more common (e.g., Schmitt and Buss, 1993; Schmitt et al., 2001). Importantly, we did exclude people who were not currently in a romantic relationship that had lasted a minimum of three months, which, because people who report a less restricted sociosexual orientation are less inclined toward long-term relationships, likely impacted scores on the SOI-R by reducing variance. Thus, these findings should be interpreted with due caution. Men in the current study did indicate a less restricted sociosexual orientation (i.e., higher scores on the SOI-R) compared to women, as would be expected, but further research is needed to understand how sociosexuality may relate to men's use of partner exploitation behaviors, if at all. It is possible that the implications of having a high sociosexual orientation differ by sex in important ways that are confounding or moderating the relationship in men. For example, Clark (2006) found that self-esteem and self-perceived mating success were positively associated with sociosexual orientation in men, but not women (for similar findings on self-esteem and number of previous sexual partners, see Schmitt and Jonason, 2019).

One final sex difference that we found involved relationship length; relationship length was negatively associated with men's use of Harm-Inducing and Emotional Manipulation exploitative behaviors, but no such relationship was found among women. This suggests that men, but not women, either reduce their use of more harmful exploitative behaviors the longer they stay with a current partner, or that those men who engage in these behaviors less often are more likely to remain in a committed relationship. Certainly, inducing harm and/or using emotional manipulation against a long-term partner may be riskier than using these tactics against a short-term partner because social circles become more integrated across the length of a relationship (i.e., couples share more friends and acquaintances over time). Mistreating a long-term partner

may therefore increase risks to the exploiter of reputation damage and retaliation from mutual friends or family. Alternatively, these men may be less desirable as long-term partners or are less able to form long-term partnerships. Indeed, men in this study who reported greater use of Harm-Inducing and Emotional Manipulation exploitation also scored higher on measures of Psychopathy and Narcissism, which are related to the use of an opportunistic short-term mating strategy (Jonason et al., 2009, 2010, 2011) and a lower preference for serious romantic relationships (Jonason et al., 2012).

Limitations and future directions

The current work is not without limitations. First, this study uses a self-report design, which leaves the results subject to social desirability. In particular, the participants in the act frequency portion of the study were asked to report on their own exploitative behaviors towards their partner, and the majority of these behaviors were socially undesirable or, in some cases, even illegal. It is possible that participants did not report their behaviors honestly, but we believe this is a minor concern because all responses were anonymous, which increases reporting honesty (Krumpal, 2013). Moreover, direct behavioral observations are not feasible because the behaviors under investigation largely occur in private. Future work could extend this research by soliciting responses from the exploited partner, close family, or friends of the romantic couple, or through a combination of these methods. Future research could also use alternative phrasing in the instructions. Currently, the instructions begin with the sentence "Below is a list of possible ways in which someone may exploit their partner in a relationship." The inclusion of the word 'exploit' may be exacerbating any existing social desirability bias by causing the participants to be defensive about their behavior. Researchers could edit the phrasing to have slightly less negative connotations (e.g., "take advantage").

The PEI was primarily constructed as a tool that can be used to investigate partner exploitation in men and women in a variety of situations. However, a second limitation of this study is that the sample was not representative of the general population. Participants were predominantly Caucasian, under 25, and recruited from a college campus. Participants who completed the act frequency task were also all heterosexual and cisgender, and it is possible that non-heterosexual and non-cisgender individuals show marked differences in their partner exploitation strategies and behaviors. Researchers should expand to other, more diverse populations. Similarly, the PEI can be used to investigate situational changes (e.g., across different types of relationships) in exploitation tactics, and could be altered in order to further parse apart the tactic and target resource, given that the items on the PEI contain both the tactics used in exploitation (e.g., complaining) and the target resource that is being exploited (e.g., sexual access). Scholars could also use a longitudinal design to assess how exploitation changes across the relationship, as well as how it interacts with other measures of relationship functioning, such as commitment and satisfaction.

Many mating strategies are conditional on features that would moderate how adaptive it is given other constraints (reviewed in Gangestad et al., 2007), such as women's mate preferences shifting toward signals of genetic quality across the ovulatory cycle (reviewed in Gildersleeve et al., 2014; Welling and Burriss, 2019). Future research could investigate changes in women's use of exploitation strategies across the menstrual cycle, such as whether women are more likely to use a specific exploitation strategy during high versus low fertility. Furthermore, men show greater preference for women at peak fertility (e.g., Puts et al., 2013) and exhibit an increase in testosterone in response to olfactory cues to women's fertility (Miller and Maner, 2009, 2011). A subsequent study could investigate whether men use different forms of partner exploitation dependent on whether their partner is at high or low fertility, and whether this relationship is moderated by testosterone level. Additional research could also investigate whether different forms of exploitation are more likely to occur in response to specific situational

cues, or whether other individual differences are related to different exploitation strategies. For instance, one's own attractiveness relates to mate preferences, such that people of higher attractiveness show greater preferences for high quality potential partners (e.g., Little et al., 2001). It is possible that mate value discrepancy (i.e., where one partner is of higher mate quality than the other) relates to the use of exploitation tactics or particular types of exploitation strategies.

Because exploitation is used to acquire resources that the exploited is reluctant to give, researchers should assess if individuals who report frequent use of exploitation also report more success in the domains in which they use exploitation. For example, if a person reports using exploitation frequently to gain sex, do they also report more sexual partners or more offspring in comparison to others? Finally, the Partner Exploitation Inventory could also be used to assess a person's past experience of exploitation by modifying the wording to have participants indicate how often they have personally experienced the behaviors, rather than whether they have engaged in the behaviors. This could be instrumental in assessing the characteristics associated with exploitability for each form of partner exploitation.

The current work produced and provided initial validation for the PEI, which is a first step towards filling a gap in the literature with respect to how both men and women use exploitation in a romantic relationship. Addressing this gap is necessary to fully understand human mating behavior and within-couple conflict. The studies that have investigated exploitative behaviors within long-term romantic relationships have focused on the means by which men exploit their female partners and have largely ignored the ways in which women exploit their male partners. This research presents an impactful step towards understanding not only exploitation in long-term relationships, but also understanding how and why both men and women exploit their romantic partners. Knowledge of this sort may have downstream applications for research into domestic and sexual violence. Considering the costliness of being exploited by a romantic partner, this represents a fruitful area of research into romantic conflict.

Data and code availability statement

Data are available upon request made to the first author.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.crbeha.2022.100074.

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