PARTNER INSURANCE: WOMEN MAY HAVE BACKUP ROMANTIC PARTNERS AS A MATING STRATEGY

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Table of Contents

I. Acknowledgements……iii

II. Abstract ……..……...……vi

III. Introduction …….....1

Evolution and Female Mating Strategies ……1

Female Mating Strategies…….....1

Potential Predictors of Female Mating Behavior…….3

Hormonal Effects on Mating……...3

Dark Triad Personality Traits …….…….4

Sociosexual Orientation ……..6

Life History Strategy ……...6

Mate Value ……..7

Relationship Satisfaction …….....8

Current Study & Goals ……8

Hypotheses ……..8

IV. Methodology…….....……9

Participants ……..9

Measures ...……10

Procedure ……..12

V. Results …….....……...13

Plan B Proclivity Scale ……13

Correlations – Predictor Variables ……14

Outcomes Associated with Partner Insurance ...……18

Multiple Regression Predicting Plan B Proclivity ……..……..19

Logistical Regression Predicting Partner Insurance.....20

VI. Discussion …….....….21

Plan B Proclivity ……...22

Partner Insurance ……..……....24

Future Directions & Limitations ……...25

Conclusion ……27

VII. References ……....…….29

VIII. Appendices …….……..……34

Abstract

The science behind reproductive success is arguably the most prominent area of study within evolutionary psychology. Humans utilize a variety of mating strategies as a result of *strategic pluralism* (Gangestad & Simpson, 2000) which explains that both men and women have evolved with a plethora of conditional mating strategies that may be more or less beneficial depending on the context and circumstance. Recent research points to the existence of "back-burner relationships" (Dibble & Drouin, 2014) as a means to compare and consider potential alternatives in the way of romantic relationships. The current study refers to this phenomenon as *partner insurance,* and focuses on heterosexual women in committed relationships. A new scale called the *Plan B Proclivity* scale (PBP) was designed for the current study to measure the degree to which women consider their closest platonic male friend a romantic "backup plan." Results suggest that 20% of women report having some level of partner insurance, and various variables predict this including being young in age, having low relationship satisfaction with a current partner, having an unrestricted sociosexual orientation, and having a personality composed of relatively high narcissism, Machiavellianism, and psychopathy (i.e. the *Dark* Triad). Implications for these findings are discussed.

Keywords: Evolutionary Psychology, Human Mating Strategies, Relationships, Female Partner Insurance

Introduction

Evolution and Female Mating Strategies

From an evolutionary perspective, any features of an organism (physical or behavioral) that bear on reproductive outcomes should be considered significant topics of study (see Geher, 2014). This point relates to the fact that evolutionary forces, such as natural and sexual selection, operate on features that facilitate reproductive success.

Humans, like all organisms, are a product of reproduction. Successfully passing on one's genes is, essentially, the finish line as far as evolution is concerned. Reproductive success is at the crux of evolution. Just like our biology, our behaviors have been selected and passed on through evolutionary forces. Studying human mating strategies today is useful then in understanding how we have come to achieve reproductive success - both today and in ancestral times (see Shackelford, Schmitt, & Buss, 2005).

Female Mating Strategies

Women utilize a variety of mating strategies, however unwittingly. As Geher and Kaufman (2013) put it, some women are from Springfield, and some are from the Bronx. Research has demonstrated that there are numerous reasons people have sex (Meston & Buss, 2007), and there are a variety of mating strategies that women use (Geher & Kaufman, 2013). For instance, women who are interested in a long-term relationship tend to be attracted more to men who display kindness and warmth, while women interested in a short-term relationship are more attracted to men who are relatively tall, muscular, and socially dominant by comparison (Aitken, Lyons, & Jonason, 2013). Moreover, women tend to be more attracted to men in general when they are in the fertile phase of their ovulatory cycle (Aitken, Lyons, & Jonason, 2013). One

study in particular demonstrates how women will use different mating strategies depending on what kind of mate they intend to attract (Cashdan, 1993). The data suggest that a woman who expects to find a mate who is willing to invest in her and the relationship will try to attract him by acting particularly elegant and by emphasizing her fidelity. On the contrary, a woman who expects to attract a non-investing mate will flaunt her sexuality. This is one example that displays variation in mating strategies among women. The current study attempts to address another potentially manipulative mating strategy in women not yet fully researched or understood, and I refer to this as *partner insurance*.

Insurance can be described as a means of protecting oneself or maintaining safety in the event of some future deficit. For example, many Californians pay an earthquake insurance company a certain affordable amount of money regularly just in case a devastating earthquake (common to California) randomly hits and destroys their homes or belongings. At that point, the insurance company will cover the far-more expensive repair costs. In ancestral times, insurance might have appeared in the form of cave-dwellers stocking up on food when it was bountiful. This would have provided our ancestors with the means to stretch them through famine if/when it struck. It is a (relatively) small cost to the actor to pay some kind of insurance when affordable considering the greater benefit of future protection. The same kinds of behaviors are seen in members of other species today. Grey squirrels will stock up on nuts and bury them for future consumption (Jacobs & Liman, 1991). When the squirrels get hungry, they actually remember the location of their secret buried nuts and will return to their spot. This is a very simple example of insurance in other animals – stocking up on goods to be used later in case of a future deficit.

Reciprocal altruism works similarly, and could arguably be a primitive and social form of insurance. While animals tend to feed closely-related kin, they also tend to feed and help unlucky

hunter friends or non-relatives (Wilkinson, 1984). This form of altruism essentially implies a returned favor in the future for when the same actor suddenly becomes an unlucky hunter friend himself. It is a primitive form of insurance. Thinking back to human mating strategies, the current study addresses the issue of romantic partner insurance. Humans may be inclined to maintain a backup spouse or romantic partner. The cost in this situation would be a threat to the existing romantic relationship, and the benefit would be an immediate transition into another romantic relationship if the existing one were terminated. This research is focused on exploring and better understanding this mating tactic.

In terms of the literature, recent research points to the existence of *back burner relationships* (Dibble & Drouin, 2014). For the purpose of the current study, back burner relationships are referred to and addressed as *Romantic Plan Bs*. The current study focuses on heterosexual women, and so this adjustment had been made accordingly. Essentially, a Romantic Plan B is a man who a woman may be interested in romantically, and with whom she remains in contact in the possibility of a future romantic relationship despite being committed to another romantic partner. College-aged women have been found to maintain 3.78 Romantic Plan Bs, on average (Dibble, Drouin, Aune, & Boller, 2015). Embedded in the Investment Model is the concept of comparing a current relationship to available alternatives (Rusbult, 1980). The interweaving of this concept and the evolutionary psychology behind evolved human mating strategies provides a foundation for the phenomenon of partner insurance.

Potential Predictors of Female Mating Behavior

Hormonal Effects on Mating

Hormonal contraception (HC) has been found to affect women in various, and sometimes profound ways (Wedekind, Seebeck, Bettens, & Paepke, 1995). Studies have revealed that HC

use can have effects on mood, attraction, and even behavior. One study in particular has demonstrated that pill use for contraception can manipulate a woman's preference for dissimilar major histocompatibility complex (MHC) in males compared to those who are naturally cycling (Wedekind et al., 1995). Overall, there is abundant literature that suggests HC use can affect and alter subconscious-level mate choice preferences. Hormonal variation over the female menstrual cycle affects women's preferences for male mates, and these hormonal variations can even have an effect on a male's attraction to a specific female depending on where she is in her cycle (Miller, Tybur, & Jordan, 2007). Biologically, the female body is essentially tricked into believing it is pregnant if the woman is using HC. I argue that the suppression of a fertile phase and an inhibition to recognize reproduction opportunity a la HC use will reduce the likelihood of having a Romantic Plan B. Additionally, researchers Manlove, Welti, Wildsmith, and Barry (2014) found that young adults are most likely to use HC when in a relationship that is rated as having high intimacy, commitment, and low conflict. They found this to be the case whether the relationship was considered long-term or short-term in structure and duration. The implications of this study as it relates to my hypothesis is that women in relationships, either long or short-term, rated as having high conflict, low intimacy, and low commitment are less likely to use HC. It is likely that a woman in such a high-conflict situation would make herself available to other relationship possibilities, and thus have partner insurance.

The Dark Triad Personality Traits

Recent research on the nature of personality as it relates to mating has suggested that a cluster of relatively dark, anti-social traits are actually strongly predictive of several mating-relevant outcomes (Jonason, Lyons, & Blanchard, 2015). In terms of predicting the tendency to have a Romantic Plan B, these personality traits may well be play a role. The current study

particularly explores narcissism, Machiavellianism, and psychopathy (i.e., the Dark Triad; see Paulhus & Williams, 2002) as predictors of partner insurance. Machiavellianism is characterized as the tendency to be unemotional and detached from morals (Christine & Geis, 1970) while psychopathy is generally associated with antisocial behavior and diminished empathy or remorse (Hare, 1985). Narcissism is expressed with extreme selfishness, a craving for admiration, and generally those with high narcissism are preoccupied with their physical appearance (Raskin & Terry, 1988).

A recent study using a women-only sample has found that narcissism in particular is a significant predictor of both general and sexual competitiveness (Carter, Montanaro, Linney, & Campbell, 2015). I argue here that one way of engaging in intrasexual competition is the maintenance of a backup partner as a means to not only provide partner insurance for the self, but also as a means to prevent the loss of a potential partner (the Romantic Plan B) to another competing female, regardless of current commitment status.

These personality variables in particular are positively associated with short-term mating strategies in women, and are negatively associated with long-term mating strategies (Holtzman & Strube, 2013). The very nature of having partner insurance implies an expectancy for potential future relationship termination, thereby connecting to a short-term mating strategy. A long-term mating strategy would probably not include plans for future post-relationship termination. Since these personality variables are associated with a short-term mating strategy in women, and partner insurance would inherently be part of a short-term mating strategy, these personality variables should correlate with having a Romantic Plan B.

Sociosexual Orientation

Sociosexual orientation describes an individual's attitude, behavior, and desire for commitment-free sex. An unrestricted sociosexual orientation is characterized by a proclivity for this kind of sex without emotional commitment (Penke & Asendorpt, 2008). Research has demonstrated that an unrestricted sociosexual orientation predicts a desire for preferable mating traits in opposite sex platonic friends (Lewis, Al-Shawaf, Conroy-Beam, Asao, & Buss, 2012). In this study, women with an unrestricted sociosexual orientation indicated character trait preferences for their opposite sex friends that were the same as what women tend to prefer in romantic partners. These traits include high economic resource status and high physical prowess. This makes a plausible case that women with an unrestricted orientation may be more likely to maintain a potential mate in the form of a platonic friend whose qualities match their romantic desires - a Romantic Plan B.

Life History Strategy

The life history strategy (LHS) model explains how a species organizes its life with regard to behavior and division of time. Species that evolved in an unpredictable environment have a fast LHS, while species that evolved in a more stable environment have a slow LHS. Humans generally have a slower LHS, but it varies quite a bit on an individual level. Individuals with a slower LHS demonstrate commitment and high investment in mate choice, they are more monogamous, have more long-term relationships, and provide extensive parental investment as compared to their faster LHS counterparts. Those with a fast LHS have a higher number of sexual partners in their lifetime, have more short-term relationships, are more impulsive, engage in more extensive risk-taking, have a higher disregard for social rules, and provide less parental investment (Figueredo et al., 2006).

Having a slower LHS is negatively associated with an individual's level of mating effort, or the degree to which someone has resources devoted to acquiring sexual partners (Figueredo, Vásquez, Brumbach, Sefcek, Kirsner, & Jacobs, 2005). Given the tendencies of individuals with a fast LHS along with their higher mating effort, I argue that women with a fast LHS will be more likely to have a Romantic Plan B.

Mate Value

A fifth potential predictor of partner insurance is the perception of mate quality for the self and for the committed romantic partner. Women who are in a relationship with a particularly high or low-quality mate may be at risk of either being abandoned, or may be looking to trade up in quality, respectively. Mate value in this case has the potential to predict partner insurance in either direction, and this variable is meant to be exploratory in nature.

Women who consider themselves to be very high or low-quality mates themselves may feel it particularly useful, or contrastingly difficult to have a Romantic Plan B. Researchers Gomula, Nowak-Szczepanska, and Danel (2014) found evidence that self-perceived low-mate-value males, whose female partners are rated as having very high mate-value, tend to have lower sociosexual desires compared to other high-mate-value males. The authors suggest that this could be an adaptive tactic to show increased commitment to a particularly high-mate-value female as a means to increase long-term reproductive success. I argue that females who may be in a committed relationship with a high-quality male may be more inclined to maintain partner insurance since high-mate-value males are more prone to sociosexual desires that could result in infidelity. Alternatively, females with particularly low-quality partners may be more inclined to maintain partner insurance as a result of comparing and referring to high-quality alternatives. In

any case, mate value in the current study represents a non-directional potential predictor of partner insurance.

Relationship Satisfaction

Relationship satisfaction is a common topic of research. An especially key finding is that relationship satisfaction levels are moderate predictors of relationship dissolution among nonmarital romantic relationships (Le, Dove, Agnew, Korn, & Mutso, 2010). This makes sense on an intuitive level. Individuals who are unhappy in a relationship may be more inclined to terminate the relationship and move on. Additionally, some of the highest predictors of infidelity, in the form of extra-pair sexual behavior, are relationship-related variables like satisfaction and relationship length (Klapilova, Cobey, Wells, Roberts, Weiss, & Havlicek, 2014). With regard to reproductive success, it would make sense to have a backup plan if one is dissatisfied with the current relationship and foresees a breakup. For someone who is unsatisfied and looking to move on, having a Romantic Plan B might be adaptive.

Current Study: Goals of the research

The goals of the current study are to create a valid scale designed to assess Plan B Proclivity (or the degree to which a heterosexual woman in a committed relationship considers her closest male friend a romantic backup plan), to identify predictors of Plan B Proclivity, and to identify predictors of more general partner insurance.

H_1: Women who are not actively using hormonal contraception tend to score relatively high on Plan B Proclivity.

H_2: Women with higher levels of the Dark Triad tend to score relatively high on Plan B Proclivity.

H_3: Women with an unrestricted sociosexual orientation tend to score relatively high on Plan B Proclivity.

H_4: Women with a fast life history strategy tend to score relatively high on Plan B Proclivity.

H_5: Ratings of perceived self and partner mate value will correlate with Plan B Proclivity.

H_6: Women with lower levels of relationship satisfaction tend to score relatively high on Plan B Proclivity.

Methodology

Participants

173 females who were at least 18 years of age completed the online survey administered via Qualtrics which was approved by the HREB. Participants were recruited from SUNY New Paltz and from the social media website, Facebook. Participants identified as primarily heterosexual, and were in a committed romantic relationship that had a 6 month minimum length at the time of participation (*M* = 4.37 years, *SD* = 6.18 years, *Range* = .50-37 years). Participants had a mean age of 24.22 years old (*SD* = 9.20, *Range* = 18-59) with few people above the age of 30 (see Figure 1).

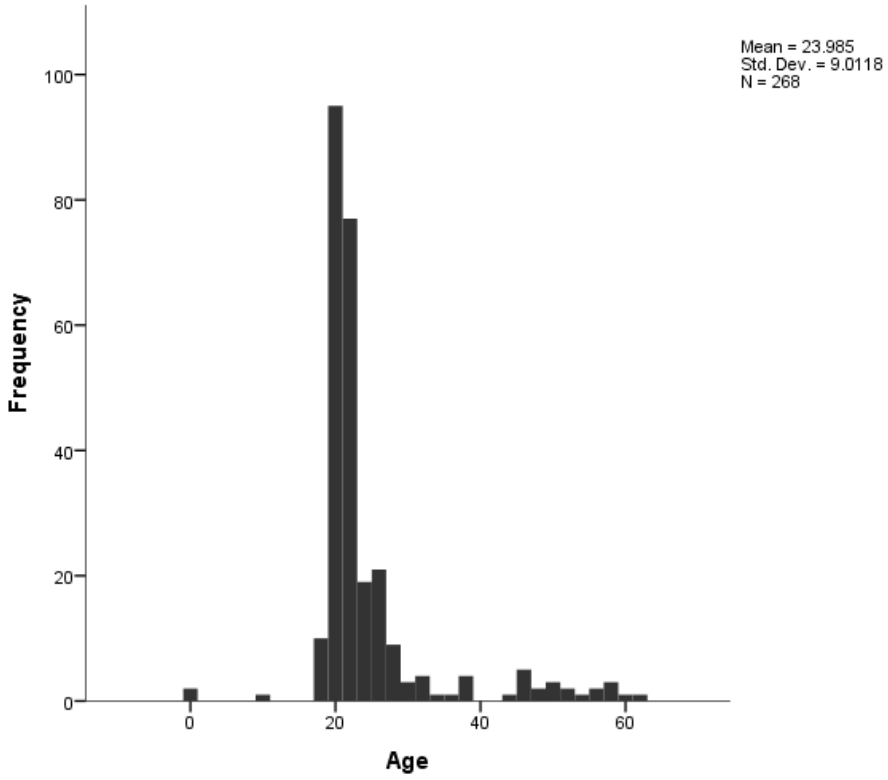

Fig. 1 *Frequency distribution of age*

Measures

Participants completed an online survey (Qualtrics) that first asked participants to report a number of relevant demographic variables (age, sexual orientation, sex, etc.). The relevant scales for the current study followed.

Plan B Proclivity: PBP Scale. This 12-item Likert scale was used to assess the degree to which women in committed relationships consider their closest non-romantic male friend as a Romantic Plan B (see Appendix A). Some sample items from this scale are "I discuss personal things with this person," "This person has confessed romantic feelings for me," and "I consider this person to be a Plan B or backup if my current relationship should ever end." Items were

rated on a five-point scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Cronbach's α for this sample was .81.

Dark Triad Personality Traits: Dirty Dozen (Jonason, Kaufman, Webster, & Geher, 2013) (see Appendix B). This twelve-item Likert scale was used to measure levels of Machiavellianism, psychopathy, and narcissism. Items (e.g. "I tend to manipulate others to get my way," "I tend to be callous or insensitive," and "I tend to expect special favors from others") were rated on a five-point scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Cronbach's α for this sample was .83.

Life History Strategy: Mini-K (Figueredo et al., 2006) (see Appendix C). This 20-item Likert-type scale was rated on a seven-point scale from -3 (*Strongly Disagree*) to +3 (*Strongly Agree*). Sample items from the Mini-K include "I often make plans in advance," "I avoid taking risks," and "I am often in social contact with my friends." Cronbach's α for this sample was .74.

Relationship Satisfaction: Kansas Marital Satisfaction Scale (Schumm, Nichols, Schectman, & Grigsby, 1983) (see Appendix D). This three-item scale asked participants questions like "How satisfied are you with your romantic relationship," to be scored from 1 (*Extremely Dissatisfied*) to 7 (*Extremely Satisfied*). Cronbach's α for this sample was .96.

Mate Value (Graham-Kevan & Archer, 2009) (see Appendix E). Participants rated both their romantic partner's mate value and their own mate value on the following domains: physical attractiveness, personality, popularity, education, intelligence, and job/career prospects. This five-point Likert scale asked participants to rate the above characteristics first for themselves, and then again for their romantic partner (*0=Very Low, 1=Low, 2=Average, 3=High, 4=Very High*). Cronbach's α for this sample were .71 (self) and .67 (partner).

Revised Sociosexual Orientation: SOI-R (Penke & Asendorpt, 2008) (see Appendix F). This was a Likert scale with nine items - some items were rated on a scale from 1 (*Strongly Disagree*) to 9 (*Strongly Agree*), while others identified frequency of behaviors from 1 (*Never*) to 9 (*At least once a day*). Some sample items include "How often do you have fantasies about having sex with someone with whom you do *not* have a committed romantic relationship," "With how many different partners have you had sexual intercourse on *one and only one* occasion," and "Sex without love is OK." Cronbach's α for this sample was .81.

Other Variables Participants were asked to complete various other items on the survey including whether or not they were currently using hormonal contraception and the length of their current committed relationship. Additionally, participants were asked to report whether they had a Romantic Plan B regardless of how they responded to the PBP scale. This was a categorical variable added to determine the general existence of partner insurance among participants, without thinking about their closest platonic male friend.

Procedure

A survey examining Plan B Proclivity, life history strategy, Dark Triad, mate value, relationship satisfaction, sociosexual orientation, the existence of partner insurance (PI here on) and HC use was administered to participants using Qualtrics.com online survey software. The URL for the survey was distributed via email through SUNY New Paltz psychology subject pool, and through the social media site, Facebook.

Results

The results were generally designed to address the validity of the PBP scale, and to evaluate predictors of Plan B Proclivity (PBP) and predictors of partner insurance (PI). This section is organized into subsections addressing the psychometric properties of the PBP scale, correlations among predictor variables, correlations between predictor variables and PBP, factors that predict PI, and multiple regressions that evaluate how predictive each variable is of PBP.

Psychometric Properties of the PBP Scale

A reliability analysis indicated sufficient inter-item consistency and strong reliability (Cronbach's α = .81) for the Plan B Proclivity scale. After completing the PBP scale, participants answered the following question: *Regardless of the target you had in mind for the prior section, in general, do you have a heterosexual male in your life that you consider as a backup romantic partner?* The purpose of this question was to allow participants to indicate, regardless of anything else, whether they had PI or not. For instance, a participant may have been able to complete the PBP scale about her closest male friend, but her closest male friend might not be her romantic backup partner. The same participant may indeed have a romantic backup partner, but the PBP scale would not have gotten to this answer due to the nature of the instructions. 20% of participants reported 'Yes' to this question (34 of N = 173), and an independent samples t-test revealed that participants who have a romantic backup partner (M = 34.85, SD = 10.54) scored higher on PBP than those who did not (M = 29.20, SD = 8.80; $t(171)$ = 3.22, p = .002, d = .58) as seen in Table 1. This suggests that the PBP scale measured what it was designed to measure - the degree to which participants have a proclivity to maintain a backup romantic partner. Overall, the PBP scale is both reliable and valid.

Table 1. *Independent samples t- test for Partner Insurance existence and Plan B Proclivity*

	Partner Insurance	No Partner Insurance	*t*
Plan B Proclivity	34.85 (10.54)	29.20 (8.80)	3.22** (171)
	34	139	

Note. The *N* for each group is presented below it. Standard deviations are reported in parentheses next to each mean. Degrees of freedom are reported in parentheses next to the *t* value.
* $p < .05$
** $p < .01$

Correlations among Predictor Variables

The current study had several predictor variables for Plan B Proclivity. Multiple correlational analyses were conducted to evaluate the relatedness of the predictor variables. Means and standard deviations for the predictor variables are presented in Table 2. Correlations between life history, relationship satisfaction, sociosexual orientation, the mate value of the participant, the mate value of the participant's significant other, hormonal contraception, and the Dark Triad are presented in Table 3. Life history strategy was positively correlated with relationship satisfaction ($r(167) = .36$, $p = .000$), with *significant other* mate value ($r(171) = .21$, $p = .007$), and with *self* mate value ($r(171) = .23$, $p = .003$). Importantly, note that high scores on the life history strategy measure correspond to a relatively slow life history strategy. This suggests that individuals with a slower life history strategy are more satisfied in their relationships, and they consider themselves and their partners to be of high mate value. Life history was negatively associated with both sociosexual orientation ($r(164) = -.24$, $p = .002$) and with the Dark Triad ($r(171) = -.21$, $p = .006$). Also note that high scores on the sociosexual measure correspond to being more unrestricted in sexual desire, attitude, and behavior. This

suggests that individuals with a slower life history strategy were less likely to have an unrestricted orientation, and had lower levels of Machiavellianism, narcissism, and psychopathy.

Sociosexual orientation was positively associated with the Dark Triad ($r(171) = .27$, $p = .000$), further suggesting that Dark Triad personality variables are related to an unrestricted sociosexual orientation. Use of hormonal contraception was unrelated to all other predictor variables.

Table 2. *Descriptive statistics for predictor variables*

Variable	*N*	*Mean*	*SD*
Life History Strategy	167	102.02	13.34
Relationship satisfaction	166	17.55	3.49
Sociosexual orientation	164	32.82	11.88
Significant Other Mate Value	171	23.95	3.14
Self Mate Value	171	22.20	2.89
Hormonal Contraception	160	1.53	.50
Dark Triad	171	28.82	7.59

Table 3. *Correlations among predictor variables*

	1	2	3	4	5	6
1. Life History						
2. Relationship satisfaction	.36**					
3. Sociosexual orientation	-.24**	-.26**				
4. Significant Other Mate Value	.21**	.52**	-.28**			
5. Self Mate Value	.23**	.20*	.12	.33**		
6. Hormonal Contraception	.09	.04	.04	.05	.00	
7. Dark Triad	-.21**	-.16*	.27**	-.15	-.07	.14

* $p < .05$
** $p < .01$

Correlations Between Predictor Variables and PBP

The first hypothesis proposing that women who are naturally cycling would score higher on PBP than HC users was not supported as no significant results were found (as seen in Table 4).

Table 4. *Independent samples t- test for HC use and Plan B Proclivity*

	HC users	Naturally cycling	*t*(df)
Plan B Proclivity	31.16 (8.57) 85	29.89 (10.35) 75	.85 (158)

Note. The *N* for each group is presented below it. Standard deviations are reported in parentheses next to each mean.

Correlations were run to test the remaining hypotheses (Table 5). The findings support the second prediction that Dark Triad personality traits would positively predict PBP, $r(171) = .151$, $p = .049$ (2-tailed). Specifically, when evaluating the relatedness of Machiavellianism, psychopathy, and narcissism individually with PBP, Machiavellianism was positively associated with PBP, $r(171) = .221$, $p = .004$ (2-tailed).

The third hypothesis addressed sociosexual orientation as a predictor of PBP. Correlations indicated that having an unrestricted sociosexual orientation may trend toward a positive association with PBP, $r(164) = .136$, $p = .083$ (2-tailed). This finding is only marginally significant and cannot be treated as fully reliable, but it may suggest important trends that could emerge in a larger sample. None of the sub-descriptors of sociosexuality (i.e. behavior, attitude, and desire) were individually correlated with PBP.

Correlational analyses revealed no significant association between PBP and life history strategy (see Table 5), so the fourth hypothesis was not supported.

No significant results were found to support the fifth hypothesis that mate value may in some way(s) be related to PBP (see Table 8).

Lastly, the correlational analyses revealed a negative association between relationship satisfaction and PBP which is trending toward significance. This partially supports the sixth hypothesis, $r(166) = -.150$, $p = .054$ (2-tailed) which stated that lower relationship satisfaction would correlate with PBP.

Table 5. *Correlations with Plan B Proclivity*

Factor	*r*
Dark Triad	.151*
Machiavellianism	.221**
Psychopathy	.089
Narcissism	.036
Sociosexual Orientation	.136
Sociosexual behavior	.100
Sociosexual attitude	.105
Sociosexual desire	.104
Life history strategy	.129
Self mate value	-.055
Partner mate value	-.025
Relationship satisfaction	-.150

*$p < .05$
**$p < .01$ (2-tailed)

To fully explore mate value as a predictor of PBP, an interaction term was computed by multiplying scores on self mate value with partner mate value. This interaction term was entered into a hierarchical regression. The first step of this analyzed both mate value scores as individual

scores, and the second step evaluated the interaction. The R^2 for the entire model was .01, and the R^2 increase was .008. The change in F was not significant.

Outcomes Associated with Partner Insurance

To further explore the phenomenon of having partner insurance, independent samples t-tests were run between various variables and the dichotomous PI measure (see Table 6). Along with the higher PBP scores as mentioned earlier, participants who reported having a romantic backup partner also scored significantly higher on the Dark Triad measure (*M* = 32.79, *SD* =9.09) than those who did not (*M* = 27.83, *SD* = 6.86); *t*(169) = 3.52, *p* = .001, *d* = 0.62. Those who reported having a romantic backup partner scored significantly higher on Machiavellianism (*With PI: M* = 11.38, *SD* = 3.91; *Without PI: M* = 9.65, *SD* = 3.19; *t*(169) = 2.70, *p* = .008, *d* = .48), psychopathy (*With PI: M* = 8.76, *SD* = 3.12; *Without PI: M* = 6.99, *SD* = 2.97; *t*(169) = 3.08, *p* = .002, *d* = .58), and narcissism (*With PI: M* = 12.65, *SD* = 3.50; *Without PI: M* = 11.19, *SD* = 3.24; *t*(169) = 2.30, *p* = .02, *d* = .43). Additionally, participants who reported having a romantic backup partner scored significantly lower on relationship satisfaction (*M* = 16.44, *SD* = 3.51) than those who did not (*M* = 17.84, *SD* = 3.43); *t*(164) = -2.1, *p* = .036, *d* = .40. Lastly, younger participants were significantly more likely (*M* = 20.88, *SD* = 6.98) than older participants (*M* = 24.39, *SD* = 8.82) to report having a romantic backup partner; *t*(164) = -2.15, *p* = .03, *d* = .44. Note that all findings have a moderate effect size (using *Cohen's d).*

Table 6. *Outcomes associated with having a Romantic Plan B*

Factor	*t*	Women *with* PI	Women *without* PI	*d*
Dark Triad	3.52****	32.79 (9.09)	27.83 (6.86)	.62
Plan B Proclivity	3.22***	34.85 (10.54)	29.20 (8.80)	.58
Machiavellianism	2.70***	11.38 (3.91)	9.65 (3.19)	.48
Psychopathy	3.08***	8.76 (3.12)	6.99 (2.97)	.58
Sociosexual Orientation	2.91***	37.97 (12.70)	31.47 (11.33)	.54
Narcissism	2.30**	12.65 (3.55)	11.19 (3.24)	.43
Relationship Satisfaction	-2.11*	16.44 (3.51)	17.84 (3.43)	.40
Age	-2.15*	20.88 (6.98)	24.34 (8.82)	.44

* $p < .05$
** $p < .025$
*** $p < .01$
**** $p < .001$ (2-tailed)

Since HC was not related to PBP, a Chi-square test of independence was run to assess its relatedness to the categorical measure, PI. The model was not significant χ^2 (1) = .681, p = .703.

Multiple Regression Predicting PBP

A multiple regression was conducted with relevant significant variables to evaluate how predictive each variable is of PBP as seen in Table 7. The overall model was significant (R^2 = .13, F(7, 156) = 3.20, p = .003), suggesting that this entire set of predictor variables, as a set of variables, significantly predicts PBP scores. Machiavellianism significantly predicted PBP score (t = 3.23, p = .002) suggesting that women with higher PBP scores tend to be high in Machiavellianism. Although life history strategy did not yield in any significant results in the correlational analyses, its effect was released in the presence of other variables in the multiple

regression and also significantly predicted PBP score (t = 2.60, p = .010). This signifies that those with a slower life history strategy may have a higher propensity to score highly on PBP.

Table 7. *Multiple regression predicting Plan B Proclivity*

Predictor Variable	*b*	*β*	*t*
Intercept	7.33		1.00
Machiavellianism	.85	.31	3.23**
Psychopathy	.17	.06	.65
narcissism	-.50	-.18	-1.94
Life History	.15	.21	2.60**
SOI-R behavior	.14	.06	.74
SOI-R attitude	.06	.04	.50
SOI-R desire	.23	.11	1.23

R^2 = .13, $F(7, 156) = 3.20$, $p < .01$
* $p < .05$
** $p < .01$

Logistical Regression Predicting PI

A logistical regression was conducted with relevant significant variables to evaluate how predictive each variable is of the categorical variable, PI (Table 8). The overall model was significant, $\chi^2(7) = 29.47$, p = .000. The model accurately predicted which category participants would be in 81.7% of the time. In the context of all predictor variables, sociosexual desire was the only predictor variable with a significant effect.

Table 8. *Logistical regression predicting PI*

Predictor Variable	*b*
Machiavellianism	.10
Psychopathy	.12
Narcissism	.00
Life History	.01
SOI-R behavior	-.09
SOI-R attitude	.03
SOI-R desire	.20***

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

Discussion

The current study expands on previous research evaluating the existence of *back burner relationships* while further exploring the potential for *partner insurance* as a mating tactic in women. This study utilized various evolutionarily relevant scales to test the predictive efficacy of such variables including hormonal contraception use, mate value, sociosexual orientation, Dark Triad personality variables, life history strategy, and relationship satisfaction. Additionally, a scale was designed for this study to measure the degree to which women consider their closest non-romantic male friend a Romantic Plan B.

The predictor variables were relatively inter-correlated and many of the findings regarding their correlational properties and validity (in terms of Cronbach's α) reflected previous findings. For example, Dark Triad was negatively correlated with life history in the current study (meaning these personality traits correlate with a *faster* life history strategy), and this is in line with research from Jonason and Tost (2010).

Predictors of Plan B Proclivity

In terms of predicting Plan B Proclivity in women, one of the six predictor variables (Dark Triad) yielded significant correlations, though two others (Sociosexual orientation, relationship satisfaction) trended toward significance. Women who scored higher in Machiavellianism, psychopathy, and narcissism scored significantly higher in PBP compared to others. This supports the prediction that since Dark Triad personality traits serve as a function of increased sexual competition as well as short-term mating strategies, they should predict PBP.

Having an unrestricted sociosexual orientation had a marginally significant effect. The findings related to sociosexual orientation and the association with PBP suggests an important trend that may emerge in a larger sample. It is also worth noting that both high PBP and high sociosexual orientation scores may not be seen as particularly desirable. It could be the case that many participants are unwilling to admit high PBP or unrestricted sociosexual orientation, despite the survey's anonymity. In any case, this finding could reiterate that an unrestricted sociosexual orientation is characteristic of a short-term mating strategy, and that PBP by its very nature suggests potential for short-term behaviors. Moreover, this finding could be considered an expansion of research which showed that individuals with an unrestricted orientation prefer that their opposite sex platonic friends have similar characteristics as those of an ideal romantic partner (Lewis, Al-Shawaf, Conroy-Beam, Asao, & Buss, 2012).

The relationship between having low relationship satisfaction and high PBP approached significance as well. Women who are relatively unsatisfied in their committed romantic relationship scored higher on the PBP scale than those who were satisfied. This could be due to a woman's inclination to begin considering an alternative significant other if/when she intends to terminate the current relationship. A separate explanation that was not tested in this survey is that

this is a result of mate poaching in the works (Schmitt & Buss, 2001). Mate poaching occurs when an individual attempts to attract someone who is already in a committed relationship with someone else. It could be that males (in this case, Romantic Plan Bs) may be using mate poaching tactics, and that women with high PBP then justify their inclination to have high PBP with the poaching males by convincing themselves or others that they are truly unsatisfied in their current relationship.

Contrary to the hypotheses, neither self nor significant other mate value predicted PBP. It could be that mate value truly has no predictive value in terms of PBP, but it may also be true that ratings of mate value by the participant may be too subjective and biased. Future studies should evaluate the potential of mate value as a predictor of PBP by considering alternative scales and measures.

Life history strategy was also not correlated with PBP, but signified a significant relationship between *slow* life history strategists and PBP in the multiple regression. This outcome was contrary to our hypothesis. This could be due to similar measures of closeness with others. The Mini-K measures the extent to which individuals are very close to people in their lives, among other variables. The PBP scale also measured the extent to which women were very close to a male friend. Depending on how participants responded to the scales, they could be measuring similar traits (closeness with others), while also measuring different ones (fast or slow life history strategy vs. Plan B Proclivity). In any case, future studies should consider this variable cautiously.

Lastly, use of hormonal contraception was not related to PBP. Our hypothesis that women who are naturally cycling may be more inclined to be aware of and maintain a Romantic

Plan B was not supported. These findings suggest that PBP is not a hormonally motivated tactic in women, and that hormonal contraception itself is not a predictor of PBP.

Outcomes Associated with Partner Insurance

In terms of the dichotomous item identifying whether or not participants reported having a backup romantic partner, regardless of how they responded to the PBP scale, several variables were found to be significant predictors. These include Plan B Proclivity, Dark Triad scores, Machiavellianism, psychopathy, narcissism, age, sociosexual orientation, and low relationship satisfaction. The original purpose of adding this categorical item was to allow for participants to report if they had a romantic backup partner, even if it was not the target they had in mind for the PBP scale. Twenty percent of participants reported having a romantic backup partner (i.e. partner insurance). Dark Triad scores significantly predicted the existence of PI in participants, as did each individual personality variable therein (Machiavellianism, psychopathy, narcissism). This indicates that, regardless of whether or not the romantic backup partner is the woman's closest male friend, women who are higher in these personality variables are more likely to report having PI. A likely explanation for this relationship is that these personality variables have been selected as one variation of a successful mating strategy. PI may overlap with similar short-term mating strategies. Those who tend to lack remorse and are unconcerned with others may be less inclined to consider the cost of PI to their committed partner. Instead, they may be more inclined to consider the benefits of PI for themselves.

Low relationship satisfaction and an unrestricted sociosexual orientation were also predictors of PI. The evidence suggests that women who are unsatisfied in their current relationships may also be in a position to be considering relationship alternatives in the way of a Romantic Plan B, and thus have PI. Additionally, women who have more of a proclivity for

commitment-free sex may experience less boundaries compared to more restricted sociosexual counterparts, and this may be related to a more care-free attitude toward PI. Of the sub-facets of sociosexual orientation, the sub-descriptor of sociosexual desire was a significant predictor of PI in the logistical regression. Among other predictor variables, having a desire for commitment-free sex is associated with reporting PI.

Importantly, PBP was a significant predictor of PI, implying that participants who scored high on PBP were then more likely to report having PI. This suggests that the scale was, in fact, measuring what it was designed to measure - the degree to which women may have a proclivity to maintain a backup romantic partner.

Interestingly, age turned out to be a significant predictor of PI as well. Younger participants were more likely to report having PI than were older participants in this sample. Based on these findings, it seems that PI may be part of a mating strategy that is more limited to younger age groups. One explanation for this could be that younger women are looking to keep their relationship options open, and are not looking to tie themselves down to one person too soon. Older women, then, may be more committed to a long-term relationship like marriage, and are then less likely to be inclined to keep options open. Additionally, women may be less likely to consider relationship alternatives as they approach menopause since reproduction is not possible past this point.

Future Directions and Limitations

Future studies should expand on these and other findings as they relate to partner insurance. In particular, the lack of support for mate value as a predictor should be further

considered, and explanations for age as a predictor of PI should be explored. Additionally, future studies may want to explore additional variables as predictors of PI like attachment style.

Having a romantic backup partner is not likely considered to be something that is particularly desirable. The findings here revealed that one in five women report having PI, but this could very well be an underestimation of the true percentage of women with PI in the general population. Further, the length of the participants' relationship with the committed partner was related to neither PBP nor PI. Though this outcome was not significant, it is still worth discussing and exploring further. This indicates that the length, and potentially the level of commitment, a woman feels toward her partner is not related to the degree to which she may have a Romantic Plan B.

An important dimension of this phenomenon may be to compare sex differences in PI and PBP. How might men express PBP, do men have PI, would the total number of Romantic Plan Bs be different for men compared to women, and what predictors might be involved for men? Research shows that more men than women universally represent short-term mating strategies in their mating effort (Buss & Schmitt, 1993). Because of this, we might expect that a higher percentage of men compared to women would have PI, since PI may be related more to short-term than to long-term mating efforts. Further, a man who pursues short-term sexual strategies must be able to identify women who are sexually accessible and compatible in order for this type of encounter to be successful (Buss & Schmitt, 1993). It may be in the best reproductive interest for short-term-mate-seeking men to have several Romantic Plan Bs in the event that some of the Romantic Plan Bs are not sexually accessible. We might also expect the age predictor to be dissolved when exploring PI in men. Women have a biological clock, so-to-speak, and are unable to reproduce post-menopause. Men, contrastingly, are biologically able to reproduce well

into older age. Because of this sex difference in reproductive viability, we might expect that younger men may not be any more likely than older men to have PI, as we found to be the case with women. The existence of PI in men may be more stable over time.

One limitation of this study which should be considered in future research is the fact that we did not ask participants to indicate the total number of romantic backup partners they had. It would be worth measuring how many Romantic Plan Bs an individual has, and predictors of this total. Furthermore, all participants were in committed relationships at the time of survey completion. While this was purposeful for the current study, future research may want to investigate any differences or similarities in PBP behaviors among single women. Future studies may also want to assess the exact costs and benefits of having PI.

Another limitation of this study is the lack of a manipulation. This survey was only correlational, and we can thus not credit any causal relationships. A longitudinal study, a study that evaluates mate poaching, and/or a study with some kind of manipulation that invokes a trend toward PI would be very useful to the expansion of this research, and to our understanding of this as a mating tactic phenomenon.

Conclusion

This research was designed with the aim of understanding a potential mating tactic in women. It seems that a proclivity to have partner insurance is inherent in some women, and not in others. Several variables predict this proclivity in some aspect including Dark Triad personality traits, low relationship satisfaction, sociosexual orientation, and young age. Strategic pluralism theory (Gangestad & Simpson, 2000) explains that humans may utilize a variety of different mating strategies, and the current study provides support to the idea of partner

insurance being one such possible mating strategy among women. To the extent that women in committed relationships may consider their closest male platonic friend a romantic backup partner, the current study also provides a new scale which measures this phenomenon.

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Appendices

Appendix A

Plan B Proclivity Scale

Instructions:

Think of one specific heterosexual male friend (excluding relatives) in your life, separate from your significant other, with whom you are most close. Please keep this person in mind for the following questions.

Strongly Disagree	*Somewhat Disagree*	*Neither Disagree/Agree*	*Somewhat Agree*	*Strongly Agree*
1	*2*	*3*	*4*	*5*

1. *I communicate with this person regularly.*
2. *I text with this person at least three days a week.*
3. *I discuss personal things with this person.*
4. *I meet up with this person at least once a month for lunch or coffee (etc.) when my significant other is not present.*
5. *I often ask this person to do favors for me.*
6. *I dislike this person's taste in girlfriends or potential partners.*
7. *I am fairly sure that, if given the chance, this person would want to date me.*
8. *This person has asked me out on at least one occasion.*
9. *This person has confessed romantic feelings for me.*

10. My significant other does not know about this person.

11. I turn to this person in times of need.

12. I consider this person to be a Plan B or back-up romantic partner if my current relationship should ever end.

Does your significant other know about this person? (YES/NO)

If yes, does your significant other approve of your relationship with this person? (YES/NO)

Regardless of the target that you had in mind for the prior section, do you have a **separate** heterosexual male in your life (a different guy) that you consider as a backup partner?

YES/NO

Separate from anything else, would you say that, in your life, you have a heterosexual male friend that you consider to be a "Plan B"? YES/NO

Appendix B

The Dirty Dozen:

Rate the following on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*)

Item

1. I tend to manipulate others to get my way.

2. I have used deceit or lied to get my way.

3. I have used flattery to get my way.

4. I tend to exploit others towards my own end.

5. I tend to lack remorse.

6. I tend to not be too concerned with morality or the morality of my actions.

7. I tend to be callous or insensitive.

8. I tend to be cynical.

9. I tend to want others to admire me.

10. I tend to want others to pay attention to me.

11. I tend to seek prestige or status.

12. I tend to expect special favors from others.

Appendix C

Mini-K:

Please indicate how strongly you agree or disagree with the following statements. Use the scale provided. For any item that does not apply to you, please enter "0".

-3	-2	-1	0	+1	+2	+3
Disagree Strongly	Disagree Somewhat	Disagree Slightly	Don't Know/ Not Applicable	Agree Slightly	Agree Somewhat	Agree Strongly

1. I can often tell how things will turn out.

2. I try to understand how I got into a situation to figure out how to handle it.

3. I often find the bright side to a bad situation.

4. I don't give up until I solve my problems.

5. I often make plans in advance.

6. I avoid taking risks.

7. While growing up, I had a close and warm relationship with my biological mother.

8. While growing up, I had a close and warm relationship with my biological father.

9. I have a close and warm relationship with my own children.

10. I have a close and warm romantic relationship with my sexual partner.

11. I would rather have one than several sexual relationships at a time.

12. I have to be closely attached to someone before I am comfortable having sex with them.

13. I am often in social contact with my blood relatives.

14. I often get emotional support and practical help from my blood relatives.

15. I often give emotional support and practical help to my blood relatives.

16. I am often in social contact with my friends.

17. I often get emotional support and practical help from my friends.

18. I often give emotional support and practical help to my friends.

19. I am closely connected to and involved in my community.

20. I am closely connected to and involved in my religion.

Appendix D

Kansas Marital Satisfaction Scale

Item	Extremely Dissatisfied	Very Dissatisfied	Somewhat Dissatisfied	Mixed	Somewhat Satisfied	Very Satisfied	Extremely Satisfied
1. How satisfied are you with your romantic relationship?	1	2	3	4	5	6	7
2. How satisfied are you with your significant other as a spouse/boyfriend?	1	2	3	4	5	6	7
3. How satisfied are you with your relationship with your husband/boyfriend?	1	2	3	4	5	6	7

Appendix E

Mate Value

Please rate the following characteristics of your current significant other:

	Very Low	Low	Average	High	Very High
Physical Attractiveness	0	1	2	3	4
Personality	0	1	2	3	4
Popularity	0	1	2	3	4
Education	0	1	2	3	4
Intelligence	0	1	2	3	4
Career or Job Prospects	0	1	2	3	4

Please rate the following characteristics of yourself:

	Very Low	Low	Average	High	Very High
Physical Attractiveness	0	1	2	3	4
Personality	0	1	2	3	4
Popularity	0	1	2	3	4
Education	0	1	2	3	4
Intelligence	0	1	2	3	4
Career or Job Prospects	0	1	2	3	4

Appendix F

Revised Sociosexual Orientation Inventory (SOI–R)

Please respond honestly to the following questions:

1. With how many different partners have you had sex within the past 12 months?

□ □ □ □ □ □ □ □ □

0 1 2 3 4 5–6 7–9 10–19 20 or more

2. With how many different partners have you had sexual intercourse on *one and only one* occasion?

□ □ □ □ □ □ □ □ □

0 1 2 3 4 5–6 7–9 10–19 20 or more

3. With how many different partners have you had sexual intercourse without having an interest in a long-term committed relationship with this person?

□ □ □ □ □ □ □ □ □

0 1 2 3 4 5–6 7–9 10–19 20 or more

4. Sex without love is OK.

□ □ □ □ □ □ □ □ □

1 2 3 4 5 6 7 8 9

Strongly disagree Strongly agree

5. I can imagine myself being comfortable and enjoying "casual" sex with different partners.

□ □ □ □ □ □ □ □ □

1 2 3 4 5 6 7 8 9

Strongly disagree Strongly agree

6. I do *not* want to have sex with a person until I am sure that we will have a long-term, serious relationship.

□ □ □ □ □ □ □ □ □

1 2 3 4 5 6 7 8 9

Strongly disagree Strongly agree

7. How often do you have fantasies about having sex with someone with whom you do *not* have a committed romantic relationship?

□ 1 – never
□ 2 – very seldom
□ 3 – about once every two or three months
□ 4 – about once a month
□ 5 – about once every two weeks
□ 6 – about once a week
□ 7 – several times per week
□ 8 – nearly every day
□ 9 – at least once a day

8. How often do you experience sexual arousal when you are in contact with someone with whom you do *not* have a committed romantic relationship?

□ 1 – never
□ 2 – very seldom
□ 3 – about once every two or three months
□ 4 – about once a month
□ 5 – about once every two weeks
□ 6 – about once a week
□ 7 – several times per week
□ 8 – nearly every day
□ 9 – at least once a day

9. In everyday life, how often do you have spontaneous fantasies about having sex with someone you have just met?

□ 1 – never
□ 2 – very seldom
□ 3 – about once every two or three months
□ 4 – about once a month
□ 5 – about once every two weeks
□ 6 – about once a week
□ 7 – several times per week
□ 8 – nearly every day
□ 9 – at least once a day