

## Hot Stuff! The Evolutionary Psychology Behind the Attractiveness of Volunteer Firefighters

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### ABSTRACT

Research has demonstrated a clear relationship between riskiness and reported levels of general attractiveness. Research has also explored the perceived attractiveness of altruistic behaviors of males and females. No previous study has examined if these same effects apply to members of the volunteer fire service. The current study sought to examine these factors, by presenting heterosexual females with pictures and biographies of volunteer firefighters, manipulating the firefighter's motivations regarding riskiness and altruism, to measure differences in their levels of perceived attraction. The pictures either showed the model in the traditional turnout gear of the firefighter, the dress uniform, or plain clothes. The biography paired with these pictures either depicted a risky firefighter, an altruistic firefighter, or it simply indicated that they are a firefighter. Dispositional measures included personality assessment to account for potential individual differences in the relationship between these factors. In general, firefighters with altruistic biographies were found to be most attractive for a long-term relationship and were rated highest on the Parenting Effort scale. Further, firefighters with risk-seeking biographies were found to be most attractive for a brief sexual affair and were rated highest on the Mating Effort scale.

### KEYWORDS

Risk-taking, Altruism, Mating, Firefighting, Uniforms

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### INTRODUCTION

Firefighting as an occupation dates back to as early to the times of the ancient Romans (Dillon et. al., 2005). As people began to reside in cities in greater numbers, the need to deal with threats to the population, such as fire, grew. In modern times, the fire service is divided up into two different groups of firefighters: paid and volunteer. Paid firefighters are members of a department in which they receive a

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salary for their actions, whereas volunteer firefighters are oftentimes members of a community that perform the same actions as paid firefighters, while receiving no salary. This study specifically examined volunteer firefighters because they effectively display *both* risk-taking and altruistic behaviors.

Evolutionary psychology provides a compelling lens to potentially elucidate how these aforementioned factors relate to the perception of the attractiveness of firefighters. For example, topics such as risk-taking, altruism, and uniforms are all researched within the realm of evolutionary psychology, Farrelly et al. (2016), Vincke (2016). These same topics are also theoretically relevant within the realm of firefighting. The activities that volunteer firefighters engage in are innately altruistic, as they are helping others at a cost to themselves. Further, it is equally risky to engage in the activities that volunteer firefighters perform. Firefighters also wear uniforms, which have shown to be an effective means of conveying status and influencing behavior (Guéguen, 2009). The following sections will discuss relevant past literature regarding each of these topics.

### Risk-Taking

Research regarding the attractiveness of risk-taking is well-documented within the realm of evolutionary psychology. The act of taking risks demonstrates one's fitness (Machluf & Bjorklund, 2015). In ancestral conditions, being able to effectively carry out high-risk behaviors could prove to be beneficial to the individual in terms of obtaining additional resources. These resources would then in turn be used to help ensure the survival of the individual. Furthermore, potential mates would be more inclined to mate with someone that possess more resources than someone who does not. Ronay and von Hippel's (2010) findings suggest that men can use physical risk-taking as a sexual display strategy when they are around women. This perspective highlights that engaging in risk can be used to impress or attract potential mates. This example is more salient in modern society than obtaining additional resources, however both securing additional resources and the implication of physical risk-taking are still valid methods of risk-taking being beneficial to the individual.

Further, Bassett and Moss's (2004) findings suggested that both men and women find risk-takers as attractive as friends and short-term romantic partners. However, only women seemed to find risky men attractive for a long-term relationship. Although this attraction may seem counter-intuitive to modern society, it would be seen as beneficial during ancestral conditions. For example, a partner who was willing to brave the unknown during ancestral conditions might have been able to secure additional resources which might have been critical to survival. A modern study conducted by Sylwester and Pawłowski (2011), had participants' rate physical, social and even financial risk-taking and risk-avoiding profiles in terms of attractiveness for long- and short-term relationships. Again, regarding short-term relationships, men and women preferred risk takers over risk avoiders.

Lastly, Kelly and Dunbar's (2001) findings provide further support regarding the attractiveness of risk-taking. Their study found that when females are given a choice between risk-takers and non-risk-takers for a sexual partner, females prefer risk-taking men. It is clear throughout a variety of literature that risk-taking is

considered to be attractive for various forms of relationships regarding an evolutionary psychological context.

## Altruism

The topic of why people engage in altruistic behavior has recently been popularized in recent research. Evolutionarily speaking, the theory of kin-selection can help explore as to why organisms engage in altruism. Recent literature suggests that altruistic behaviors in humans may prove to be more attractive when compared to humor, or even physical attractiveness. Farrelly et al. (2016) found that women prefer men that are altruistic, especially so for long-term relationships. Further, being considered altruistic and physically attractive made a man even more desirable.

Further, Kelly and Dunbar (2001) again illuminate how the attractiveness of all these factors differs across relationship type. Altruism was deemed to be important regarding long-term relationships and friendships, but for short-term interactions, non-altruists were preferred to altruists (Kelly & Dunbar, 2001). People who display altruistic tendencies are more likely to be preferred for a committed relationship compared to a brief relationship, as there is more opportunity for future reciprocation in a long-term relationship. Within the context of evolutionary theory, an altruistic partner would certainly be an asset regarding survival, being more likely to share resources or be more willing to offer assistance.

Further empirical evidence was found in a study in which participants rated vignettes with photographs of individuals on whether or not the person would be desirable as a romantic partner. The study found that altruists were more desirable for longer-term relationships and interactions when compared to neutral individuals. (Barclay 2010). This demonstrates that altruistic behaviors are more desirable for a long-term relationship.

Lastly, Jensen-Campbell, Graziano, and West explored females' attraction to males' prosocial orientation. Again, prosocial men were rated as more physically and sexually attractive, socially desirable, and desirable as dates when compared to non-prosocial men. (Jensen-Campbell, Graziano, & West, 1995). It is clear that altruism is inherently tied to multiple types of attractiveness and female mate choice and is an important factor to consider when examining mating preferences.

## Uniforms: A Status Symbol

Social psychological research has consistently found that uniforms are an effective means of conveying status and indeed influence the behavior of others (Guéguen, 2009). Examples in modern society include police and military uniforms. In ancestral times, ornamental clothing or adornments on one's body would certainly demonstrate status, akin to how African tribal healers are often clad in special outfits designed to signify their status (Drennan, 1934).

Previous studies have replicated findings that uniforms are an effective means of conveying status. For example, Gherardi, Cameron, West, and Crossley (2009), examined patient preferences of doctor's outfits, each varying in degrees of formality. Patients had the most confidence in doctors wearing the symbolic white coat, followed by doctors in a dress shirt, tie, and dress pants for men or professional wear for

women. This result is likely due to patient exposure to this dress style. Casual attire was rated as the least confidence inspiring (Gherardi, Cameron, West, & Crossley, 2009). This example clearly demonstrates that uniforms not only convey status, but also draw out perceptions of capability and behavior regarding the person wearing it. Formal attire has been found across a large number of contexts to generate an impression of status and power (Kwon & Johnson, 1998). Yet, it remains unclear if uniforms as a status symbol influences perceived attractiveness.

### Personality Traits Related to Attractiveness

The Big Five Personality Traits have been found to be robustly connected to several mating-relevant outcomes. For example, with regard to North American women, Schmitt and Shackelford (2008), found that higher neuroticism is associated with interest in short-term mating, unrestricted sociosexuality, short-term mate poaching attempts, succumbing to short-term mate poaching attempts, and lower relationship exclusivity. This finding would imply that women scoring higher on Neuroticism measures would prefer short-term mating conditions over longer-term mating conditions. Higher extraversion was associated significantly with behaviors such as, interest in short-term mating, unrestricted sociosexuality, short-term mate poaching attempts, and acquiescence to short-term poaching attempts.

### The Dark Triad

A cluster of personality traits referred to as The Dark Triad has also been researched extensively in psychological research. The Dark Triad consists of Narcissism, characterized by a lack of empathy and egotism, Machiavellianism, characterized by behaviors such as manipulating and exploiting of others for personal gain, and Psychopathy, characterized by remorselessness, and selfishness (Paulhus & Williams, 2002). Scores on dark triad assessments help researchers better understand certain patterns of behavior. The participants' scores on the Dirty Dozen dark triad scale was recorded as an additional dispositional variable (Jonason & Webster, 2010). Dark triad scores were examined to see if there was any impact regarding female attractiveness ratings when riskiness and altruism are experimentally manipulated.

### The Current Study

This study aimed to explore the attractiveness of volunteerism, more specifically with regards to volunteer firefighting. Based on evolutionary psychological research, we know that volunteering is attractive (Moore et. al, 2013), and riskiness in males is attractive, especially so for short-term relationships (Vincke, 2016). With that information in mind, this study sought to extend those findings to see if they applied to members of the volunteer fire service. Volunteering to be a member of a fire service is both altruistic and extremely risky, and firefighting is a predominantly male activity. (96.4% male as of 2015 according to the National Fire Protection Association.).

This study also sought to explore the impact that different uniforms have on the perception of attractiveness. Both the Dress Uniform (Class A) and the Turnout Gear of the firefighter was used to examine if there are any differences between the formal uniform and the more rugged turnout gear regarding attraction. This study also explored if women high in Dark Triad or other personality measures will prefer longer or shorter mating conditions, and also examined the role of uniforms regarding the perception of attraction.

In this study, heterosexual female participants were given an online survey that included basic demographic information, measures of the Big Five and the Dark Triad. Further, participants also viewed a picture of a firefighter in either Turnout Gear, the Dress Uniform, or Plain Clothes. The picture also included a short biography that stated that this person is a volunteer firefighter and either enjoys taking risks, enjoys protecting the community, or simply that he is a volunteer firefighter for various reasons.

The general research questions examined participant's attractiveness regarding different model photo conditions, and different biography cues. The a priori hypotheses that were pre-registered on the Open Science Framework were as follows:

#### **Brief Sexual Affair**

- 1) The model wearing the turnout gear will be rated highest in attractiveness for a brief sexual affair across biography conditions.
- 2) The biography character with high motivation for risk-taking will be rated highest in attractiveness for a brief sexual affair across model photo conditions.
- 3) Women scoring higher on the Mating effort scale will rate the model in the turnout gear higher in attractiveness for a brief sexual affair across biography conditions.
- 4) Women scoring higher on the Mating effort scale will rate the biography character with high motivation for risk-taking more attractive for a brief sexual affair across model photo conditions.
- 5) The biography character with high motivation for risk-taking will be rated relatively higher on the mating effort scale across biography conditions.

#### **Long-Term Committed Relationship**

- 1) The model wearing the dress uniform will be rated highest in attractiveness for a long-term committed romantic relationship across biography conditions.
- 2) The biography character with high motivation for protecting the community will be rated highest in attractiveness for a long-term committed romantic relationship across model photo conditions.
- 3) The model wearing turnout gear will be rated as relatively higher on the mating effort scale across model photo conditions.
- 4) Women scoring high on the Parenting effort scale will rate the model in the dress uniform as more attractive for a long-term, committed romantic relationship across biography conditions.

- 5) Women scoring higher on the Parenting effort scale will rate the biography character with high motivation for protecting the community as more attractive for a long term, committed relationship across model photo conditions.
- 6) The model wearing the dress uniform will be rated relatively higher on the parenting effort scale, across model photo conditions.
- 7) The biography character with high motivation for protecting the community will be rated relatively higher on the parenting effort scale, across model photo conditions.

### Exploratory Dispositional Variables

- 1) Women scoring high on the Dark Triad scale will rate the biography character with high motivation for risk-taking more attractive for a brief sexual affair across model photo conditions.
- 2) Women scoring higher on the Neuroticism measure from the TIPI scale will rate the biography character with high motivation for risk-taking more attractive, especially for a for short-term mating condition.
- 3) Women scoring higher on the Extraversion measure from the TIPI scale will rate the biography character with high motivation for risk-taking more attractive for a brief sexual affair.
- 4) Women scoring higher on the Extraversion measure from the TIPI scale will rate the model wearing the turnout gear more attractive for a brief sexual affair.

## METHOD

### Participants

Participants were recruited through an e-mailed survey sent through the State University of New York at New Paltz SONA system ( $N = 531$ ). It is important to note that this survey is limited to members of the female sex only for several reasons. This study will be using a male model, since 96.4% of firefighters are male. As an exploratory study of volunteer firefighters, the attractiveness of male firefighters was examined.

### Procedures and Materials

The survey was distributed to potential participants via the State University of New York at New Paltz SONA system and advertised via various social media platforms. Participants received a link to survey on Qualtrics where they answered basic demographic information, and were first presented with a picture of a male model in either the Dress Uniform of a firefighter, the Turnout Gear of a firefighter, or Plain Clothes, which consisted of a plain white shirt, jeans, and a plain white ballcap. The three pictures used in this study were photographed by a professional photographer in a studio. Specific instructions were given to ensure that the model



knew to maintain a neutral expression and maintain the exact same body position across all three pictures. Afterwards, the photographer digitally fine-tuned the photos.

Participants were given the Ten Item Personality Measure (TIPI); (Gosling et. al., 2013) in order to measure their scores regarding the Big Five. This scale was useful in measuring participants scores relative to the Big Five. Furthermore, the Dirty Dozen (Jonason & Webster, 2010) was used to measure the Dark Triad.

The Mating Effort Scale (Kruger, 2017) is an eight-item scale and was used to measure the participants belief on how the model acts with regards to mating behaviors. Participants were asked the general question, "Please think of Anthony and rate him on the following characteristics. 0 = as low as possible, 100 = as high as possible," and all answers were based on a sliding scale. The mating effort scale was included as a proxy for a tendency to be a short-term mating strategist.

The Parenting Effort Scale (Kruger, 2017) is an eight-item scale and was used to measure the participants beliefs on how they think the model would be as a long-term partner. Participants were asked the general question, "Please think of Anthony and rate him on the following characteristics. 0 = as low as possible, 100 = as high as possible", and all answers were based on a sliding scale. The parenting effort scale was included as a proxy for a tendency to be a long-term mating strategist.

Further, questions were also asked to measure female's attractiveness to the male models: "How interested would Anthony be in...", with all answers based on a 0 – 100 sliding scale (Kruger & Kruger, 2016).

- A long-term committed, romantic relationship
- A two-month romantic relationship
- A brief sexual affair

As well as, " How attractive do you think Anthony would be to women for..."

- A long-term committed, romantic relationship
- A two-month romantic relationship
- A brief sexual affair

## Analyses

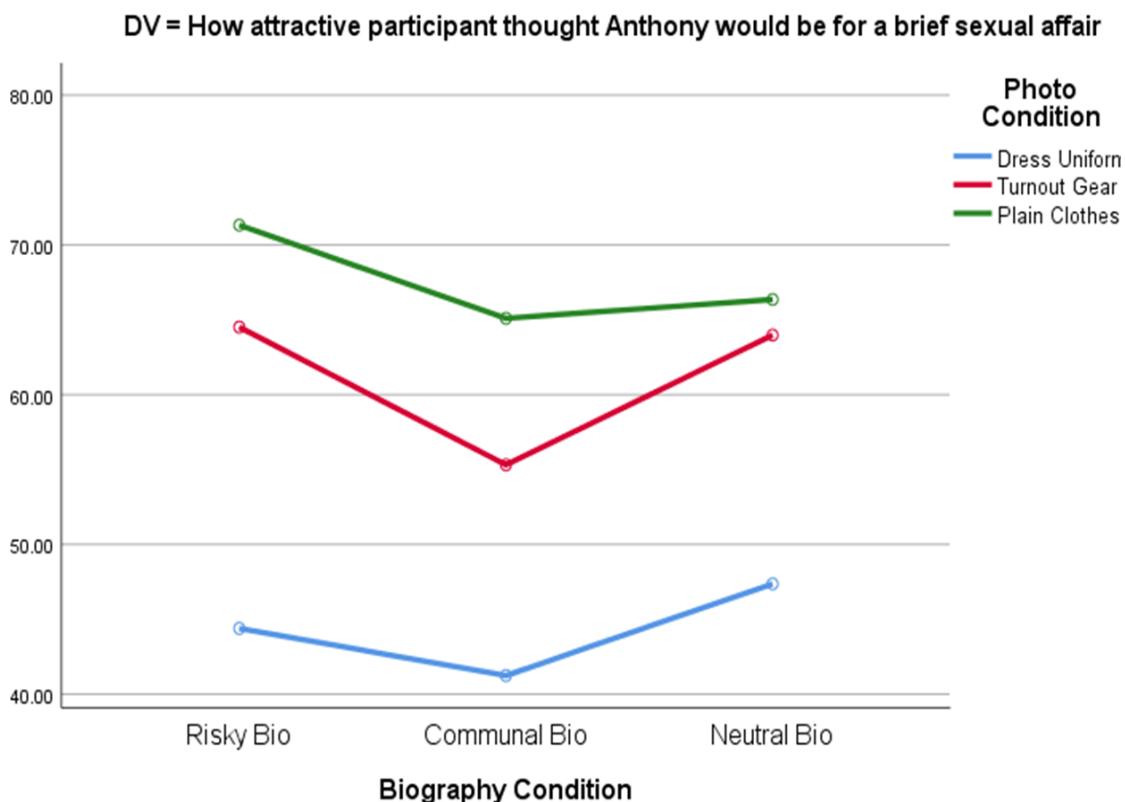
The data from the study were analyzed via SPSS. Final scores for each participant were coded and computed to test each of the expected hypotheses. Multiple between groups ANOVA's and correlations were conducted to examine the effects among photo and biography conditions, perceived mating and parenting effort, and types of attractiveness. Further, correlations between measures of the Big Five, Dark Triad, Mating Effort, Parenting Effort scales and the participants' ratings of attractiveness were also examined.

## RESULTS

Cronbach's alpha scores indicated good inter-item reliability for most scales: Mating Effort (.757), Parenting Effort (.874), Machiavellianism (.730), Narcissism (.706); except for Psychopathy (.655).

### Attractiveness Ratings for a Brief Sexual Affair

A two-way ANOVA revealed that different model photos differed significantly as a function of participant perception of the model in terms of attractiveness for a brief sexual affair,  $F(2,434) 28.24$ ,  $p < .001$ . However, this analysis found no significant differences between the biography character conditions regarding attractiveness for a brief sexual affair across model photo conditions. The interaction between these two variables was also not statistically significant. Regarding the model photo condition, the Tukey post-hoc test revealed that the Dress Uniform condition differed significantly from both the Plain Clothes and Turnout Gear condition regarding attractiveness for a brief sexual affair ( $p < .001$ ). The Plain Clothes photo was rated as most attractive for a brief sexual affair across biography conditions, followed by the Turnout Gear, with the Dress Uniform being rated the lowest in attractiveness for a brief sexual affair. See Figure 1. Women therefore perceived the model in both the Plain Clothes and Turnout Gear as more attractive for a brief sexual affair, regardless of biography condition.

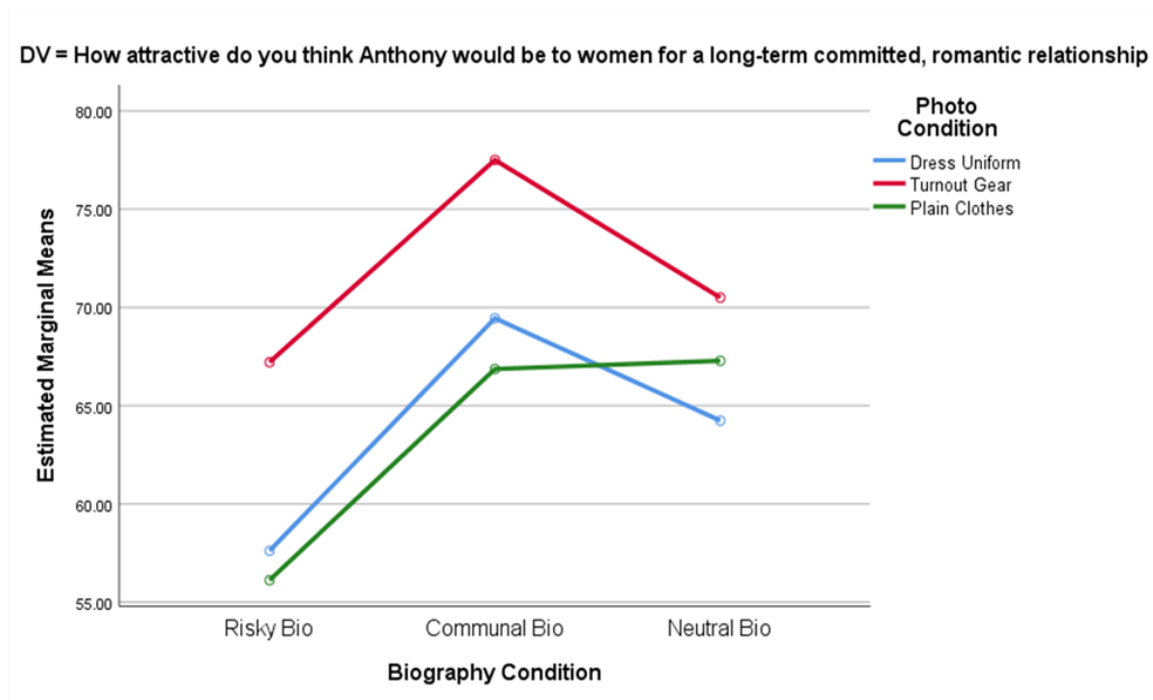


**Figure 1.** Main Effect for model photo condition on attractiveness for a brief sexual affair. ( $H_1$  &  $H_3$ ).



### Attractiveness Ratings for a Long-Term Committed Relationship

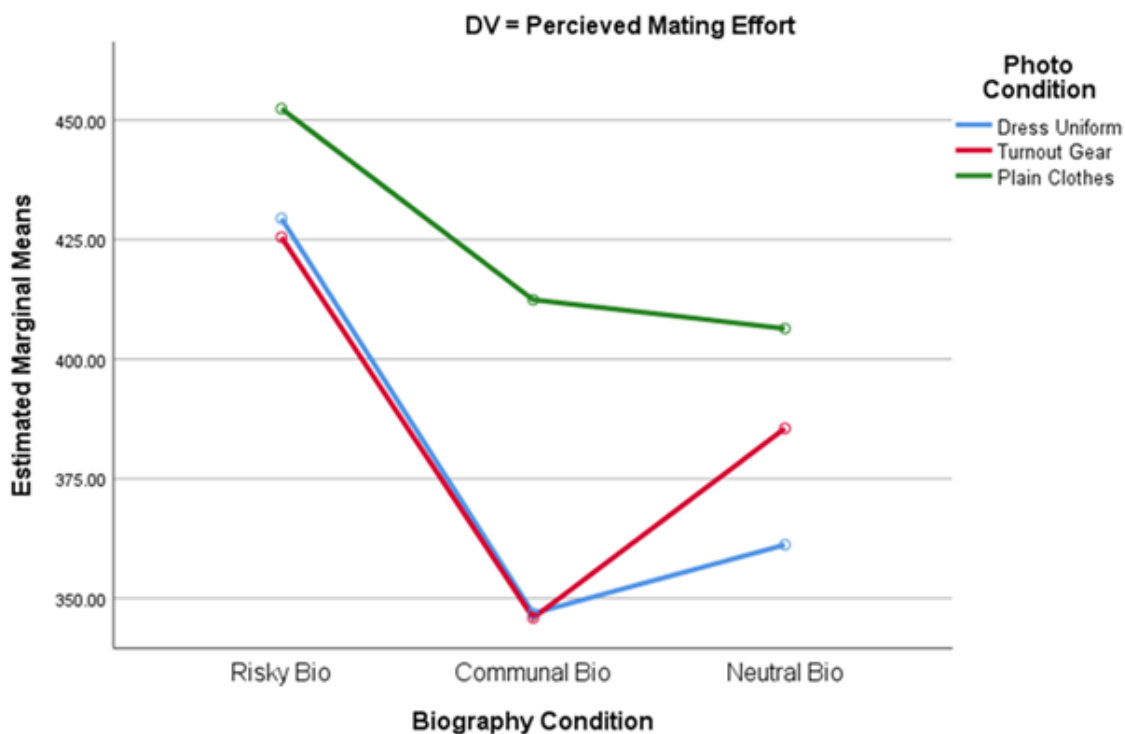
A two-way ANOVA revealed that different model photos differed significantly as a function of participant perception of the model in terms of attractiveness for a long-term relationship,  $F(2,444) 5.68, p = .004$ . Significant differences between the biography character conditions regarding attractiveness for a long-term relationship were also found,  $F(2,444) 7.98, p < .001$ . The interaction between these two variables was not statistically significant. Regarding the model photo condition, the Tukey post-hoc test revealed that the Turnout Gear condition differed significantly from both the Plain Clothes ( $p = .005$ ) and Dress Uniform ( $p = .013$ ) condition regarding attractiveness for a long-term relationship. Unexpectedly, the Turnout Gear was rated as most attractive for a long-term committed, romantic relationship. This effect was strongest in the communal biography condition. Regarding the biography conditions, the Tukey post-hoc test revealed that the Risky Biography condition differed significantly from both the Communal ( $p < .001$ ) and Neutral ( $p = .031$ ) condition regarding attractiveness for a long-term relationship. Both the Communal and Neutral biography characters were rated significantly higher than the Risky biography in attractiveness for a Long-term committed romantic relationship across model photo conditions, supporting the original hypotheses. See Figure 2.



**Figure 2.** Main effects for both biography and model photo conditions on attractiveness for a long-term committed, romantic relationship. ( $H_2$  &  $H_4$ ).

### The Role of Mating Effort

A two-way ANOVA revealed that different model photos differed significantly as a function of participant perception of the model in terms of the Mating effort scale. The main effects of both the biographies and picture conditions were statistically significant,  $F(2,531) 21.30, p < .001$ ,  $F(2,531) 9.74, p < .001$ , respectively. The interaction between these two variables was not statistically significant. Regarding the model photo condition, the Tukey post-hoc test revealed that the Plain Clothes condition differed significantly from both the Dress Uniform ( $p < .001$ ) and Turnout Gear ( $p < .001$ ) condition as a function on the Mating effort scale. The plain clothes photo was rated as highest in perceived mating effort, followed by the Turnout Gear model. Both of these conditions significantly differed from the Dress Uniform model, which was rated lowest in terms of mating effort, as expected. Additionally, as anticipated, mating effort was highest in the risky biography condition. See Figure 3.



**Figure 3.** Main effects for both biography and model photo conditions on perceived Mating Effort. ( $H_{13}$  &  $H_{14}$ ).

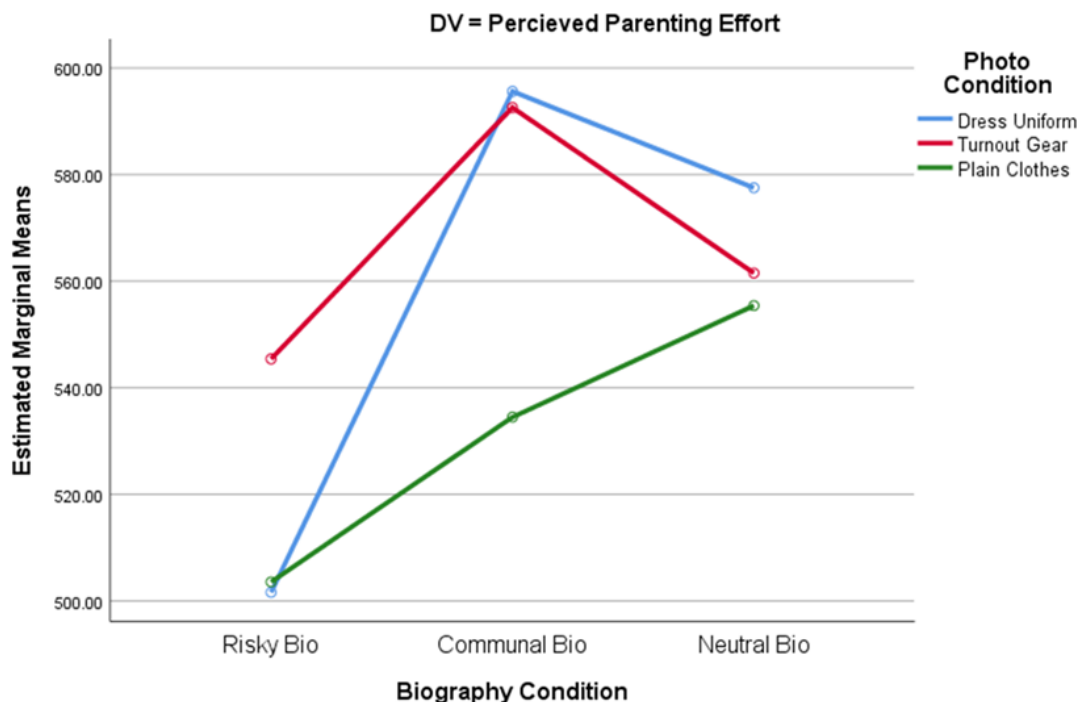
A bivariate correlation was conducted to examine the relationship between all women's perceptions of the models on mating effort and ratings of attractiveness for a brief sexual affair for scenarios with the turnout gear. Scores of Mating Effort and attractiveness for a brief sexual affair were positively correlated and statistically

significant  $r(165) = .29, p < .001$  for the model in the Turnout Gear, across biography conditions.

A bivariate correlation was conducted to see examine the relationship between all women's perceptions of the models on mating effort and ratings of attractiveness for a brief sexual affair for scenarios with the biography character with high motivation for risk-taking. Scores of Mating Effort and attractiveness for a brief sexual affair were positively correlated and statistically significant  $r(167) = .43, p < .001$  for the Risky biography, across photo conditions.

### The Role of Parenting Effort

A two-way ANOVA revealed that different model photos differed significantly as a function of participant perception of the model in terms of the Parenting effort scale. The main effects of both the biography and picture conditions were statistically significant:  $F(2,531) 15.46, p < .001, F(2,531) 5.49, p < .001$ , respectively. The interaction between these two variables was marginally statistically significant,  $F(2,531) 2.36, p < .05$ . Regarding the model photo condition, unexpectedly, the Tukey post-hoc test revealed that the model wearing the Turnout Gear was rated highest on the Parenting Effort Scale, closely followed by the Dress Uniform. Both the Turnout Gear ( $p < .003$ ) and Dress Uniform ( $p < .025$ ) were significantly different from the Plain Clothes condition. Regarding the biography condition, parenting effort was the highest in the communal biography condition as hypothesized ( $p < .01$ ). See Figure 4.



**Figure 4.** Main effect for both biography and model photo conditions on perceived Parenting Effort. ( $H_{15}$  &  $H_{16}$ ).

A bivariate correlation was conducted to examine the relationship between all women's perceptions of the models on Parenting Effort and ratings of attractiveness for a long-term, committed relationship for scenarios with the Dress Uniform. Scores of Parenting Effort and attractiveness for a long-term, committed relationship were positively correlated and statistically significant  $r(164) = .44, p < .001$  for the model in the Dress Uniform, across biography conditions.

A bivariate correlation was conducted to examine the relationship between all women's perceptions of the models on Parenting Effort and ratings of attractiveness for a long-term, committed relationship for scenarios with the Communal biography character. Scores of Parenting Effort and attractiveness for a long-term, committed relationship were positively correlated and statistically significant  $r(170) = .42, p < .001$  for the Communal biography, across photo conditions.

### Analyses of the Dispositional Correlates of Target Ratings

Multiple bivariate correlations were conducted to determine if women scoring higher on the Dark Triad preferred different biography character for a brief sexual affair. No significant relationship was detected for attractiveness for a brief sexual affair. However, a significant positive correlation was detected for women in the Risky biography condition, and preference for a 2-month relationship  $r(143) = .21, p < .01$ , but not in the case of other biography conditions.

Multiple bivariate correlations were conducted to determine if women scoring higher on Neuroticism (the inverse of Emotional Stability) preferred different biography characters for a brief sexual affair. A significant negative correlation was detected for women in the Communal biography condition regarding preference for a brief sexual affair  $r(145) = -.18, p < .05$ . This finding was not detected in the risky or neutral biography conditions. These results suggest that more emotionally stable (i.e; less neurotic) women are less attracted for short-term relationships.

Multiple correlations were conducted to determine if women scoring higher on Extraversion preferred different biography characters or models for a brief sexual affair. No significant correlations were detected for perceived attractiveness for a brief sexual affair. Extraversion therefore does not appear to be an influential factor in participant's attraction to a target when altruism and risk-taking is manipulated.

## DISCUSSION

The purpose of this study was to explore the many facets of attraction regarding risk-taking, altruism, and the perceptions of uniforms, in the specific context of volunteer firefighters.

### Risk-Taking and Mating Psychology

Historically, risk-taking behaviors in men have been found to be attractive for a short-term relationship (Bassett & Moss, 2004; Kelly & Dunbar, 2001; Ronay & von Hippel, 2010; Sylwester & Pawłowski, 2011). This study utilized both biography with

cues suggesting that risk-taking, and the Turnout Gear of the firefighter, which by its rugged and masculine nature implies effective risk-taking behaviors.

When only looking at the photos, participants rated the Plain Clothes condition highest for attractiveness for a brief sexual affair. This finding is interesting, because theoretically the Turnout Gear condition should have been rated highest. However, several possible explanations for this finding exist, such as issues regarding the ecological validity of the Turnout Gear, greater amount of skin shown in the Plain Clothes photo, or perhaps the Turnout Gear was not interpreted as expected. When participants only rated the biography conditions, we found no significant differences in preference for a brief sexual affair. According to the literature (Bassett & Moss, 2004; Sylwester & Pawłowski, 2011), there should have been a preference for the biography with the risky cues for a brief sexual affair, however no such effect was detected. This leads us to believe that there are additional unconsidered factors when it comes to women making a decision to engage in a brief sexual affair with someone, and perhaps the brief biography was insufficient information to influence behavior.

When examining the different model photos in terms of the Mating Effort scale ratings, again we found that the Plain Clothes condition was rated highest, followed by the Turnout Gear condition. The Mating Effort scale embodies all aspects of risk-taking, and measures believed thoughts and behaviors of the target. Someone that engages in risky behavior would be rated relatively high on this scale, while a non-risktaker would be rated relatively low. Again, we found the Plain Clothes condition to be rated highest on this measure. This leads us to believe that the Turnout Gear was interpreted differently than we anticipated, which we will discuss further in limitations. When examining the different biographies in terms of the Mating Effort scale ratings, we found that the risky biography was rated highest on the Mating Effort scale when compared to the communal and neutral. This finding is unsurprising, the risky biography certainly included cues that the target was a risk-taker and aligned well in general with items on the Mating Effort scale.

Further, across biography conditions, we found a significant positive relationship regarding scores of Mating Effort and perceived attractiveness for a brief sexual affair for the model in the Turnout Gear. Women scoring higher on the Mating Effort scale found the Turnout Gear condition as most attractive for a brief sexual affair. Similarly, another positive relationship was found regarding women scoring higher on the Mating Effort scale and the risky biography being rated highest in attractiveness for a brief sexual affair. These two findings imply that if the participant scored the model as relatively high on the Mating Effort scale, they also found the model as more attractive for a brief sexual affair. This is intuitive given what we know from past research regarding mating preferences and behaviors (Bassett & Moss, 2004; Sylwester & Pawłowski, 2011).

### Altruism and Mating Psychology

Within the realm of mating psychology, altruism and altruistic behaviors have been seen to be preferred for friendships, partnerships, and long-term relationships. (Barclay, 2010; Farrelly, Clemson, & Guthrie, 2016; Jensen-Campbell, Graziano, West, 1995; Kelly & Dunbar, 2001). These findings are not surprising, if you are going to spend a considerable amount of time with another, you would certainly prefer them

to act in a kind, open, and selfless manner, which are all examples of altruistic behavior. The study utilized both the model photo of the Dress Uniform of the firefighter and a biography that contained communal cues in order to represent altruistic behaviors.

When examining only the different photo conditions, the Turnout Gear condition was rated highest in attractiveness for a long-term relationship. This finding was surprising, the clean, pressed, and otherwise professional looking Dress Uniform clashes completely with the rugged, dirty, and masculine Turnout Gear. Once again, we believe that the Turnout Gear was interpreted differently than we initially predicted it to be. When only examining the different biography conditions, the communal biography was rated highest in attractiveness for a long-term relationship. This finding is not surprising, as previously mentioned, the literature has found that there is a clear preference for altruistic and prosocial men for longer-term relationships. The communal biography certainly was able to convey that the model was displaying altruistic behaviors.

When examining the different model photos in terms of the Parenting Effort scale, we found that the Turnout Gear was rated highest. The Parenting Effort scale measures participants' beliefs on how they believe the target is as a provider/partner. Someone that displays altruistic tendencies would be rated relatively high on this scale when compared to someone that does not. The Turnout Gear being rated highest on this scale is surprising, but like previously mentioned, we believe that the Turnout Gear was interpreted differently than we initially predicted it to be. Further, there is another possible explanation for this finding. The Turnout Gear is often the symbol of all firefighters. When people envision what firefighters wear, it is typically the Turnout Gear. Perhaps participants rated the Turnout Gear highest on this scale because someone that can financially afford to volunteer their free time is a good provider for others, with a secure occupation. When examining the different biographies in terms of the Parenting Effort scale ratings, we found that the communal biography was rated highest. This finding is unsurprising, as the altruistic cues present in the communal biography align well with the items within the Parenting Effort scale. After all, the communal biography was intended to be seen as a provider/altruist, is not surprising that this biography was rated highest on the Parenting Effort scale, which encapsulates elements of selflessness and altruism.

Further, across model photo conditions, we found a significant positive relationship regarding scores of Parenting Effort and perceived attractiveness for a long-term relationship for the model in the Dress Uniform. Women perceiving a higher degree of Parenting Effort rated the model in the Dress Uniform as more attractive for a long term, committed relationship across biography conditions. This finding is intuitive given what the literature has historically shown regarding attractiveness for a long-term relationship. (Farrelly, Clemson, & Guthrie, 2016; Jensen-Campbell, Graziano, West, 1995). Regarding scores of Parenting Effort and perceived attractiveness for a long-term relationship for the biography conditions, we also discovered a positive relationship. Women perceiving a higher degree of Parenting Effort rated the Communal biography as more attractive for a long term, committed relationship across photo conditions. Again, this finding also aligns with previous literature, and is demonstrating the preference for altruistic characteristics in a partner



for a longer-term mating condition (Barclay, 2010; Farrelly, Clemson, & Guthrie, 2016; Jensen-Campbell, Graziano, West, 1995).

### Personality Correlates and Attractiveness Ratings

Within a mating context, varying disposition has been correlated to several mating outcomes. Historically, high levels of Extraversion have been shown to be an indicator for an increased likelihood to engage in short-term mating encounters, and by extension, a preference for risky partners (Gute & Eshbaugh, 2008). However, we found no significant findings for women scoring higher on Extraversion and attractiveness for a brief sexual affair regarding the biography characters nor model photo conditions. Participants that scored higher on Extraversion showed no preference for either the risky biography or Turnout Gear photo. This was surprising, given the literature has shown a previous correlation between Extraversion and likelihood to engage in brief sexual affairs, however there are several possible explanations. Perhaps the general population may not prescribe to the pre-determined behaviors that some of these scales might suggest. Though the general personality traits have been found to be highly ubiquitous as predictors, they do not necessarily guide behaviors and perceptions. Mating psychology in particular is especially complex due to evolutionary and other environmental influences (Schmitt et al., 2008). Further, perhaps just a photo or biography was an insufficient manipulation to detect this relationship. This finding would suggest that Extraversion alone does not equate to always being willing to engage in a brief sexual affair.

Neuroticism, the inverse of emotional stability, has typically been correlated for a preference for brief sexual affairs (Gute & Eshbaugh, 2008). Participants that self-reported higher levels of emotional stability had a negative correlation with the attractiveness of a brief sexual affair. This finding parallels findings from what past literature has found, highly emotionally stable women typically do not find brief sexual affairs attractive (Schmitt et al., 2008).

The Dark Triad has previously been shown to be correlated to several mating relevant outcomes. In general, higher scores on the Dark Triad measure typically correlate for an increased preference for short-term mating conditions (Antari & Chegeni, 2017). We found no significant relationship between Dark Triad scores and biography characters regarding attractiveness for a brief sexual affair across model photo conditions. While the literature has not found that females scoring higher on the Dark Triad of personality typically prefer risky partners, these females do engage in different mating behaviors, such as having a “back-up boyfriend” (Wedberg, 2016). It is also plausible that this relationship may have been detected under different experimental contexts.

### Limitations

Females perception of Mating and Parenting Effort is substantially influenced by both the appearance and description of male volunteer firefighters. However, some limitations should be noted. Regarding external validity, the sample was not abundantly diverse, as the majority of participants were female college students attending a small state school. Unfortunately, we were limited with the ability to quickly

and efficiently gain access to a more diverse sample, given this study's associated time constraints.

The model photos used in this study were mostly successful. The upmost care went into ensuring that the different conditions were as closely matched as possible. An issue we have noticed after the completion of the study is that participants seem to have misinterpreted the Turnout Gear. Originally, we intended the Turnout Gear to be interpreted as risky, given its masculine, dirty, and rugged nature. However, we believe that the Turnout Gear was instead interpreted as an altruist/provider. Given that when one typically envisions a firefighter, symbols of the Turnout Gear (e.g., hat, jacket, etc.) are often the first to come to mind. Further, the photo that we intended to serve as the control (the Plain Clothes) showed more skin than the other models. This was in part to the short-sleeve shirt the model was wearing, which could have potentially allowed participants to better see the model's well-defined muscles. This may have influenced participants thoughts on mating behaviors. Another potential limitation is that the same male model was used for all photo conditions. There is a possibility that the features of this model, i.e., facial structure, muscular build, hair, may have interacted with the conditions to influence the results in unknown ways.

### Future Directions

While there does exist an abundant amount of research into attraction, (e.g., Bassett & Moss, 2004; Farrelly, Clemson, & Guthrie, 2016; Kelly & Dunbar, 2001), this study is the first to specifically look into the attractiveness using volunteer firefighters as an exemplar of both altruism and risk-taking. Future research in this topic should utilize the duality that the firefighter represents, being both a symbol of selflessness and a risk-taker. Future work with this topic would benefit from a more geographically diverse sample size, and the inclusion of a female firefighter model, or alternative forms of volunteerism. Though this study was limited in terms listed above, the findings begin to better elucidate the factors involved in heterosexual female mating psychology.

### The Bottom Line

This study was designed to investigate the some of the many factors that impact female mate selection. These factors included preference for risk-taking behaviors, altruistic behaviors, and the impact uniforms have on the perception of attraction. At the end, this study found several interesting and important mating related outcomes that will better help to understand the complex field of female mating psychology.

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## APPENDIX A

### Conditions of Study

	Turnout Gear	Dress Uniform	Plain Clothes
Risky Biography	Anthony is a volunteer firefighter. He is currently a member of the town of Milton's fire department and has volunteered for five years. He has chosen to be a firefighter for the thrill of responding to calls and he enjoys the rush of being in a dangerous situation.	Anthony is a volunteer firefighter. He is currently a member of the town of Milton's fire department and has volunteered for five years. He has chosen to be a firefighter for the thrill of responding to calls and he enjoys the rush of being in a dangerous situation.	Anthony is a volunteer firefighter. He is currently a member of the town of Milton's fire department and has volunteered for five years. He has chosen to be a firefighter for the thrill of responding to calls and he enjoys the rush of being in a dangerous situation.
Communal Biography	Anthony is a volunteer firefighter. He is currently a member of the town of Milton's fire department and has volunteered for five years. He has chosen to be a firefighter because he enjoys helping to protect and serve his community.	Anthony is a volunteer firefighter. He is currently a member of the town of Milton's fire department and has volunteered for five years. He has chosen to be a firefighter because he enjoys helping to protect and serve his community.	Anthony is a volunteer firefighter. He is currently a member of the town of Milton's fire department and has volunteered for five years. He has chosen to be a firefighter because he enjoys helping to protect and serve his community.
Neutral Biography	Anthony is a volunteer firefighter. He is currently a member of the town of Milton's fire department and has volunteered for five years. He has chosen to be a firefighter for various reasons.	Anthony is a volunteer firefighter. He is currently a member of the town of Milton's fire department and has volunteered for five years. He has chosen to be a firefighter for various reasons.	Anthony is a volunteer firefighter. He is currently a member of the town of Milton's fire department and has volunteered for five years. He has chosen to be a firefighter for various reasons.

## APPENDIX B

### Photo's Used in the Current Study

#### Neutral Clothing





## Turnout Gear



## Dress Uniform

