MATE PREFERENCES AMONG SINGLE MOTHERS

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ABSTRACT

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As individuals become parents, they shift time and energy towards parenting to ensure the survival and wellbeing of their offspring. However, it is not uncommon for a romantic partnership between parents to dissolve, which may lead a single mother to pursue a new partner in the future. But how does having a dependent child influence whom she will choose for her new partner? And how will resource availability and assistance from family influence the decisions she makes? A significant amount of research has been conducted on female mate preferences in the United States and elsewhere, yet little is specifically focused on the mate preferences among single mothers (or women who have children generally) within an evolutionary and life history framework. The mate preference literature in the U.S. has primarily relied on college women participants. Although this research is informative, it fails to account for the specific challenges and preferences among women who are single and have children. Moreover, much of the existing research relies upon self-report methods. The approach taken here includes both self-report evaluations of a woman’s dating interests and a more ecologically valid experimental procedure inspired by online dating profiles. The purpose of this research is to investigate the mating decisions made by single mothers and how these decisions are influenced by a number of factors, including availability of allocare (childcare by non-mothers) and economic constraints.
Fifty-four U.S. women between 18-35 years of age were recruited for this study: 28 single mothers who have at least 1 child ages 5 and under, and 26 women without children. Participants provided information about demographics, mate value, childcare assistance, and socioeconomic assistance and completed self-report evaluations of their willingness to engage in long-term relationship with a potential partner depending on his attractiveness, financial status, and kindness. Using an experimental design influenced by online dating, three qualities of a potential partner’s attractiveness, financial status, and kindness were also manipulated in “online dating profiles”. Participants were asked an open-ended question aimed at understanding the unique challenges and nuances of romantic dating and being a single mother.

Results indicate that single mothers and non-mothers did not differ in self-perceived mate value. To test the first hypothesis that mate preferences would differ between single mothers and non-mothers, particularly in expecting lower importance expressed for attractiveness among mothers, self-report results indicated no differences in preferences for attractiveness or financial status. However, single mothers expressed more importance for a partner’s kindness than did non-mothers. Experimental online dating procedures revealed that both mothers and non-mothers considered a partner’s attractiveness, financial status, and kindness when determining whether to enter a long-term relationship with him. Interaction effects between maternal status (mother vs. non-mother) and partner attractiveness, financial status, and kindness were all significant. An interpretation of these findings is that the degree to which partner characteristics shaped mate preferences was contingent upon maternal status, with mothers appearing to be more discriminating against lower-quality potential partners.

To test the second hypothesis that allomaternal (“allocare”) support would influence mothers’ mate preferences, the mate preferences of mothers with and without such support were
compared. Results indicate no self-reported differences in mothers’ expressed importance of a potential partner’s attractiveness, financial status, or kindness. Experimental dating procedures indicate that both mothers with and without allocare responded similarly to manipulations of a potential partner’s attractiveness, financial status, and kindness, and with no significant interaction terms between those partner qualities and maternal allocare. To test the third hypothesis that maternal income would influence mothers’ mate preferences, the mate preferences of mothers above and below an income threshold were compared. Results revealed no self-reported differences in mothers’ mate preferences depending on whether mothers were relatively higher or lower income. Experimental procedures showed that lower-income mothers’ mate preferences were predicted by a potential partner’s financial status and attractiveness but not kindness, whereas for higher-income mothers all three partner characteristics influences mate preferences. No significant interaction terms were found between maternal income and partner qualities. Narrative responses from mothers pointed to dating concerns over being cautious and sensitive to a partner’s resources and support.

These findings help address a gap in understanding concerning single mothers’ mate preferences, and also highlight the importance of methodological approaches and pluralism. Consistent with much prior mate preference research, women can be sensitive to characteristics such as a partner’s attractiveness, financial status, and kindness, with some evidence presented here that mothers are more discerning against lower-quality potential partners and concerned with a partner’s kindness and general precautions in dating. The lack of differences between mothers’ allocare and income and mate preferences is not obviously explained and runs counter to expectations, potentially revealing the need for methodological refinement or other factors not assessed in the present research. Future research might profit by recruiting larger samples of
mothers drawn from different populations cross-culturally and with refined methods to further advance work on mate preferences among single mothers.
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CHAPTER 1. INTRODUCTION

Chapter 1 provides a description of the research being presented and general goals of the study. The theoretical model and framework for the study is presented. A brief explanation of participants and methods are provided.

Background

A substantial amount of research has been conducted in the past several decades with the purpose of understanding human mating behaviors. Using an evolutionary framework, studies have demonstrated patterns in human mating that would have ensured success in raising highly dependent human babies. For example, studies have shown preferences for traits indicative of long-term partnering, and sex differences commonly emerge such as females placing greater weight on a partner’s status and resources in contrast to a man’s greater emphasis on a partner’s attractiveness. Although these studies have made a significant contribution to human mating research, they have also pointed to understudied aspects of human mate preferences. The literature has less addressed how human mate preferences change across variable life stages such as having children. Most mating research in the United States focuses on preferences of college students, which reduces our ability to generalize results obtained from these studies. That is, a 22-year old college student’s mate preferences may differ from those of a 35-year old mother of two.

Few studies have sought to under the ways in which parents make their mating decisions. Ancestral mothers and fathers likely re-partnered and established new romantic relationships after the dissolution of a previous relationship. Previous romantic relationships likely resulted in
offspring, leaving parents with an additional variable to consider when pursuing a new relationship. This is seen today among contemporary hunter-gatherers and industrialized societies alike. In the U.S., for example, parents of young and older children continue to look for a romantic partner after a separation or divorce (Gray et al., 2015). Women in the U.S., who tend to carry a relatively higher burden of childcare, can be expected to consider the time and resources needed to care for her child when deciding who she dates and brings home to her children. This crucial aspect of human life history, i.e. parenthood, is largely missing in the human mating literature.

Single motherhood is fairly common in the U.S., making the mate preferences of single mothers an important but poorly understood context in which mate preferences appear. According to the U.S. Census, approximately 17 million children under the age of 18 live in a single mother household in 2016. Households headed by a single mother were the second most common family arrangement, second to two-parent households (69% versus 23%, U.S. Census, 2016). Furthermore, the number of children in the U.S. living with only a mother tripled in the last 5 decades. Meanwhile, children living with only their father accounted for only 4% of families with a child under the age of 18.

Grandmothers and other kin also play a significant role in the well-being of children. Due to the amount of energy and resources required to ensure the survival of human babies, the assistance of extended kin would have been crucial. Among hunter-gatherers and traditional societies, grandmothers, aunts and older siblings often help with the care of babies and smaller children. We can predict that ancestral mothers relied heavily on the help of family members when fathers were not present based on hunter-gatherer data. Whether or not this may have influenced a mother’s mating decisions in our evolutionary past is uncertain. We can, however,
make predictions about how mothers incorporate kin availability when making mating decisions in contemporary industrialized societies such as the U.S. With little or no family available to assist in childcare, for example, it can be predicted that single mothers may be less discerning when searching for a romantic partner. A potential stepfather to her child could be beneficial, as he may be a source of childcare or resources. This may also be true if a mother is a low-income; a potential stepfather could assist in the costs associated with the needs of a child. With this in mind, the purpose of this study is to understand the traits single mothers find most important when evaluating potential romantic partners and how these are influenced by several factors, including availability of kin and income.

Despite the increase in single mother-headed families in the U.S., little research has addressed how single motherhood influences women’s dating decisions. Whether a potential partner is capable of providing resources to her child, for example, may be a characteristic that single mothers find important in potential mates. A preference for kindness would protect a woman and her child from potential harm at the hands of an unrelated male. Daly and Wilson (1988) found that children residing with unrelated males (i.e. a mother’s boyfriend or child’s stepfather) were at greater risk of abuse or infanticide than those who did not reside with unrelated males. Considering this and comparative research on infanticide suggests that a preference for kindness could reduce the risks of child abuse or death when mothers enter new relationships. By understanding female mate preferences among women who have children, we can understand the impact of parenthood and having dependent children on dating and mate preferences.

The purpose of this study is to investigate mate preferences among single women ages 18 to 35 with children ages 5 and under. This study explores how having children, which require
time and resources from their mother, influences a mother’s decisions when choosing a mate and also how these decisions are influenced by income and the presence of kin. In order to investigate these variables, an experimental design in the form of “online dating profiles” was created. The stimuli (online dating profiles) have been manipulated to isolate specific qualities: kindness, attractiveness and resource availability. Participants rated the online dating profiles to determine which males they were more likely to engage in a relationship with. Single women without children were used as a control group.

Participants then completed demographic and childcare questions and a 4-item Mate Value Scale. Both groups (single mothers and women without children) were also asked how important they felt kindness, financial status and attractiveness are when choosing a long-term partner, as well as which characteristics they are most willing to compromise on when choosing a partner in short-term and long-term dating scenarios. This allows for the use of multiple methods (experimental tasks and self-report questionnaire) to test the hypotheses proposed in Chapter 3. Single mother participants were also given the opportunity to describe how being a single mother has influenced whom they date. These narratives are used to contextualize the data, allowing us to understand the nuances of single motherhood and its influence on mothers’ dating lives. The tasks were completed electronically using an online survey website, Qualtrics.com.
Chapter 2 provides a brief review of the literature that informs the research being proposed in this thesis.

**Human Life History Theory & Parental Investment Theory**

Life history theory is a framework examining the evolved life stages within an organism’s life, including the trade-offs between growth, maintenance, and reproduction within and between life stages (Stearns, 1992). Sex differences in parental investment and energetic tradeoffs begin at conception; females gestate for nine months, followed by years of lactation and caring for offspring (Kaplan, 1993; Geary, 2000). The degree of paternal investment is contingent on sociocultural and ecological context. In adulthood, humans are faced with trade-offs between current and future reproduction, and mating versus parenting effort (Geary, 2005). Shifts in time and energy allocation can vary throughout one’s reproductive lifetime and may be dependent on sociocultural and ecological constraints. For example, allocating energy towards securing additional mates may come at the fitness cost of current offspring (Trivers, 1972; Clutton-Brock, 2016; Kokko & Jennions, 2008).

Life history and parental investment models would suggest that time and energy allocation would shift to parenting effort once one has children. However, other factors are important to consider when evaluating mating behaviors in parents, such as resource availability. After the dissolution of a pair bond, for example, it may be in the best interest of a single mother to invest time and energy into acquiring a new romantic partner with whom she can build a mutually beneficial relationship and produce subsequent children. However, this shift in
investment from parenting to mating may come at the cost of existing children. This may potentially result in stepchild abuse or infanticide (Daly & Wilson, 1996). Life history and parental investment models are therefore appropriate models in which to situate mating behaviors among women with children.

**Evolution of Human Sexual Behavior & Human Mate Preferences**

Darwin investigated differences in sexual behavior among males and females and noted that men tend to compete for access to females, and females choose the male that exhibited qualities indicative of social status and health (Darwin, 1871). In the animal kingdom, female mammals carry the burden of reproduction, often investing in their offspring more than their male counterparts (Trivers, 1972). Mammalian females spend a considerable amount of caloric energy gestating their offspring. After birth, offspring require months (if not years, as is the case for primates including humans) of lactation and continuous direct care. Mammalian males, in contrast, require little energy to produce sperm and often invest substantially less than females (if at all, as found among a number of species) in their offspring.

The differential energetic investment in offspring accounts for sex differences in sexual behavior and mate choice (Symons, 1979; Kokko & Jennions, 2008). Human females, in particular, give birth to highly altricial babies that require consistent direct care and provisioning from their caregiver (Hrdy, 2009). Using hunter-gatherer models, it can be predicted that cooperative care, the direct and indirect care of related and unrelated children, evolved in our human ancestors in order to increase the chances of survival of these brainy and highly dependent offspring. This resulted in a wide network of caregivers, consisting of grandmothers, aunts, and a child’s biological father.
Human males and females have evolved behaviors and strategies to optimize their lifetime reproductive potential (Buss, 1993). Differences in parental investment influenced the types of strategies employed by males and females in humans and other species throughout the animal kingdom (Trivers, 1972). Human males, for example, invest far less in their offspring than their female counterparts and would thus benefit from having multiple short-term sexual relationships. Women, however, invest substantially in their offspring and would therefore benefit by securing a long-term partnership with whom to share in the responsibilities of childcare. Within-sex differences in mating strategies have also evolved and may depend on a variety of factors, including operational sex ratio or self-perceived mate value (Buss, 1993).

Within human mating systems, individuals tend to couple with others that share similar characteristics to themselves. According to Buss and Barnes (1986) “couples show assortment for age, race, religion, social status, cognitive abilities, values, interests, attitudes, personality dispositions, drinking, smoking, classes of acts, physical attractiveness, and a host of other physical variables such as height, weight, lung volume, and ear lobe length” (Buss & Barnes, 1986, 560). Relatedly, one’s self-perceived mate value also plays an important role in mate preferences and mating strategies. Studies show that men and women tend to mate with individuals with similar mate values and they may compromise on ideal qualities if they view themselves as having lower mate value (Regan, 1998; Edlund & Sagarin, 2014).

According to parental investment theory, it can be predicted that females prefer mate characteristics that would benefit her and her offspring (Trivers, 1972; Buss, 1989). Behaviors such as providing care to offspring, food, shelter, and protection, and also holding a high social status would have been attractive. Facial attractiveness would also have provided cues to the health and genetic quality of a potential mate, which would be passed on to her future children.
Cross-cultural research on female mate preferences for long-term mates has also shown that men’s willingness to provide resources and financial prospects are generally seen as attractive qualities, consistent with parental investment theory (Buss, 1989; Shackelford et al., 2005; Schmitt, 2014).

Trade-offs in mate qualities research has shown that kindness is also an important characteristic (Li et al., 2002; Vigil et al., 2006; Edlund & Sagarin, 2010), likely a cue that her partner will not harm her or her children (Escasa-Dorne et al., 2017) and that they are willing to provide resources. Research has also shown that women are willing to compromise on physical attractiveness in long-term relationship contexts compared to other characteristics (such as social status and interpersonal power) when faced with trade-off scenarios (Regan, 1998). These studies show that qualities relating to resources and investment tend to be most important to women, consistent with evolutionary theory. Further, the contextual nature of female mate preferences explains much of the variation in mate preferences; however, little research has investigated the role of dependent children in this arena (Escasa-Dorne et al., 2017).

**Evolution of Human Pair Bonds**

In order for human babies to survive, a significant amount of cooperative care is required (Hrdy, 2009). The amount of time, energy and resources needed to raise a child to independence is far more than a single mother is capable of providing on her own, requiring nearly 13 million kilocalories to raise a single child (Hrdy, 2009; Gray & Crittenden, 2014; Meehan et al., 2014). Therefore, it would have been critical for mothers to elicit care from fathers and kin to assist in childrearing and resource provisioning. It has been hypothesized that the formation of long-term pair bonds evolved in hominin evolutionary past, helping enable solutions to this problem of
providing the energetic and social support needed to raise human offspring (Fisher, 1989; Gray & Garcia, 2013; Quinlan, 2008).

Humans are unusual in that, compared to most other mammals, fathers invest in the welfare of their offspring (Geary, 2000; Gray & Anderson, 2010; Hewlett, 1992). By forming a pair bond, both mother and father invest resources and care in their infants. Cross-cultural research on the evolution of fatherhood has proposed several benefits in the formation of human pair bonds (Gray & Crittenden, 2014), including protection (Duda & Zrzavy, 2013), freeing energetic constraints by providing direct child care (Gettler, 2010; Hewlett, 1991), and assisting in foraging during late pregnancy and post-partum (Marlowe, 2003). The duration of long-term pair bonds evolved to last long enough for a child to enter weaning age, resulting in an increase in a baby’s chances of survival yet allows parents to enter into successive relationships (serial monogamy) (Fisher, 1989). With this in mind, a mother might seek to secure a new partner after the dissolution of a relationship; she may benefit from having a new partner with whom to share parental responsibilities and potentially produce future offspring.

Humans as Cooperative Breeders

Paternal investment is a hallmark characteristic in the human species; human fathers tend to provide long-term care for their partners and children (Winking & Koster, 2015). By doing so, a male can increase his fitness by providing care and resources to his offspring, which can influence a child’s health and well-being. Cooperative breeding models suggests that by providing care to offspring, a father can also monopolize a female’s reproduction, allowing her to resume ovulation and produce offspring in shorter intervals (Hawkes, 1997; Quinlan & Quinlan, 2007; Gray & Crittenden, 2014). Other studies have shown that presence of fathers can
serve as a deterrent for harassment towards children and even infanticide (van Schaik & Dunbar, 1990). Female preferences for mates who provide care and resources have long been demonstrated in mate preference literature (Del Giudice et al., 2016; Low, 2015). And, in the U.S., wives tend to pursue divorce in the absence of spousal support due to unemployment or reckless spending, further supporting this hypothesis (Winking & Koster, 2015).

Cross-cultural research has shown that in the absence of fathers (due to death or desertion, for example) children are still able to thrive with the support of their kin network. Studies among several different species, including non-human primates, show that mothers who receive childcare assistance from allomothers, have offspring with higher rates of survival and mothers have higher lifetime fertility (Sear & Mace, 2008; Sear et al., 2000, 2002, 2003; Crittenden & Marlowe, 2008; Kramer & Otarola-Castillo, 2015). For example, Aka children’s nutritional status was influenced by the presence of grandmothers (Meehan et al., 2014). Typically, allomothers consist of related kin who provide care and provision recourses to a mother’s offspring (Crittenden & Marlowe, 2008; Hrdy, 1999). By providing such care, kin benefit by obtaining indirect reproductive fitness through their reproducing female kin. Flexibility as cooperative breeders is essential for the survival of human babies, whether depending on grandmothers, aunts, or fathers for resources and childcare (Meehan et al., 2014).

Hawkes and colleagues (1998) proposed that the evolution of the female post-reproductive lifespan is a direct consequence of the fitness benefits related to grandmaternal childcare. By assisting their daughters care for their children, mothers were able to have a shorter inter-birth interval and add to the genetic lineage. Alternative hypotheses suggest that caring for grandchildren is a result of a prolonged human lifespan (Kuzawa & Eisenberg, 2014). In many cultures, maternal grandmothers tend to be important sources of allomaternal care
(Crittenden & Marlowe, 2008). Given this rationale, it would benefit kin (and especially a child’s maternal grandmothers) to assist a single mother to care for dependent offspring, especially when the biological father is not present to provide resources and care for the child. Kin would benefit by assisting related single mothers in childcare, allowing her to obtain a new mate which would assist with a mother’s existing children from a previous partner and allowing her to potentially reproduce with a new mate.

**Single Parents**

Although there has been some research on single parents generally, little research has been done on mating among single parents from an evolutionary or life history perspective. Sex differences in mating psychology reflect the degree of parental investment in males and females, with women often caring the burden in childcare after the dissolution of a partnership (Gray et al., 2016). It can be theorized that having children can alter mating psychology, due to shifts in energy allocation from mating effort to parenting effort (Shackelford-Weekes, 2007; Escasa-Dorne et al., 2017). For example, it may benefit a single mother to secure a partner with whom she can share the financial responsibilities of children from a previous relationship, and who can also provide emotional support. Indications of kindness would also be favorable to mothers, as it signals safety and security towards her and her children. Single fathers, in contrast, may continue to prefer cues of fertility in future partners.

It can be expected that single parents hold a lower mate value in the mating market, due to the presence of a child, which would require time and resources from prospective mates (Escasa-Dorne et al., 2017). Lower mate value may, in turn, result in the acquisition of a lower quality mate. In a study of stepfather life histories, for example, it was found that stepfathers
tended to be lower ranking men in the mating market. Men with lower incomes and less education were more likely to become stepfathers (Anderson, 2000). These lower ranking men opted to enter relationships with single mothers due to their disadvantage, which would have otherwise left them unable to secure a higher quality mate. In a 2011 study of American singles, both single mothers and fathers reported that they were willing to date someone with a child (Gray et al., 2016). This likely reflects the preference for partners who are available to single parents in their mating market, or that they would date someone who understands the challenges of being a parent.

Studies on dating and sexual behavior among single parents have shown that single parents of young children (ages 5 and under) continue to engage in sexual activity (Gray et al., 2015). Further, it was found that single parents of young children reported greater rates of sexual activity and first dates than did parents with older children. It is possible that parents of young children are looking to secure a new romantic relationship, which could assist in with the emotional and financial demands of parenthood. To date, no studies have investigated the role of kin support and socioeconomic context of single mothers on mating decisions. Further research in this area may shed light on life history transitions and their influence on mating behavior among women.

Online Dating

The nature of social and romantic relationships has dramatically changed in recent decades due to the expansion and accessibility of the Internet (Finkel et al., 2012). Since the 1990’s, online dating has become an increasingly popular way of finding a romantic partner (Barraket & Henry-Waring, 2008). Before the use of the Internet, those looking for romantic
relationships depended on other means such as mutual friends, family, work, school or church to find eligible singles (Finkel et al., 2012). Personal advertisements in publications gained popularity in the 1970’s and video-dating in the 1980’s. As technology developed, so did the ways to find a romantic relationship. Recent data shows that approximately 30% of the Earth’s population now have access to the internet, and in North America, that number reaches nearly 78%, making the use of the internet a convenient and accessible way to reach millions of people. In the past 15 to 20 year, online dating has exploded with numerous online dating sites, promising to expose users to thousands of potential interests (site such as PlentyOfFish, OKCupid, or Tinder), or by promising to match them with the perfect partner (eharmony or Match.com).

Perceptions of online dating have become increasingly positive and have become a more acceptable means of meeting new people. Recent studies have shown that a significant number of young adults have tried online dating, with a number of them resulting in long-term relationships or marriage (Finkel et al., 2012). One study found that 43% of participants had visited an online dating website (Valkenburg & Peter, 2007). This shows that online dating has become a popular method of acquiring dates for young adults. It has also become a convenient way for those looking to meet singles in a particular subgroup or minority group of a population (such as gays, religious groups, or single parents), increasing their access compared to conventional forms of dating (i.e. meeting at a bar or coffee shop).

Sites such as LatinoPeopleMeet.com and Corazon.com have been established for Latino-American online daters. Many popular sites, such as Match.com and PlentyOfFish, are also offering their services in Spanish, making online dating accessible to Spanish speakers in the U.S. Not surprisingly, online dating has become popular outside of the U.S.; datingChile.cl in
Chile has over 900,000 users, while Mexicancupid.com boasts over 1 million users in Mexico. The worldwide phenomenon of online dating is one that is familiar and easily recognizable across ages (Menkin et al., 2015) and ethnic groups (Trunokai et al., 2009), and is an increasingly accepted form of meeting a potential dating partner.

**The Present Study**

Drawing on this background, we can attempt to understand the challenges ancestral mothers faced when searching for a new mate and how these manifest into dating behaviors in contemporary environments such as the U.S. We can suspect that mothers encountered challenges in identifying quality mates that would be willing to engage in a relationship given the time and resources required by her children. Ensuring the safety and survival of her offspring would have been a primary motivation of finding a partner that would exhibit kindness and generosity. Furthermore, the availability of family for whom to rely on for assistance with children would have played in role in how willing mothers would have been to look past potentially negative qualities in her mate. Most people in the U.S. no longer live in small groups, but instead are in metropolitan areas and urban centers, making searching for a new mate even more daunting. Many are now relying on technology instead of mutual acquaintances or family, therefore increasing their access to larger pool of potential mates. Using an online dating experimental model reflects the changing ways in which we can sort and identify potential partners.
CHAPTER 3. RESEARCH QUESTIONS & HYPOTHESES

The following are the three hypotheses being tested in this investigation and the predictions for each proposed hypothesis:

1. Single mothers with dependent-aged children place less value on physical appearance than single women who do not have children.
   a) Single women without children will be more likely to state they would have a relationship with attractive males compared to women with children.
   b) Compared to single women without children, single mothers are more likely to state that they would establish a relationship with a male that is kind or financially secure versus attractive.

2. Single mothers with dependent-aged children that receive support from family members have differential mate preferences than single women with dependent-aged children who do not receive support from family.
   a) Single mothers with more support from family will have a higher preference for attractive males compared to women with less support from family.
   b) Single mothers with less support will compromise on attractiveness, but will have a preference for kind and financially secure mates.

3. Single mothers with dependent-aged children with high incomes have differential mate preferences than single mothers with dependent-aged children and low incomes.
   a) Single mothers with higher income will have a higher preference for attractive mates, kinder and financially secure mates.
CHAPTER 4. METHODS

Chapter 4 provides a description of the methods used to execute this study. All materials, including IRB approvals and instruments, can be located in the APPENDIX.

Introduction to Methods

The present study employed a mixed-methods approach. Self-report measures of mate preferences were obtained to test hypotheses. Experimental procedures relied upon an online dating model. This approach enabled comparing results obtained from the different methods. The use of experimental methods inspired by online dating was viewed as the more innovative and ecologically valid of the two approaches.

Online dating has become a convenient way for men and women to find a romantic partner in the United States and elsewhere (for example, Mexico, Paniagua, 2015; Japan, Farrer & Gavin, 2009; China, Lange et al., 2014). It allows users to view available singles within their area and they can filter the specific qualities that they would prefer in a potential mate. When evaluating an online dating profile, women are presented with a substantial amount of information from the user, including interests, demographics, and physical appearance. The basic format of online dating was used for the purpose of experimentally evaluating mate preferences among participants in this study. Specifically, the format for this resembled sites such as PlentyOfFish and OKCupid, where users can narrow their search based on age, ethnicity, and location. Stimuli included a “Quick Search” section, which reflects the potential mate pool for survey participants (Males ages 18-35). This model is similar to Lee et al. (2012) study using
online dating profiles to investigate the role of facial attributes on perceived cues of health and resource provisioning.

**Consent**

The Institutional Review Board (IRB) at the University of Nevada, Las Vegas reviewed and authorized collection of data for this research. Participant consent forms are included at the beginning of the survey (including pre-rating of photographs and narratives). Participants had to consent to the survey before they could continue. This ensured that participants were aware of their rights during the research process; their personal information was and will not be shared with anyone and they had the right to end their participation at any time.

**Inclusion Criteria and Definitions**

*Single Mothers and Single Women without Children*

Female participants for all three hypotheses were required to identify as single. For the purposes of this study, “single” consists of an individual who is not currently in a relationship (long-term partnership, domestic partnership, civil union, married). Individuals who did not identify as being in a relationship but are exclusively dating one individual were not considered “single”. Any participant who did not identify as single was excluded from the study.

"Single mothers" included any woman who identified as single and who currently has a dependent child. A dependent child, for the purposes of this study, included a participant’s biological child within the ages of 0-5 years. The reason for this age requirement is that children over the age of 5 are typically enrolled in school and may require less direct childcare provided from their family and paid childcare services (i.e. babysitter). Single mother participants were
required to have at least 1 child within the ages of 0-5 with no maximum number of children. Single mothers who only have a child or children over the age of 5 years were not included in the analyses.

Participants included in the study were 18-35 years of age, as this is prime reproductive age. Further, mating strategies differ with age, thus allowing the researcher to look specifically at strategies employed within this specific age range.

**Participants: Hypothesis 1.**

Participants involved in testing Hypothesis 1 included both single women with children and single women without children. Comparisons were done between single mothers and single women without children (control group).

**Participants: Hypothesis 2.**

Participants involved in testing Hypothesis 2 included single mothers only. A comparison was done between single mothers that receive direct childcare from family (allocare) and single mothers who do not receive direct childcare. Allocare, for the purposes of this study, include family members of the mother (i.e. grandmother, sisters, aunts, etc.). Comparison groups were 1. No allocare (single mothers who receive zero hours direct childcare assistance from family) and 2. Received allocare (mothers who report receiving direct childcare from family). This was determined by the reported number of hours per week participants receiving care from family. Additional analysis included how comfortable they felt with the amount of direct childcare received by family (i.e. they feel they receive sufficient care, or wished their family helped more often).

**Participants: Hypothesis 3.**
Participants involved in testing Hypothesis 3 included single mothers only. This hypothesis focused on mate preference between high- and low-income mothers. To identify income, both individual income and average household income of the participants were measured, as well as how comfortable they are with their current finances. Participants were placed in either high- or low-income group based on the current poverty line threshold determined by the U.S. Census. Low-income mothers are those at or below this poverty line, while high-income participants are categorized as those who are above the poverty line.

**Independent Ratings: Photos and Narratives**

Women who represented the participant group were recruited through Amazon Mechanical Turk (MTurk) to evaluate profile photos for use in this study. Headshot photos of males with a white background were gathered from iStockphotos.com. Women were asked to rate the male's attractiveness on a Likert-scale (1 - very unattractive to 7 - very attractive). Ratings were averaged for each photo and separated into two separate categories: unattractive and attractive. These photos were randomized onto profiles and provided as stimuli for this study.

Short narratives consisting of 2-3 sentences were constructed, which represent either kind or unkind. These narratives were influenced by real profiles from Match.com for validity. Much like the pre-rated photos, 18-35-year-old women evaluated short narratives that were later used on the profiles. Participants for this portion were recruited through Amazon Mechanical Turk (MTurk). Women were asked to read the narrative and rate each narrative on a Likert-scale (1 - very unkind to 7 - very kind). Ratings for each narrative were averaged and grouped into two categories, kind or unkind. These were randomized and applied to each online dating profile.
The photos and narratives described here were used to construct the online dating experimental portion of the study (described later). The participants that contributed in these two tasks were not recruited to participate in the full study, as they may have been primed by the tasks and could have potentially skew results.

**Questionnaire**

Participants with children (single mothers) were asked to complete a short questionnaire to obtain the following information: a.) demographics; b.) relationship status; c.) child information including number and ages; d.) financial status; e.) childcare assistance and presence of allocare. Additionally, participants were given a 4-item Mate Value Scale (MSV) (Edlund & Sagarin, 2014). Self-perceived mate value was tested for use as a potential moderator for profile rating responses. After completing the Mate Value Scale, participants rated 16 profiles. Following the profile ratings, participants with children were asked 4 questions regarding how male qualities influence their dating decisions. A final, open-ended response question was asked to allow parents to discuss how having children has influenced their dating lives and how having children influence the qualities they prefer in a mate.

Single women without children (control group) followed the same procedures as participants with children. They were presented with a consent form, completed a demographic questionnaire, and performed 16-online dating profile ratings.

**Experimental Design: Online Dating Profiles**

"Online dating profiles" were used to represent specific male qualities that were manipulated to determine which characteristics female participants prefer. Three qualities were
manipulated: 1. attractiveness (via a headshot of a male); 2. kindness (via a short narrative); 3. financial security (via numerical income amount). The qualities manipulated on the stimuli and represent one of each (dichotomized) of the three categories: 1. attractive or unattractive; 2. kind or unkind; and 3. financially secure or financially insecure. Participants were asked to review a series of online dating profiles and were asked questions regarding the profiles.

The three dichotomized qualities in each profile (attractiveness, financial security, and kindness) resulted in a total of 8 distinct conditions; each participant was presented with two profiles of each possible condition, resulting in a total of 16 profiles rated by each participant (see table X). Participants were asked series of questions regarding each profile to determine which combination of qualities they prefer for potential partners (sexual partner, short-term, or long-term partner). These questions were presented in a 7-point Likert scale. Additional rating questions served as “checks” (i.e. “I believe he is attractive”).

Table 1. Profile Combinations used in Experimental Stimuli

<table>
<thead>
<tr>
<th>Profile</th>
<th>Combination</th>
<th>Profile</th>
<th>Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 abc</td>
<td>HHH</td>
<td>5</td>
<td>HLH</td>
</tr>
<tr>
<td>2</td>
<td>LLH</td>
<td>6</td>
<td>LHH</td>
</tr>
<tr>
<td>3</td>
<td>HHL</td>
<td>7</td>
<td>HLL</td>
</tr>
<tr>
<td>4</td>
<td>LLL</td>
<td>8</td>
<td>LHL</td>
</tr>
</tbody>
</table>

Notes: ^ Example High Financial Status X High Attractiveness X High Kindness

^ Each participant was presented with 2 versions of each possible combination

^ Participants viewed profiles in random order
Pilot

A pilot study was conducted early Spring 2016 to test the feasibility of the stimuli items and questionnaire. The results of the pilot study determined that the participants understood the tasks and were able to complete the study in a reasonable amount of time. Participants were recruited using a crowd-sourcing platform, Amazon Mechanical Turk (MTurk). MTurk allows individuals to sign up as “workers”, in which they can complete tasks for a small fee. Previous studies using MTurk have shown that recruitment using crowdsourcing methods reflect similar as a laboratory setting (Mason & Suri, 2011). Although this recruitment method has shown success in social science research, this pilot research showed that it would not be an appropriate method for this study due to the specific inclusion criteria. Participants were found to falsify their demographic information in order to meet criteria and continue with the survey, resulting in poor data quality. However, the pilot study showed that crowd-sourcing would be an adequate means of obtaining pre-ratings for photos and narratives that were subsequently used in the stimuli.

Materials

Questionnaires and stimuli (online dating profiles) were provided in the format of an online survey through Qualtrics.com. Participants first completed the stimuli portion of the study followed by the questionnaire. The questionnaire was aimed at capturing participant’s attitudes towards dating in relation to male qualities, which could have biased responses if done prior to completing the stimuli portion of the study. Therefore, the order of the study was 1. Rating of online dating profiles, 2. Questionnaire, and 3. Providing an optional statement about dating as a single mother (single mother participants only). Online advertisement was done on
social media websites, including Facebook, Reddit and Craigslist.com, which provided a direct link to the survey. Additional printed flyers were posted in several locations in Las Vegas, NV.

**Recruitment**

Participants were recruited from various social media pages on Facebook, Craigslist, and Reddit. Online flyers were posted on these social media platforms soliciting single mothers between the ages of 18-35 to participate in a research study related to dating and romantic relationships. Control group participants were recruited through online social media. Additionally, printed flyers were posted at various locations in Las Vegas, NV, including UNLV. The flyer included a link where subjects were able to gain access to the online survey. Participants in both groups were offered a $10 gift card to either Wal-Mart or Starbucks for their participation. Two trained, senior undergraduate research assistants assisted with recruitment and data cleaning. Data collection occurred from December 2016 to April 2017.

**Statistics**

Statistical analyses were performed using SPSS v23 and Microsoft Excel 2016. Independent samples t-tests were used to compare demographic information between groups. One-way Analysis of Variance were used to find statistical differences in self-report (questionnaire) responses between groups. Multiple linear regression models were used to determine the significance of predictors on participants’ rating of the online dating profiles (stimuli). Ordinary linear regression models were used to determine participants’ willingness to enter into a long-term relationship when interaction terms were introduced into the model. No
formal qualitative analyses were formed on single mothers’ optional statement on dating as a single mother. These were grouped by general themes that presented in each statement.
CHAPTER 5. RESULTS

This chapter provides a review of the results of the study. First, participant demographics will be discussed. Results of the statistical analyses will then be reviewed for each hypothesis. Each hypothesis will describe Self-report Results (survey results) and Experimental Results. Three statistical models are described under each hypothesis: One-Way Between-Subjects ANOVA, Multiple Linear Regression, and Ordinary Linear Squares Regression using Interaction Modifications.

Overview

There were a total of 331 respondents in this study. Participants who did not meet the criteria or did not complete the study were removed from analyses. Additionally, responses that were suspicious in nature were removed from analyses. Suspicious responses included those with duplicate IP addresses, unusual latitude/longitude (i.e. in the middle of a lake), short completion times, or unusual patterns in responses (such as responding all “1” or all “7” on experimental tasks). Responses that were deemed suspicious to the two trained research assistants and me based on the above criteria were removed from analyses. This resulted in a total of 54 participants: 28 single mothers and 26 women without children.

Demographics

**Single Mothers**: Single mothers in this sample were more likely to be older ($M = 29.3$ years, $SD = 3.4$) than women without children. Twenty-six single mothers identified as heterosexual and 2 identified as bisexual. Most single mothers identified as white ($n = 14$). The mean income for
mothers was $27,160. All single mothers in this study had at least one child under the age of 6. Their children’s ages ranged between 5 months and 19 years. Most had only 1 child ($n = 24$), 2 mothers had two children and 2 mothers had three children.

*Women without Children:* Single women without children in this sample were younger ($M = 24.5$ years, $SD = 2.9$) than single mothers All women with no children identified as heterosexual. Similar to the single mothers sample, women without children identified as mostly white ($N = 18$).

### Table 2. Participant Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Single Mothers</th>
<th>Single Women with no Children</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$n$</td>
<td>28</td>
<td>26</td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>29.3(3.4)</td>
<td>24.5(2.9)</td>
</tr>
<tr>
<td>Range</td>
<td>24 - 35</td>
<td>19 - 30</td>
</tr>
<tr>
<td><strong>Ethnicity (count)(^a)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>Black</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Asian</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td><strong>Education Completed (count)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>High School or Equivalent</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Vocational</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Some College</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Graduate/Professional</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Notes: \(^a\) Participants can select more than 1 category*
Age between groups were statistically different (single mothers $M = 29.3$, $SD = 3.4$; non-mothers $M = 24.5$, $SD = 2.9$, $t(52) = 5.54$, $p < 0.05$). This may be a point to consider when discerning differences between groups. There was no significant difference in single mothers’ and women without childrens’ individual income (in dollars, single mothers $M = 27,160$, $SD = 9,507$; non-mothers, $M = 36,635$, $SD = 52,967$; $t(52) = .931$, $p = 0.356$). Household income was not used in further analyses as most single mothers lived alone with their children while most single women without children lived with family members, and therefore there was a substantial difference in household income for both groups (in dollars, single mothers $M = 36,785$ $SD = 24,931$; non-mothers $M = 83,307$, $SD = 51,054$, $t(52) = 4.303$, $p < 0.01$). While single mothers had a lower individual income (though not statistically different, $p = 0.356$) and household income ($p < 0.01$), both mothers and women without children had similar levels of comfort with their current financial status (single mothers $M = 3.82$, $SD = 1.02$; non-mothers $M = 3.81$, $SD = 1.86$; $t(38) = -0.033$, $p = 0.972$). Single women without children were more likely to live with other adults, such as family, than single mothers (see Table 3).

Table 3. Participant Financial Status and Results of Independent Samples t-test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Single Mothers</th>
<th>Single No Children</th>
<th>t-test</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean individual income (dollars)</td>
<td>27,160</td>
<td>36,635</td>
<td>0.356</td>
<td></td>
</tr>
<tr>
<td>Mean household income (dollars)</td>
<td>36,785</td>
<td>83,308</td>
<td>0.01*</td>
<td></td>
</tr>
<tr>
<td>Mean number of adults in household, including the participant (SD)</td>
<td>1.46(0.92)</td>
<td>2.73(1.64)</td>
<td>0.01*</td>
<td></td>
</tr>
<tr>
<td>How comfortable are you with your current financial status?a (SD)</td>
<td>3.82(1.02)</td>
<td>3.81(1.86)</td>
<td>0.972</td>
<td></td>
</tr>
</tbody>
</table>

Notes: a Participants were asked to rate how comfortable they were with their financial status, on a scale of 1 to 7 (1 being very uncomfortable and 7 being very comfortable)
*p < 0.05
Mate Value

Although previous studies have proposed that single women with children would have a lower mate value, this was not found in this study. Using a 4-item Mate Value Scale proposed by Edlund and Sagarin (2014), there was no difference in mate value between single mothers and women who did not have children (see Table 4). Because there was no difference in self-perceived mate value between the groups, mate value was not used as a moderating variable in subsequent analyses.

Table 4. Self-Perceived Mate Value among Single Mothers and Single Women without Children

<table>
<thead>
<tr>
<th>Questionnaire Itema</th>
<th>Single Mother (n = 28)</th>
<th>Single No Children (n = 26)</th>
<th>t-test</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall, how would you rate your level of desirability as a partner on the following scale?</td>
<td>4.88 1.18</td>
<td>4.88 1.11</td>
<td>0.38</td>
<td></td>
</tr>
<tr>
<td>Overall, how would members of the opposite sex rate your level of desirability as a partner on the following scale?</td>
<td>4.85 1.19</td>
<td>5.00 0.80</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>Overall, how do you believe you compare to other people in desirability as a partner on the following scale?</td>
<td>4.96 1.34</td>
<td>5.08 0.84</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>Overall, how good of a catch are you?</td>
<td>5.35 1.16</td>
<td>5.50 0.91</td>
<td>0.14</td>
<td></td>
</tr>
</tbody>
</table>

Notes: a Participants were asked to select their response on a scale of 1 to 7
*p < 0.05
Results for Hypothesis 1

Self-Report Results

Single Mothers versus Women with no Children: Importance of Trait When Entering Long-term Relationship. The goal of the first hypothesis was to identify differences in mate preferences between single mothers and women who do not have children. The prediction was that attractiveness is a more important characteristic when evaluating potential mates among single women without children than among single mothers. That is, a man’s kindness and financial status are more important characteristics to single mothers than attractiveness as compared to non-mothers. In order to determine if there is a difference in which traits single mothers and single women with no children found most important, a One-Way between-subject Analysis of Variance (ANOVA) was performed. Participants were asked to rate how important the following characteristics are when entering a long-term relationship: financial status, attractiveness and kindness. Group membership was dummy coded: mothers were coded as 1 and non-mothers were coded as 0. Participants were asked to rate each of the 3 characteristics on a scale of 1 to 7, 1 being not at all important and 7 being extremely important.

Results showed that there were no differences between how mothers and non-mothers rated the importance of financial status and attractiveness (Financial status: \[F(1, 51) = 2.33, p = 0.133\], Attractiveness: \[F(1, 51) = 0.002, p = 0.969\]). However, there was a significant difference in how participants rated kindness, with mothers finding it a more important characteristic than non-mothers when entering a long-term relationship \[F(1, 51) = 4.52, p = 0.01\]. The results of this analysis showed that hypothesis 1 was not entirely supported: there is no difference in the importance of a man’s attractiveness or financial status. However, single
mothers as compared to non-mothers, find kindness to be an important characteristic when evaluating a mate.

Table 5. One-Way Between Subjects ANOVA: Importance of Trait when Entering a Long-Term Relationship, Single Mothers vs. Women without Children

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Status</td>
<td>2.804</td>
<td>1</td>
<td>2.804</td>
<td>2.333</td>
<td>0.133</td>
</tr>
<tr>
<td>Attractiveness</td>
<td>0.002</td>
<td>1</td>
<td>0.002</td>
<td>0.002</td>
<td>0.969</td>
</tr>
<tr>
<td>Kindness</td>
<td>4.518</td>
<td>1</td>
<td>4.518</td>
<td>8.032</td>
<td>.007**</td>
</tr>
</tbody>
</table>

Notes: * p < 0.05, ** p < 0.01, *** p < 0.001

Compromise on Traits. To further demonstrate whether self-reported differences exist between single mothers and non-mothers preferences in mates, an analysis was performed to determine if either group was willing to compromise on any or all of the three traits when entering a relationship. Participants were asked which trait(s) they were willing to compromise on in different dating scenarios. The scenarios were described as a “casual sexual relationship” and “establish a long-term relationship”. For each scenario, participants could select kindness, attractiveness and/or financial status as the trait they were willing to compromise. Results were coded as 1 – yes (willing to compromise on the trait) and 0 – (not willing to compromise on the trait). Mothers were coded as 1 and non-mothers were coded as 0. Independent sample t-tests were performed to determine if there were differences between single mothers and non-mothers willingness to compromise on for each trait.

Results showed that there were no differences between participant groups in their willingness to compromise on financial status (Mothers: $M = 0.50$, $SD = 0.51$; Non-mothers: $M = 0.31$, $SD = 0.47$; $t(52) = 1.44$, $p = 0.192$), attractiveness (Mothers: $M = 0.79$, $SD = 0.42$; Non-
mothers: $M = 0.81$, $SD = 0.40$; $t(52) = -0.197, p = 0.845$), or kindness (Mothers: $M = 0.21$, $SD = 0.42$; Non-mothers: $M = 0.19$, $SD = 0.40$; $t(52) = 0.197, p = 0.845$) in short-term (casual) sexual relationships. These results were also true when entering a long-term relationship (Financial status $p = 0.156$, Attractiveness $p = 0.151$, and Kindness $p = 0.167$). This demonstrated that single motherhood was not a factor when identifying differences in female mate preference and therefore not supporting hypothesis 1.

Table 6. Independent Samples t-test: Single Mothers and Women without Childrens' Willingness to Compromise on Traits

<table>
<thead>
<tr>
<th>Variable</th>
<th>Short-term Sexual Relationship</th>
<th>Long-term Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single Mother Mean(SD)</td>
<td>Women with no Children Mean(SD)</td>
</tr>
<tr>
<td>Attractiveness</td>
<td>0.79(0.42)</td>
<td>0.81(0.40)</td>
</tr>
<tr>
<td>Financial Status</td>
<td>0.50(0.51)</td>
<td>0.31(0.47)</td>
</tr>
<tr>
<td>Kindness</td>
<td>0.21(0.42)</td>
<td>0.19(0.40)</td>
</tr>
</tbody>
</table>

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Experimental Results

*Single Mothers vs. Women without Children: Attractiveness.* Multiple linear regression analyses were performed to determine which characteristics predicted a woman’s willingness to enter a long-term relationship with the males presented in the experimental stimuli. To do this, two separate multiple linear regression analyses were conducted: one for single mothers and one for women without children. Profiles were coded as 0 or 1 for each characteristic representing either low (0) or high (1) for each quality being manipulated on the profiles. The dependent variable was the participants response to “Please rate how much you agree with the following statement: I
would consider a long-term relationship with him” (1 = very strongly disagree, 7 = very strongly agree).

Results showed an overall statistical significance of the model ($R^2 = .177$, $F(3, 412 = 19.33, p = < 0.001$). Among single mothers, financial status, attractiveness and kindness all significantly predicted mother’s responses (financial status: $\beta = 0.316, t = 7.397, p = < 0.001$; attractiveness: $\beta = 0.237, t = 5.548, p = < 0.001$; kindness: $\beta = 0.183, t = 4.295, p = < 0.001$). Similarly, the three characteristics predicted non-mothers’ responses (financial status: $\beta = 0.192, t = 4.201, p = < 0.001$; attractiveness: $\beta = 0.299, t = 6.524, p = < 0.001$; kindness: $\beta = 0.095, t = 2.083, p = < 0.05$) (See Table 7).

Table 7. Multiple Linear Regression Analyses of Experimental Stimuli: Single Mothers and Women without Children

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$-value</th>
<th>$F$</th>
<th>df</th>
<th>P</th>
<th>adj. $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single Mothers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Overall model</td>
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<td>19.33</td>
<td>3</td>
<td>0.000</td>
<td>0.177</td>
</tr>
<tr>
<td>Financial Status</td>
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<td>0.150</td>
<td>0.316</td>
<td>7.397</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attractiveness</td>
<td>0.83</td>
<td>0.150</td>
<td>0.237</td>
<td>5.548</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kindness</td>
<td>0.643</td>
<td>0.150</td>
<td>0.183</td>
<td>4.295</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Women with no Children</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21.516</td>
<td>3</td>
<td>0.000</td>
<td>0.129</td>
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<tr>
<td>Overall model</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Status</td>
<td>0.591</td>
<td>0.141</td>
<td>0.192</td>
<td>4.201</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attractiveness</td>
<td>0.918</td>
<td>0.141</td>
<td>0.299</td>
<td>6.524</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kindness</td>
<td>0.293</td>
<td>0.141</td>
<td>0.095</td>
<td>2.083</td>
<td>0.038</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

These results suggest that attractiveness was a greater predictor of non-mothers’ responses than mothers’. Financial status was a greater predictor of whether mothers would
establish a long-term relationship with the male presented in the profile while attractiveness was a greater predictor for non-mothers.

To determine if having children influenced participants’ willingness to enter a long-term relationship with men presented in the online dating profiles, an interaction effect modification was introduced to an ordinary least squares (OLS) regression model. An interaction term was computed for attractiveness by children and was entered into the OLS regression with the two variables, in addition to the participants’ willingness to enter a long-term relationship as the output (dependent) variable. This would determine how responsive women would be to the manipulated characteristics when the effect of children is introduced in the model. The child variable was coded as 0 = no children and 1 = has a child. Results showed that the interaction between having children and the attractiveness variable was significant (b = 0.591, SE_b = 0.132, t = 4.47, p = 0.00). This suggests that having children was significantly related to women’s willingness to enter into a long-term relationship with attractiveness males. This is not consistent with the proposed hypothesis, in which women without children were predicted to be more likely to state they would have a relationship with attractive males compared to women with children. This suggests that women with children are more discerning of men’s physical appearance than was predicted.

The same statistical methods were used to observe differences in participants’ rating when financial status and kindness were manipulated in the online dating profiles. Interaction terms were computed as financial status by children and kindness by children. Results showed that the interaction between having children and financial status was significant (b = 0.722, SE_b = 0.133, t = 5.42, p = 0.00), as was the interaction between having children and kindness (b = 0.298, SE_b = 0.136, t = 2.19, p = < 0.05) (see Table 8). This shows that having children was
significantly related to women’s willingness to enter into a long-term relationship with kind and financially secure mates. Although it was not predicted that attractiveness was a critical feature of potential mates for women with children, these findings do partially support the first hypothesis that women with children would value financial status and kindness when evaluating men for a long-term relationship.

Table 8. OLS Regression with Interaction Term for Children Variable

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attractiveness</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>0.083</td>
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<td></td>
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<tr>
<td>Constant</td>
<td>2.775</td>
<td>0.077</td>
<td>35.936</td>
<td>0.000***</td>
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<tr>
<td>Attractiveness</td>
<td>1.176</td>
<td>0.135</td>
<td>0.351</td>
<td>8.684</td>
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</tr>
<tr>
<td>Kids * Attractiveness</td>
<td>-0.586</td>
<td>0.155</td>
<td>-0.153</td>
<td>-3.790</td>
<td>0.000***</td>
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</tr>
<tr>
<td><strong>Status</strong></td>
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<td></td>
</tr>
<tr>
<td>Model</td>
<td>0.069</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.782</td>
<td>0.078</td>
<td>35.757</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>1.006</td>
<td>0.136</td>
<td>0.31</td>
<td>7.371</td>
<td>0.000***</td>
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<tr>
<td>Kids * Status</td>
<td>-0.284</td>
<td>0.156</td>
<td>-0.074</td>
<td>-1.824</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td><strong>Kindness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>0.0260</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.975</td>
<td>0.08</td>
<td>37.366</td>
<td>0.000***</td>
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<tr>
<td>Kindness</td>
<td>0.665</td>
<td>0.140</td>
<td>0.199</td>
<td>4.762</td>
<td>0.000***</td>
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</tr>
<tr>
<td>Kids * Kindness</td>
<td>-0.367</td>
<td>0.159</td>
<td>-0.096</td>
<td>-2.304</td>
<td>0.021*</td>
<td></td>
</tr>
</tbody>
</table>

Notes: * p < 0.05, ** p < 0.01, *** p < 0.001

Results for Hypothesis 2

Self-Report Results

Single Mothers and Childcare Assistance from Family: Importance of Trait When Entering Long-term Relationship. The purpose of hypothesis 2 was to determine if a difference in mate preferences exists between single mothers who receive childcare assistance from family and those who do not. We predicted that single mothers whose family was a consistent and reliable
source of childcare assistance would show that attractiveness was an important trait when considering a romantic partner. Single moms without assistance from family would often rely on paid childcare and babysitters, and would thus be willing to compromise on having an attractive mate but would still consider kindness and financial status as important traits. To determine if mothers who received childcare assistance from family and those who did not rated characteristics differently, a One-Way Between-Subjects ANOVA was performed. Mothers were asked to rate on a scale of 1 to 7 how important the three characteristics are when they are seeking a long-term relationship (1 – not at all important to 7 – extremely important). Mothers were asked who provided the majority of childcare when they were unable to care for children (i.e. while at school or work). Mothers could select 1. The child’s biological father, 2. My mother, 3. Other family member, 4. Childcare center, 5. Babysitter or 6. Other. The child’s biological father, the participant’s mother, and other family members were coded as 1 = Family. Childcare center, babysitter or other option were coded as 0 = Non-family. Results from ANOVA showed that there was no significant difference between mothers who received childcare assistance from family and those who did not for the three characteristics (Financial status: $p = 0.893$, Attractiveness: $p = 0.461$, Kindness: $p = 0.520$).

Table 9. One-Way Between Subjects ANOVA: Importance of Trait when Entering a Long-Term Relationship, Mothers who Received Childcare Assistance from Family vs. Mothers who did not Receive Childcare Assistance from Family

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Status</td>
<td>0.015</td>
<td>1</td>
<td>0.015</td>
<td>0.018</td>
<td>0.893</td>
</tr>
<tr>
<td>Attractiveness</td>
<td>0.472</td>
<td>1</td>
<td>0.472</td>
<td>0.561</td>
<td>0.461</td>
</tr>
<tr>
<td>Kindness</td>
<td>0.103</td>
<td>1</td>
<td>0.103</td>
<td>0.427</td>
<td>0.520</td>
</tr>
</tbody>
</table>

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Experimental Results

Single Mothers: Impact of Allocare on Mate Preference. Multiple Linear Regression analyses were performed to observe the relationship between mothers’ childcare assistance and rating of online dating profiles. Two multiple linear regression analyses were performed for each group: mothers who received childcare assistance from family and those who received childcare assistance from other sources. To identify where mothers received the majority of childcare, mothers were asked who provided the majority of childcare when they were unable to care for children (i.e. while at school or work). The child’s biological father, the participant’s mother, and other family members were coded as 1 = Family. Childcare center, babysitter or other option were coded as 0 = Non-family. Financial status, attractiveness and kindness were manipulated on each online dating profile. Profiles characteristics were coded as 0 or 1 representing either low (0) or high (1) for each quality. Participants were asked to respond to the following question for each profile: “Please rate how much you agree with the following statement: I would consider a long-term relationship with him” (1 = very strongly disagree, 7 = very strongly agree).

Results of the analyses showed that the three characteristics were significant predictor of mothers’ responses for mothers who relied primarily on family (financial status: $\beta = 0.270$, $t = 4.756$, $p < 0.001$; attractiveness: $\beta = 0.279$, $t = 4.912$, $p < 0.001$; kindness: $\beta = 0.190$, $t = 3.353$, $p < 0.001$) and those that relied primarily on other sources of childcare (financial status: $\beta = 0.378$, $t = 5.820$, $p < 0.001$; attractiveness: $\beta = 0.180$, $t = 2.771$, $p < 0.05$; kindness: $\beta = 0.174$, $t = 2.678$, $p < 0.05$). To identify which characteristic was a stronger predictor of mothers’ response, Standardized Coefficients Beta were analyzed. Mothers who received help
from family placed greater value on male’s physical attractiveness (Family: $\beta = 0.279$, Non-family: $\beta = 0.180$), while mothers who did not receive help from family placed greater value on male’s financial status (Family: $\beta = 0.270$, Non-family: $\beta = 0.378$). Results are presented in Table 10.

Table 10. Multiple Regression Analyses of Experimental Stimuli: Mothers who Received Childcare Assistance from Family and Those Who Did Not

<table>
<thead>
<tr>
<th>Family as Primary Source of Childcare</th>
<th>B</th>
<th>SE</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$-value</th>
<th>F</th>
<th>df</th>
<th>$P$ adj.</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Status</td>
<td>0.953</td>
<td>0.2</td>
<td>0.27</td>
<td>4.756</td>
<td>0.000</td>
<td>19.33</td>
<td>3</td>
<td>0.000</td>
<td>0.177</td>
</tr>
<tr>
<td>Attractiveness</td>
<td>0.984</td>
<td>0.2</td>
<td>0.279</td>
<td>4.912</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kindness</td>
<td>0.672</td>
<td>0.2</td>
<td>0.19</td>
<td>3.353</td>
<td>0.000</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Family not Primary Source of Childcare</th>
<th>B</th>
<th>SE</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$-value</th>
<th>F</th>
<th>df</th>
<th>$P$ adj.</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Status</td>
<td>1.312</td>
<td>0.226</td>
<td>0.378</td>
<td>5.82</td>
<td>0.000</td>
<td>16.243</td>
<td>3</td>
<td>0.000</td>
<td>0.193</td>
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<tr>
<td>Attractiveness</td>
<td>0.625</td>
<td>0.226</td>
<td>0.18</td>
<td>2.771</td>
<td>0.006</td>
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<tr>
<td>Kindness</td>
<td>0.604</td>
<td>0.226</td>
<td>0.174</td>
<td>2.679</td>
<td>0.008</td>
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</tr>
</tbody>
</table>

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

An interaction effect modification was introduced to an ordinary least squares (OLS) regression to determine if childcare assistance from family influenced single mothers’ dating decisions in relation to the characteristics manipulated in the profiles. An interaction term was computed for assistance from family and attractiveness (family X attractiveness). This was entered into the OLS regression with the two variables with participants’ willingness to enter a long-term relationship as the dependent variable. This model was used to determine how responsive single mothers would be to the manipulated characteristics when childcare assistance from family is introduced into the model. The assistance from family variable was computed as
1 = reported childcare assistance from family and 0 = did not report childcare assistance from family. Results showed that there was no significant interaction between childcare assistance from family and their willingness to enter a relationship with attractive males (b = 0.13, SE_b = 0.23, t = 0.565, p = 0.572). This was inconsistent with the prediction of hypothesis 2, in which single mothers who received childcare assistance from family were predicted to have a preference for more attractive mates compared to single mothers who did not receive help from family.

Similarly, results showed that there was no interaction between childcare assistance from family and single mothers’ willingness to enter a relationship with financially secure mates (b = -0.229, SE_b = 0.225, t = -1.019, p = 0.309) and kind mates (b = -0.016, SE_b = 0.233, t = -0.067, p = 0.947) (see Table 11). This suggest that help from family does not impact a single mothers’ preference for the male qualities being manipulated in this study.

### Table 11. OLS Regression with Interaction Term for Childcare Assistance from Family Variable

<table>
<thead>
<tr>
<th>Attractiveness</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
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<td></td>
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<td></td>
<td></td>
<td>0.057</td>
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<tr>
<td>Constant</td>
<td>2.536</td>
<td>0.114</td>
<td>22.232</td>
<td>0.000***</td>
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</tr>
<tr>
<td>Attractiveness</td>
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<td>0.208</td>
<td>0.216</td>
<td>3.36</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td>Family * Attractiveness</td>
<td>0.13</td>
<td>0.23</td>
<td>0.034</td>
<td>0.565</td>
<td>0.572</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Status</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>0.102</td>
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<tr>
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<td>0.000***</td>
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<td>Status</td>
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<td>0.353</td>
<td>6093</td>
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<tr>
<td>Family * Status</td>
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<td>0.225</td>
<td>-0.059</td>
<td>-1.019</td>
<td>0.309</td>
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<table>
<thead>
<tr>
<th>Kindness</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>R2</th>
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<tbody>
<tr>
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<tr>
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<td>0.115</td>
<td>22.776</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kindness</td>
<td>0.652</td>
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<td>0.186</td>
<td>3.092</td>
<td>0.002**</td>
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<td>Family * Kindness</td>
<td>-0.016</td>
<td>0.233</td>
<td>-0.004</td>
<td>-0.067</td>
<td>0.947</td>
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</tr>
</tbody>
</table>

Notes: * p < 0.05, ** p < 0.01, *** p < 0.001
Results for Hypothesis 3

Self-Report Results

Single Mothers and Income Level: Importance of Trait When Entering Long-term Relationship.

To determine if there was a difference in rating of partner’s characteristics between low-income mothers and high-income mothers a One-Way Between-Subjects ANOVA was performed. Mothers were asked to rate on a scale of 1 to 7 how important the three characteristics are when they are seeking a long-term relationship (1 – not at all important to 7 – extremely important). Mothers who reported income below this threshold were coded as low-income (0) and those above this threshold were coded as high-income (1). Results for the model suggests there was no significant difference in low-income and high-income mothers’ rating of financial status (\( p = 0.714 \)), attractiveness (\( p = 0.120 \)) or kindness (\( p = 0.08 \)).

Table 12. One-Way Between Subjects ANOVA: Importance of Trait when Entering a Long-Term Relationship, Low-Income Mothers vs. High-Income Mothers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Status</td>
<td>0.111</td>
<td>1</td>
<td>0.111</td>
<td>0.138</td>
<td>0.714</td>
</tr>
<tr>
<td>Attractiveness</td>
<td>2.023</td>
<td>1</td>
<td>2.023</td>
<td>2.606</td>
<td>0.120</td>
</tr>
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<td>Kindness</td>
<td>0.718</td>
<td>1</td>
<td>0.718</td>
<td>3.335</td>
<td>0.080</td>
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</table>

Notes: * \( p < 0.05 \), ** \( p < 0.01 \), *** \( p < 0.001 \)

Experimental Results

Single Mothers: Impact of Mother’s Financial Status on Mate Preference. Multiple Linear Regression analyses were performed to observe the relationship between mother’s financial status and rating of online dating profiles. Two multiple linear regression analyses were performed for each group: low-income mothers and high-income mothers. Too few mothers
reported individual income below the poverty threshold for the purposes of this analysis.

Instead, an income threshold was established by taking a mean of all single mothers reported individual annual income ($M = $27,160). Mothers who reported income below this threshold were coded as low-income (0) and those above this threshold were coded as high-income (1).

Additionally, profiles characteristics were coded as 0 or 1 representing either low (0) or high (1) for each quality being manipulated on the profiles. The dependent variable was the participants response to “Please rate how much you agree with the following statement: I would consider a long-term relationship with him” (1 = very strongly disagree, 7 = very strongly agree).

Results of the analyses showed that among low-income mothers, financial status and attractiveness were both significant predictor of mothers’ responses (financial status: $\beta = 0.287, t = 4.886, p = < 0.001$; attractiveness: $\beta = 0.201, t = 3.429, p = < 0.001$). Kindness, however, was not a significant predictor in low-income mothers’ responses ($\beta = 0.096 t = 1.629, p = 0.105$).

Among high-income mothers, all three characteristics were significant predictors in their willingness to enter a committed relationship (financial status: $\beta = 0.351, t = 5.669, p = < 0.001$; attractiveness: $\beta = 0.278, t = 4.484 p = < 0.001$; kindness: $\beta = 0.278, t = 4.484 p = < 0.001$).

Standardized Beta Coefficient ($\beta$) was used to determine which characteristic was a greater predictor of mothers’ responses. Among both groups, status was the greatest predictor in mothers’ willingness to enter a committed relationship (Low-income mothers: $\beta = 0.287$, High-income mothers: $\beta = 0.351$). High-income mothers overall placed greater importance on all three characteristics than low-income mothers (See Table 13).
To determine if mothers’ income influenced participants’ willingness to enter into a long-term relationship with men presented in the online dating profiles, an interaction effects for mothers’ income by male characteristic were introduced into ordinary least squares regression models. The mothers’ income variable was coded as high-income = 1 and low-income = 0. For the characteristic of attractiveness (interaction term = income X attractiveness), results showed no significant interaction ($b = 0.253$, $SE_b = 0.23$, $t = 0.059$, $p = 0.273$). The same was true for men’s financial status ($b = 0.266$, $SE_b = 0.225$, $t = 0.062$, $p = 0.238$) and kindness ($b = 0.417$, $SE_b = 0.232$, $t = 1.792$, $p = 0.074$) (see Table 14). This suggests that mothers’ income was not a factor when rating their willingness to enter a long-term relationship with men in the online dating profiles.
<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attractiveness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.059</td>
</tr>
<tr>
<td>Constant</td>
<td>2.536</td>
<td>0.114</td>
<td>22.254</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attractiveness</td>
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<td>0.189</td>
<td>0.206</td>
<td>3.822</td>
<td>0.000***</td>
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</tr>
<tr>
<td>Income * Attractiveness</td>
<td>0.253</td>
<td>0.23</td>
<td>0.059</td>
<td>1.097</td>
<td>0.273</td>
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<tr>
<td><strong>Status</strong></td>
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<tr>
<td>Model</td>
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<td></td>
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<td></td>
<td></td>
<td>0.103</td>
</tr>
<tr>
<td>Constant</td>
<td>2.397</td>
<td>0.111</td>
<td>21.548</td>
<td>0.000***</td>
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<tr>
<td>Status</td>
<td>0.993</td>
<td>0.184</td>
<td>0.283</td>
<td>5.384</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td>Income * Status</td>
<td>0.266</td>
<td>0.225</td>
<td>0.062</td>
<td>1.182</td>
<td>0.238</td>
<td></td>
</tr>
<tr>
<td><strong>Kindness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.041</td>
</tr>
<tr>
<td>Constant</td>
<td>2.629</td>
<td>0.115</td>
<td>22.858</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kindness</td>
<td>0.464</td>
<td>0.11</td>
<td>0.133</td>
<td>2.434</td>
<td>0.015**</td>
<td></td>
</tr>
<tr>
<td>Income * Kindness</td>
<td>0.417</td>
<td>0.232</td>
<td>0.098</td>
<td>1.792</td>
<td>0.074</td>
<td></td>
</tr>
</tbody>
</table>

*Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*
CHAPTER 6. DISCUSSION

This chapter provides a discussion of the results presented in Chapter 5. The discussion provides a review and interpretation of the results with support from the existing literature for each hypothesis. Each hypothesis is also formed into a question to better orient the results and discussion. Areas of future research are also presented.

Discussion Overview

Social scientists have investigated human mate preferences for several decades. David Buss, Donald Symons, and other paramount figures from the evolutionary sciences began to understand the variation in human mating preferences and how this is shaped by our evolutionary history. It was with this foundation that we began to understand the contextual nature of human mating preferences and the impact of these preferences on reproductive fitness (Symons, 1989, Buss, 1989, Sprecher, Sullivan, & Hatfield, 1994). More recent studies began using studies using a variety of methodologies, including surveys and experiments to understand the explicit and implicit variations of human mating preferences. For example, Kenrick et al. (1990) had their participants budget 22 traits in their desired partner to understand mating decisions in men and women. In their study, Li and colleagues allowed participants to assign preferred characteristics to an imagined mate for the same purpose (Li et al., 2002). In her research among the Shuar of Ecuador, Elizabeth Pillsworth used multiple methods to learn about mate preferences among the small-scale horticultural group, including tasking participants with rating the traits of their peers (Pillsworth, 2008). Using unique and ecologically valid study designs, researchers can understand aspects of human mating preferences that cannot be captured by
surveys and questionnaires alone. The present study embraces this approach to better appreciate the variation and nuances of mate preferences among single mothers.

While some studies have shown that having children influences a parent’s decision on other aspects of a relationship, such as the appropriateness of certain behaviors (i.e. holding hands with a partner in front of children, Gray et al. 2016), or mothers worried that potential mates could have a negative influence on their children (Hadfield & Nixon, 2017) these studies have not demonstrated differences in women’s mate preferences when they become parents. Of interest, Gray et al.’s study showed that single parents are often willing to engage in a romantic relationship with someone who is also a single parent. This can be viewed as an assortative mating strategy whereby one chooses a mate who has similar characteristics and have equal mate value in the mating market as themselves, or that parents can share in their struggles of single parenthood and provide emotional support. This provides some insight into the challenges and trade-offs that parents may face when deciding to enter into a new relationship.

Hadfield and Nixon’s study on single mothers in Ireland revealed factors related to mothers’ decisions to date, including the lack of suitable partners. The mothers described mate characteristics, such as not being tall enough or not being ambitious enough, as reasons for not dating. Mothers in the study also believed that men would be less likely to date them as a result of being a single mother, with one mother stating “some guys do not want to be involved with someone with a child” (Hadfield & Nixon, 2017, 16). This sentiment was also shared by a mother in the present study who stated “the most difficult part was facing rejection by men not mature enough to handle the fact I’m a mother” (see Table 15). Although their study did not investigate the impact of allocare on mate preference, mothers in their study did report that not having a support system to care for children when needed impacted the amount a time a single
mother could invest in a relationship. For mothers who could not afford daycare or find a family member to take their child for the weekend, the child would have to accompany the couple and potentially strain a new relationship. Indeed, single mothers in Gray et al.’s study also reported that they relied on family to care for children when going on a date. These examples show that families and allocare play a crucial role in dating behavior among single mothers.

**Hypothesis 1.**

Single Mothers place less value on physical appearance than single women without children.

*Question:* Are there observable differences in preference for attractiveness between single mothers and women without children?

**Mate Value.** Mate value is influenced by a number of factors, including one’s age, sex, status, kindness, attractiveness, and willingness to invest in offspring, and is defined as “the degree to which an individual would promote the reproductive success of another individual by mating with him/her” (Sugiyama, 2016, 325). In females, mate value is linked to reproductive traits such as reproductive value (potential future reproductive capacity, which is maximal in early adulthood). In the present study, women were asked to complete a 4-item Mate Value Scale (Edlund & Sagarin, 2014). This was done to determine the participant’s self-perceived mate value. One’s self-perceived mate value, or the way one views themselves as a potential partner, can also influence who they choose to date or pursue. Prior research has suggested that women with children have a lower mate value because potential stepfathers would have to contribute to children that are unrelated to themselves, and therefore requiring additional energy.
and resources while possibly also limiting access to their partner (Anderson, 2000). Women with children, therefore, would be viewed as less desirable mates. Interestingly, single mothers in this sample did not show a significantly different self-perceived mate value than women who did not have children. This was contrary to the expectation that mothers would view themselves as being less desirable than non-mothers. Self-perceived mate value was therefore not used as a moderating variable in any analyses in this study. It is important to note that despite the lack of differences in self-perceived mate value between mothers and non-mothers, this is not to say that mothers are not aware of the potential strain that their children might place on a new relationship, but that having children did not influence how they perceived themselves as a mate. This perspective would be beneficial for mothers who are seeking partners in the mating market, as a lower self-perceived mate value may deter mothers from seeking high-quality mates and reduce her chances of finding a suitable partner and provider for their child. Additional investigation, including perhaps using a more in-depth Mate Value Inventory could capture the impact of motherhood on self-perceived mate value (such as Fisher et al. 2008). It would also be informative to ask men how they view single mothers as potential mates, and how this is influenced by a man’s self-perceived mate value.

**Attractiveness in Potential Mates.** Attractiveness is understood to be a valuable indicator of phenotypic quality in the evolutionary literature (Sugiyama, 2016). Humans are cognitively programmed to use attractiveness as a cue which provides information about the relative health and quality of a prospective mate. Research by Buss and Schmitt (1993) has shown that, cross-culturally, physical attractiveness is valued in a potential female sexual partner. Li et al. (2002) study, for example, found that in budgeting tasks, men valued physical attractiveness above all other characteristics in potential mates. Attractiveness can serve as a cue
to gauge fertility in women. Women also value physical attractiveness in potential partners, albeit for slightly different reasons. Physical and facial attractiveness can provide information regarding one’s health and immune system. For example, attractiveness can be negatively impacted by certain diseases, a compromised immune system, or exposure to pathogens during development. Mating with an individual with poor health can have negative consequences for offspring and thereby negatively impacting one’s reproductive success. This is especially true in areas with high pathogen prevalence (Gangestad & Buss, 1993). Women may be more sensitive to aspects related to physical appearance in areas where disease is prevalence, for example. Furthermore, studies have also shown that testosterone in males can compromise immunity; males who have attractive features associated with testosterone provide information about the males’ immunocompetence (Gangestad, Haselton & Buss, 2006). Men with high testosterone but with symmetrical and attractive physical features would be most desirable; displaying features showing that their able to fight off disease despite having a hormone that compromises their immune system. Therefore, attractiveness provides useful information and serves as a reliable indicator of pathogen immunity when evaluating a potential mate, whose genes could be beneficial for the survival of one’s offspring.

In the questionnaire, single mothers and non-mothers were asked to rate the importance of a man’s financial status, attractiveness and kindness when entering a long-term relationship. There was no significant difference in how women in both groups rated attractiveness. That is to say that the trait of attractiveness is equally important to both groups when evaluating a potential long-term romantic partner. This was contradictory to the hypothesis, in which it was predicted that there would be differences in the two groups, specifically that women without children value attractiveness more than single mothers. Similarly, when participants were asked if they were
willing to compromise on attractiveness, there were no statistical differences between the groups. This suggests that attractiveness is equally important to both groups and it is not influenced by the presence of dependent children.

While there was no significant difference in self-reported preferences for attractiveness in potential mates between single mothers and non-mothers, the rating of experimental stimuli showed that there was some variation in actual preferences for attractiveness. Results showed that having children was associated with the women’s willingness to enter into a long-term relationship with attractive males. Attractiveness is therefore a significant characteristic when single mothers, but not women without children, are evaluating a potential partner. This result was also inconsistent with the prediction and inconsistent with single mothers’ stated preference. It showed that single mothers implicitly value attractiveness more than they say they do.

Women in this sample are reproductively aged, so it does not seem unreasonable to suspect that attractiveness is an important factor when choosing a partner, despite already having children. Assessing potential mates based on their physical attractiveness remains a reliable means of obtaining important information about genetic quality and immune function, which would be important to both women with and without children, as there is a possibility of having future children. Further research could benefit by addressing single mothers’ stated and actual preferences for attractiveness.

**Kindness and Financial Status in Potential Mates.** Cross-cultural studies have shown that men’s kindness and financial status are important characteristics for women when evaluating a potential mate. In Buss’ (1989) study among thirty-seven societies, kindness tended to be among the top three most valuable characteristics. The degree of one’s kindness can convey whether a potential mate will be willing to share in resources and show empathy towards
children (Buss, 2003). This can be especially important for women who already have children from a previous relationship. Studies in the U.S. and Canada have shown that children residing with an unrelated male are significantly more at risk for physical abuse and homicide compared to children not residing with an unrelated male (Daly & Wilson, 1988). Aggressive behaviors towards unrelated children may have been a manifestation of an underlying mechanism associated with an evolved psychology. Daly and Wilson (1981) hypothesized that abuse towards a romantic partner’s child may be due to a feeling a resentment for having to devote care and/or resources towards a child that is not their own. Investing in children who lack of genetic relatedness and therefore offer no direct reproductive benefits, can negatively impact one’s reproductive success. By valuing kindness in prospective mates, ancestral women were able to secure partners who would provide resources to her and her children, and would not pose a physical risk to her offspring. This would have been especially important for ancestral mothers who had children with previous partners and were exposing them to unrelated males.

Financial status, industriousness, and other measures that inform about one’s ability to secure resources have also shown to be an important mate characteristic for women across cultures (Buss, 1989, 1994). In the same Li et al. (2002) study mentioned, men’s status was shown to be valuable characteristic in all budgeting tasks. This meant that women were generally unwilling to compromise on a potential mate’s financial status. Men who were the best hunters, for example, would have been seen as desirable partners in our ancestral environment, just as high-income earners are viewed as more desirable in a post-industrialized society. In our evolutionary past, it would have been critical for women to secure partners that could provide food and share in resources with her and her children. This would have ensured the survival of her highly dependent offspring.
In this study, self-report and experimental procedures were used to understand how women valued kindness and financial status in prospective mates. In the self-report questionnaire, results showed that financial status was equally important to single mothers and women without children. This is unsurprising, as both mothers and non-mothers value a prospective partner’s earnings and their ability to support her and any future children they may have. Kindness, however, was more important to single mothers compared to non-mothers. This was consistent with the prediction that single mothers would greatly value kindness; selecting a mate who showed kindness towards her and her child would reduce the risk of abuse or infanticide (Daly & Wilson, 1988). As part of the study, mothers were asked about the challenges of dating as a single mother, and many expressed concern over the safety of their children (See Table 15). For example, one mother stated, “Dating must be approached much more cautiously and seriously. More like interviewing for a stepfather than having fun.”

As shown in the table below, mothers’ provided descriptions of the impact of motherhood on their dating lives, many of which were consistent with self-report and experimental data. Most single mothers, for example, described that the safety of their child was a concern when dating. Others expressed that resources and male investment was an important factor when evaluating potential mates. Their responses supported and contextualized the quantitative findings in this study.
Table 15. Single Mother’s Narratives: How has being a single mother influenced your dating decisions?

<table>
<thead>
<tr>
<th>More Cautious</th>
</tr>
</thead>
<tbody>
<tr>
<td>- It's been challenging but I don't I'm very picky person for me and my child's sake.</td>
</tr>
<tr>
<td>- Makes me pay better attention so I don't end up in a dangerous or unhealthy relationship.</td>
</tr>
<tr>
<td>- I'm very protective of my children for as in my decision and I have to make sure that I am seriously in a long-term relationship before I would introduce someone I am dating to my children</td>
</tr>
<tr>
<td>- I am very careful and selective about whom I bring around my kids.</td>
</tr>
<tr>
<td>- Dating must be approached much more cautiously and seriously. More like interviewing for a stepfather than having fun.</td>
</tr>
<tr>
<td>- I don't really date much anymore, if that counts as influencing the type of men I date. I'm much more careful and picky in general, but that might just be a side effect of getting older.</td>
</tr>
<tr>
<td>- I am more cautious on whom I date and at the 3-month mark, I evaluate the relationship if the thought of him meeting my daughter feels uncomfortable and too soon I break things off.</td>
</tr>
<tr>
<td>- Now I have to consider whether the man will treat my child with respect and be nice to her. I have to consider whether the man is willing to be with someone that has a child.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investment &amp; Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>- I am interested in men with a level head, who are done with partying and have no bad habits such as alcoholism, drug addiction, or smoking. I need a man who is on the same page as I am in regards to family life.</td>
</tr>
<tr>
<td>- Some men are drawn to the fact that I am able to hold my children and household down.</td>
</tr>
<tr>
<td>- I make sure they are kind, respectable, financial stable, and no criminal record.</td>
</tr>
<tr>
<td>- I want to talk more beforehand, and I'm not staying the night anywhere unless we've been on several dates and I see things having a future.</td>
</tr>
<tr>
<td>- I am looking at whether the person has a reasonable income level.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>- I had to miss a few occasions of dating attractive men.</td>
</tr>
<tr>
<td>- The most difficult part was facing rejection by men not mature enough to handle the fact I'm a mother.</td>
</tr>
<tr>
<td>- I cannot date someone I am not attracted to.</td>
</tr>
</tbody>
</table>

In interpreting the impact of single motherhood on mating preferences, experimental results showed that having a child did not influence women’s interest in men presented in the online dating profiles. However, the results did show that the manipulated characteristics
themselves (kindness, financial status, and attractiveness) predicted their interest in the men for both single mothers and women without children. These findings were consistent with previous research, as mentioned above, showing that these qualities are indeed important when women evaluate a potential mate (Buss, 1989). These results showed that having children does not significantly change the characteristics that women find important when evaluating a potential partner. Indeed, the characteristics remain critical cues for women throughout different life history stages (i.e. motherhood).

Additionally, experimental results showed that single mothers may be more sensitive to male characteristics in the profiles than are women without children. That is, single mothers generally stated that they would not want to pursue a low-quality mate while non-mothers gave low-quality mates slightly higher scores in all scenarios. This may mean that single mothers are not willing to invest in a potential mate who does not meet minimum criteria, while non-mothers may have more time to experiment with these potential mates. Single mothers may be in favor of high quality males and pursue dates with those men instead, potentially because lower quality mates are not worth the time away from their children or they would prefer to wait for a higher quality mate. Further research can be done to better address this issue.

Hypothesis 2.

Single mothers who receive support from family have differential mate preferences than single mothers who do not receive support from family.

Question: Are there differences in mate preferences between single mothers who receive allocare from family members for their children and those who do not?
**Cooperative Breeding and Mate Preference.** As cooperative breeders, mothers rely on assistance from others to care for their children. Among contemporary hunter-gatherers, for example, mothers rely on kin to care for children while mothers collect food or perform other tasks (Meehan et al., 2014). Divorce and inconsistent paternal care would have made reliance on a child’s father for caregiving a risky evolutionary strategy in our ancestral past. Instead, mothers formed flexible networks of caregivers including older siblings, aunts, and grandparents to secure direct care for their children. Studies have shown that having a social network of caregivers among hunter-gatherers are associated with greater nutritional status (Meehan et al., 2014) and lower mortality risks (Sear & Mace, 2009). Mothers in industrialized countries may not be able to have reliable access to childcare assistance from family, as grandmothers and other relatives are likely employed or do not live nearby. These mothers may instead depend on paid forms of childcare, requiring additional resources to ensure they can maintain employment or attend school while ensuring their children are being cared for.

It can be predicted that mothers who do not have family to assist with childcare have to lower their preference for high-quality mates in order to find partners that can assist in childcare or assist financially in order to pay for childcare services. The results from the self-report questionnaire suggested that there were no differences in preferences for traits between mothers who relied on assistance from family and those who did not. This means that both groups of mothers believed that financial status, attractiveness and kindness were all important traits when evaluating a potential partner. Results of the interaction modification suggests that having childcare assistance from family alone does not determine mate preferences. Regression analyses on the experimental profiles showed that all three characteristics were significant predictors when considering establishing a long-term relationship with a potential partner for all
participants, which is consistent with the mating literature (Buss & Barnes, 1986; Buss, 1989; Geary et al., 2004; Schmitt, 2010). Hypothesis 2 was not supported by self-report or experimental methods utilized in this study.

Interestingly, the results also showed that men’s financial status was a greater predictor of considering a long-term relationship among mothers who did not receive help from family. This suggests that mothers who did not receive help from family were less likely to establish a long-term relationship with men who reported low-income. This may imply that mothers without assistance from family prefer a mate who can provide financial assistance to offset the costs that mothers pay for childcare. Men’s attractiveness was the greatest predictor of considering a long-term relationship among mothers who did receive childcare assistance from family. This suggests that these mothers are more concerned with the attractiveness of their potential mate. This is possibly a way to gauge a man’s health status, which could provide a genetic benefit to her future children. Mothers who received childcare assistance from family likely saw the possibility of having more children in the future, because of the support and assistance that they could obtain from related individuals. Therefore, evaluating a potential mate’s genetic quality would be beneficial to mothers considering having future children. Mothers not considering having additional children with new mates may be more concerned with the immediate need of resources to support themselves and their child, and thus financial status of a mate would be a more crucial characteristic to evaluate.

Having the support of family has been known to influence the well-being and survival of offspring in our evolutionary past, and cooperative care was a critical characteristic in the evolution of our species (Hrdy, 1999, 2007, 2009). To date, no research has been performed to identify ways mothers’ mate preferences are influenced by the degree of childcare assistance they
receive from family. Although we can suspect that allocare can impact a mother’s mate preferences, that was not found in the present study. We can use contemporary hunter-gatherer models to possibly address this inconsistency. For example, hunter-gatherer moms are consistently surrounded by potential caretakers for their children. When romantic relationships dissolve, mothers do not have to consider allocare when evaluating potential mates because caretakers are readily available (such as among the Aka, Meehan, personal communication). Additionally, hunter-gatherer mothers would not need a new mate to act as a caregiver to her children. In post-industrialized societies where mothers and grandmothers disperse and obtain employment, having reliable childcare from family is not always guaranteed. New partners may act as caregivers and financial providers to her and her children, creating an unusual circumstance compared to our hunter-gatherer ancestors. It could be possible that instead of influencing mate preferences, allocare could influence when mothers decide to have children and how many children to have. Additional research would need to be conducted to address this question.

Hypothesis 3.

Single mothers with high incomes have differential mate preferences than single mothers with low incomes.

Question: Are there differences in mate preferences between single mothers who report high income and those who report low income?

Income and Mate Preference. As previously noted, research has consistently shown that male’s socioeconomic status is an important characteristic when evaluating a potential
partner, however, the relationship between mothers’ income and preferences for specific traits have not been tested. In wage-earning societies, where one’s ability to obtain employment and a livable wage can impact the health of one’s child, we can suspect that a single mother’s income status may influence who she chooses to date. We can anticipate that mothers who are better off economically will be choosier than mothers who have lower income and variation in mating strategies will occur between the two groups (Vigil et al., 2006). Low-income mothers, for example, may be willing to compromise on preferred partner traits and instead pursue low-status, unattractive and/or unkind mates in order to increase their mate pool. By increasing her mate pool, low-income mothers may be more likely to find a mate to assist with the resources required to care for dependent offspring.

Results of the self-report questionnaire did not show a significant difference between low-income and high-income mothers’ preference for financial status, attractiveness or kindness when seeking a long-term relationship. While the self-report did not show any significant differences, the results of the experimental study showed that among low-income mothers, kindness was not a predictor of their likelihood to consider a long-term relationship with men in the profiles. This suggests that mothers are willing to compromise on kindness when evaluating a new partner. A potential partner’s financial status was the highest predictor of low-income mothers’ likelihood to consider a long-term partner. This suggest that economic resources are a valuable characteristic when evaluating a new partner for low-income moms.

Hadfield and Nixon (2017) noted in their study among single Irish mothers that men’s financial status was not mentioned as a critical aspect of relationship formation. They stated that this is likely because of the robust welfare system in Ireland that provides support to mothers, while this same support is not offered in the U.S., leaving many single mothers impoverished.
This discrepancy in societies with differences in welfare systems, shows that women’s mate preferences are context-dependent and are influenced by a number of factors, including sources of available income for her and her children.

Among high-income mothers, financial status, attractiveness and kindness were all significant predictors of their likelihood to consider a long-term relationship with the men in the profiles. Furthermore, high-income mothers had larger Standardized Coefficients Beta (β) for all three traits compared to low-income mothers. This suggest that high-income mothers are more discerning than are low-income mothers and they are less willing to consider a long-term relationship with a low-quality mate. Because high-income mothers are better off financially, they may not be reliant on a potential partner to assist with resources for a child, and may therefore be more likely to wait to establish a relationship with someone who meets their criteria. Low-income mothers, in contrast, may consider the benefits of quickly establishing a relationship, and may therefore reduce their criteria in order to find a mate.

Results of the ordinary linear squares regressions using an interaction term for mothers’ income did not show any difference between low- and high-income mothers. This suggests that maternal income alone did not impact the mothers’ decision to enter a long-term relation with the males in the profile. Therefore, hypothesis 3 was not supported by the results of this study. We can suggest, however, that higher-income moms are slightly choosier or may be willing to wait for a higher quality mate. Further research into the impact of women’s income and mate preference would be needed to investigate this relationship.
CHAPTER 7. CONCLUSION

This final chapter provides a review of the aims of the research and methods. Key findings and interpretations are summarized. Limitations to the study are discussed.

The aim of this research was to understand how being a single mother impacts mating decisions. Little research has been to understand how single mother impacts dating yet we know that single parenthood is not an uncommon circumstance. Ancestral parents likely ended relationships after a number of years, and likely repartnered with new mates while still meeting the demands of parenthood. We can anticipate that changes in mating preferences throughout life history stages, such as parenthood, would have ensured the success for one’s reproductive career. In this study, we learned how single motherhood impacts dating among a small sample of U.S. mothers. Fifty-four women were recruited online to participate in this study: 28 single mothers and 26 women without children who acted as a control group. Questionnaires and experimental methods were used to address three hypotheses.

The first goal of this research was to understand differences in mate preferences between single mothers and women who did not have children. There were no reported differences in stated preference for attractiveness, meaning that both mothers and non-mothers said that the trait of attractiveness is equally important when evaluating a potential long-term partner. This was contradictory to the hypothesis proposed here, in which it was predicted that women without children would value attractiveness more than single mothers. While there were no differences in self-reported mate preferences, the rating of experimental stimuli showed that there was some variation in actual preferences for attractiveness. Results showed that maternal status was
associated with participant’s willingness to enter a relationship with attractive mates. Attractiveness is therefore a significant characteristic when single mothers evaluate a potential partner. It showed that single mothers may actually value attractiveness more than they say they do. Prior research has shown that attractiveness serves as a cue for phenotypic quality in the evolutionary literature. Women in this sample are reproductively aged, therefore, it would not be unreasonable to suspect that attractiveness is an important quality, despite already having children.

Kindness was a more important characteristic to single mothers than non-mothers. It was suspected that single mothers would greatly value this characteristic. Studies by Daly and Wilson have shown that unrelated males pose a physical risk towards children, and therefore selecting a partner who showed kindness towards themselves and their child would greatly reduce the risk of abuse or infanticide. When asked about the challenges of dating as a single mother, participants described this sentiment in many of their responses, such as one mother who stated, “Now I have to consider whether the man will treat my child with respect and be nice to her.” Indeed, the safety of their child was a concern when dating. Additionally, experimental results showed that single mothers tended to be more sensitive to male characteristics in the profiles than were women without children. Single mothers generally stated that they would not want to pursue a low-quality mate and would not invest in a potential mate who does not meet a minimum criteria. This was not the case with non-mothers; women without children may have more time to experiment with relationships and may instead be more relaxed about minimum criteria than mothers.

The second goal of this study was to investigate how maternal characteristics influenced mate preferences. As cooperative breeders, mothers rely on assistance from others to care for
their children. Among hunter-gatherers, for example, mothers rely on kin to care for children while mothers collect food or perform other tasks. Depending on fathers alone for caregiving would have been a risky evolutionary strategy for ancestral mothers, therefore having a flexible network of caregivers such as aunts and grandmothers increased the chances of survival for her children. The second hypothesis in this study proposed that differences in mate preferences would exist between mothers received childcare support from family and those who did not, with mothers not receiving assistance having to lower their preference for high-quality mates in order to find a partner who could assist in childcare or offset the cost of childcare. The results in self-report showed no differences, meaning both groups of mothers believed that financial status, attractiveness and kindness were all important. Interaction terms were also not significant, meaning that childcare assistance alone does not influence mate preferences.

Although we can suspect that allocare can impact a mother’s mate preference, that was not found in the present study. Some aspects to consider would be that mothers in industrialized countries may not be able to rely on family for childcare, as grandmothers and other relatives are likely employed or do not live nearby. These mothers may instead depend on paid forms of childcare, requiring additional financial resources. Among mothers who did not have support from family, financial status of potential mates were the greatest predictor of their willingness to enter a long-term relationship with males, suggesting this may be the case. Additional research into this would be necessary to address the relationship between allomaternal care and maternal mate preferences. Results of the self-report showed that there were no significant differences between both groups of mothers in their preference for financial status, attractiveness, or kindness when seeking a long-term relationship.
The final hypothesis tested differences in mate preference between low-income and high-income mothers. Results of the experimental portion of the study showed that kindness was not a predictor of their likelihood to consider a long-term relationship with men in the online dating profiles. This suggests that low-income mothers were willing to compromise on kindness when evaluating a new mate. Potentially compromising on this trait would allow low-income mothers to secure a partner who could assist financially or with whom they can have subsequent children with. There were no significant interactions between maternal income and any of the characteristics, showing no significant relationship between maternal income and mate preferences. However, high-income mothers were generally more discerning of low-quality mates. Higher income mothers likely prefer not to invest in a low-quality mate that would require time away from children and may not otherwise provide any direct benefit to her and her child compared to a higher-quality mate. Further research into the impact of maternal income and mate preferences would be needed to investigate this relationship.

While there were few significant differences found when analyzing survey responses, it is important to note that the information obtained from the experimental profiles identified patterns that could not be captured in the self-reports. Furthermore, prior research has discussed the importance of using study methods that can differentiate between stated and actual mate preferences (Li et al., 2002). It was because of this that developing new and innovative means to test mate preferences was a secondary goal of this research. Survey responses can be biased and may not provide a reliable measure of human mate preferences. Therefore, it is important to use mixed-methods models, including experimental studies, to identify patterns in participants’ actual preferences. Moreover, the experimental design used in this study characterized an ecologically valid means of identifying patterns in mating decisions and represents a dating
method that is regularly used among younger populations (online dating). We can expect that women evaluate a combination of traits when gauging whether to pursue a relationship with a potential mate. Indeed, this design represented actual combinations of potential males that women can expect to find in their mating pool.

Limitations

Results of this study should be considered with some caution. A possible reason that few models showed a significant differences was that there were a low number of participants. Generally, analyses of both questionnaires/surveys and experimental designs benefit from a large number of participants. A post-hoc power analysis was conducted to determine if the small sample size in this study could possibly account for the lack of statistical significance in some of the statistical tests conducted. Results of the power analysis showed that by comparing between-group means, a larger number of participants would be needed to obtain adequate statistical power at the 0.80 level (Cohen, 1988). The power in the present study was very low, with an ability to detect an effect at $d = 0.11$ with $N = 58$. Further examinations in mothers and non-mothers mate preferences would benefit from a large nationally representative sample to better understand how motherhood influences one’s mating decisions.

Additionally, the methods of this study could be improved by using a program to randomize the elements of the experimental profiles. Because these were done manually by the researcher, this could have impacted outcomes of the study. While developing new means of testing and measuring mate preferences was a goal of this study, lessons were learned on how to improve the ways we use experimental designs and online platforms to better understand human mating. As part of this limitation, male characteristics in the online dating profiles were
dichotomized (i.e. Yes/No) instead of Likert-scaled valued (i.e. 1 to 7) for attractiveness, kindness and financial status. A more precise valuation of the characteristics could have provided a more detailed understanding of preferences for each characteristic within the combinations.

It is important to note that while this study showed no within-single-mother variation differences for either hypothesis 2 or 3, it is possible that the predictions stated in hypothesis 2 would not have been expected to begin with. That is, mothers with variable support from kin would not have valued income differently. The correct expectation would be that mothers would value income similarly regardless of how much allocare is available to them. This is supported by observations of contemporary hunter-gathers where mothers, regardless of circumstance, greatly value male hunting ability (Alyssa Crittenden, personal communication). Modification of hypothesis 2 would be needed to correctly reflect this expectation.
APPENDIX 1. PRE-RATING OF PHOTO FOR ATTRACTIVENESS
EXAMPLE

1. What is your age: ___
2. What is your ethnicity?
   a. White/Caucasian
   b. Black/African American
   c. Asian
   d. Native Hawaiian/Pacific Islander
   e. Alaska Native/Native American
   f. Hispanic/Latino
   g. Other: __________

View the photo and answer the following question.

1. How attractive would you rate the man in the photo?

<table>
<thead>
<tr>
<th>1 Very unattractive</th>
<th>2</th>
<th>3</th>
<th>4 Average attractiveness</th>
<th>5</th>
<th>6</th>
<th>7 Very attractive</th>
</tr>
</thead>
</table>

2. Which age range would you place the man in this photo?
   a. Under 18 years of age
   b. 18-22
   c. 23-27
   d. 27-32
   e. Over 32 years of age
APPENDIX 2. PRE-RATING OF NARRATIVE FOR KINDNESS
EXAMPLE

Please read the short narrative from a man’s online dating profile and answer the question.

I'm an easy-going person who likes to have a good time. I appreciate the small things in life. I try not to take life too seriously. Family is very important to me, because without them what else is there. I enjoy spending time in the great outdoors, traveling, and I enjoy spending time with my dog.

Based on the narrative, how would you rate this individual's kindness overall?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>Very unkind</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Average kindness</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Very kind</th>
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</table>
APPENDIX 3. SINGLE MOTHERS SURVEY

Please answer the following questions to the best of your ability.

1. Age: ________
2. Sexual orientation:
   a. Heterosexual
   b. Gay/Lesbian
   c. Bisexual
   d. Other: ________
3. Which best describes your ethnic background (select all that apply)?
   o White/Caucasian
   o Black/African American
   o Asian
   o Native Hawaiian/Pacific Islander
   o Alaska Native/Native American
   o Hispanic/Latino
   o Other: ________
4. Relationship status:
   a. Single (not dating anyone exclusively or in a romantic relationship)
   b. Married
   c. Divorced (no longer legally married, and not in a romantic relationship with former spouse)
   d. Separated (legally married, but no longer in a romantic relationship with spouse)
   e. In a committed long-term relationship (includes civil union and domestic partnership)
   f. Dating one individual exclusively
5. Are you currently dating or looking for a relationship?
   a. Yes
   b. No
   c. Unsure/Undecided
6. Do you use online dating?
   a. Yes
   b. No
7. Are you considering having more children?
   a. Yes
   b. No
   c. Unsure/Undecided
8. How many total adults live in your household (persons 18 and over, including yourself)?
   ____
9. Household members (select all that apply):
   o Live alone
   o Spouse/romantic partner
   o Live with my children
   o Live with roommate(s)
   o Live with family
10. If you live with your children, how much of the time are they living with you?
a. Less than 25% of the time  
b. 25% - 49% of the time  
c. 50% - 74% of the time  
d. Over 75% of the time

11. If you live with family members, which family members live with you (select all that apply)?
   o My mother  
   o My father  
   o My brother(s)  
   o My sister(s)  
   o My grandmother  
   o My grandfather  
   o Other: _______

12. How many children do you have? _______

13. How many of your children are currently living with you? _______

14. What are your child(ren)'s ages?
   Child 1: _______
   Child 2: _______
   Child 3: _______
   Child 4: _______
   Child 5: _______

15. What is your current employment status?
   a. Unemployed  
   b. Employed full-time  
   c. Employed part-time  

16. What is your highest level of education completed?
   a. Less than a high school diploma  
   b. High school diploma or equivalent  
   c. Vocational school  
   d. Some college  
   e. Bachelor's degree  
   f. Graduate/professional degree  

17. What is your average yearly household income? (This includes a combined income for all adults in the household.)
   $_____________

18. What is your individual average yearly income? (This is the wages you earn individually, not including other people in your household).
   $_____________

19. How comfortable are you with your current financial status?

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<tr>
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<tbody>
<tr>
<td>Very Comfortable</td>
<td>Neither Comfortable nor Uncomfortable</td>
<td>Very Uncomfortable</td>
<td></td>
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</table>

20. Do you receive any form of government assistance?
   a. Yes
b. No
c. Unsure
21. Do you receive financial child support from your child's father?
   a. Yes
   b. No
   c. Unsure
22. What are the general terms of your custody agreement?
   a. I have full custody
   b. I share joint custody with my child's father
   c. My child's father has full custody
   d. There is no established custody agreement
   e. Other: __________
23. Who provides the majority of childcare for your children when you are unable to?
   b. My child's biological father
   c. My mother
   d. Other family member
   e. Daycare center
   f. Babysitter
   g. Other: _______
24. Approximately how many hours per week do your family members assist in childcare?
   Hours:_____
25. Approximately how many hours per week does your child spend in a Daycare center/babysitter?
   Hours:_____
26. Please state how much you agree with the following statement: When seeking a long-term relationship, how important is a man’s physical attractiveness?

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<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Strongly Agree</td>
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</table>

27. Please state how much you agree with the following statement: When seeking a long-term relationship, how important is a man’s financial status?

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<tr>
<td>Strongly Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Strongly Agree</td>
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</table>

28. Please state how much you agree with the following statement: When seeking a long-term relationship, how important is it that they are kind to you?

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<tr>
<td>Strongly Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Strongly Agree</td>
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</table>

29. Which characteristics are you most willing to compromise on in the following scenario: Going on a date with someone.
30. Which characteristics are you most willing to compromise on in the following scenario: Giving someone my phone number.

- Kindness
- Financial Status
- Attractiveness

31. Which characteristics are you most willing to compromise on in the following scenario: Establish a long-term relationship.

- Kindness
- Financial Status
- Attractiveness

32. Which characteristics are you most willing to compromise on in the following scenario: Have casual sex.

- Kindness
- Financial Status
- Attractiveness

33. How has being a single mother influenced your dating decisions and the types of men you date?
APPENDIX 4. NON-MOTHERS SURVEY

Please answer the following questions to the best of your ability.

1. Age: ________
2. Sexual orientation:
   a. Heterosexual
   b. Gay/Lesbian
   c. Bisexual
   d. Other: ________
3. Which best describes your ethnic background (select all that apply)?
   o White/Caucasian
   o Black/African American
   o Asian
   o Native Hawaiian/Pacific Islander
   o Alaska Native/Native American
   o Hispanic/Latino
   o Other: ________
4. Relationship status:
   a. Single (not dating anyone exclusively or in a romantic relationship)
   b. Married
   c. Divorced (no longer legally married, and not in a romantic relationship with former spouse)
   d. Separated (legally married, but no longer in a romantic relationship with spouse)
   e. In a committed long-term relationship (includes civil union and domestic partnership)
   f. Dating one individual exclusively
5. Are you currently dating or looking for a relationship?
   a. Yes
   b. No
   c. Unsure/Undecided
6. Do you use online dating?
   a. Yes
   b. No
7. Are you considering having children?
   a. Yes
   b. No
   c. Unsure/Undecided
8. How many total adults live in your household (persons 18 and over, including yourself)?
   ______
9. How many of your children are currently living with you? ______
10. What is your current employment status?
    a. Unemployed
    b. Employed full-time
    c. Employed part-time
11. What is your highest level of education completed?
    a. Less than a high school diploma
b. High school diploma or equivalent  
c. Vocational school  
d. Some college  
e. Bachelor's degree  
f. Graduate/professional degree  
12. What is your average yearly household income? (This includes a combined income for all adults in the household.)  
$_____________

13. What is your individual average yearly income? (This is the wages you earn individually, not including other people in your household.)
$_____________

14. How comfortable are you with your current financial status?

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<tbody>
<tr>
<td>Very Comfortable</td>
<td>Neither comfortable nor uncomfortable</td>
<td>Very Uncomfortable</td>
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</tbody>
</table>

15. Please state how much you agree with the following statement: When seeking a long-term relationship, how important is a man’s physical attractiveness?

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<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Strongly Agree</td>
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</tr>
</tbody>
</table>

16. Please state how much you agree with the following statement: When seeking a long-term relationship, how important is a man’s financial status?

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<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Strongly Agree</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

17. Please state how much you agree with the following statement: When seeking a long-term relationship, how important is it that they are kind to you?

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<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Neither agree nor Disagree</td>
<td>Strongly Agree</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

18. Which characteristics are you most willing to compromise on in the following scenario: Going on a date with someone.

- Kindness
- Financial Status
- Attractiveness

19. Which characteristics are you most willing to compromise on in the following scenario: Giving someone my phone number.

- Kindness
- Financial Status
- Attractiveness
20. Which characteristics are you most willing to compromise on in the following scenario: Establish a long-term relationship.

- Kindness
- Financial Status
- Attractiveness

21. Which characteristics are you most willing to compromise on in the following scenario: Have casual sex.

- Kindness
- Financial Status
- Attractiveness
APPENDIX 5. MATE VALUE SCALE

For the following questions, you will be asked to rate yourself on a scale of 1 to 7.

1. Overall, how would you rate your level of desirability as a partner on the following scale?

<table>
<thead>
<tr>
<th></th>
<th>1 Extremely undesirable</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7 Extremely desirable</th>
</tr>
</thead>
</table>

2. Overall, how would members of the opposite sex rate your level of desirability as a partner on the following scale?

<table>
<thead>
<tr>
<th></th>
<th>1 Extremely undesirable</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7 Extremely desirable</th>
</tr>
</thead>
</table>

3. Overall, how do you believe you compare to other people in desirability as a partner on the following scale?

<table>
<thead>
<tr>
<th></th>
<th>1 Very much lower than average</th>
<th>2 Lower than average</th>
<th>3 Slightly lower than average</th>
<th>4 Average</th>
<th>5 Slightly higher than average</th>
<th>6 Higher than average</th>
<th>7 Very much higher than average</th>
</tr>
</thead>
</table>

4. Overall, how good of a catch are you?

<table>
<thead>
<tr>
<th></th>
<th>1 Very bad catch</th>
<th>2 Bad catch</th>
<th>3 Somewhat bad of a catch</th>
<th>4 Average catch</th>
<th>5 Somewhat good of a catch</th>
<th>6 Good catch</th>
<th>7 Very good catch</th>
</tr>
</thead>
</table>
APPENDIX 6. PROFILE QUESTIONS

Please view the online dating profile and answer the following questions.

1. I would have casual sex with him.

   1 Strongly Disagree
   2
   3
   4 Neither agree nor disagree
   5
   6
   7 Strongly Agree

2. I would go on a date with him.

   1 Strongly Disagree
   2
   3
   4 Neither agree nor disagree
   5
   6
   7 Strongly Agree

3. I would consider having a long-term relationship with him.

   1 Strongly Disagree
   2
   3
   4 Neither agree nor disagree
   5
   6
   7 Strongly Agree

4. I believe he is attractive.

   1 Strongly Disagree
   2
   3
   4 Neither agree nor disagree
   5
   6
   7 Strongly Agree

5. I believe he would be kind to me and my children.

   1 Strongly Disagree
   2
   3
   4 Neither agree nor disagree
   5
   6
   7 Strongly Agree

6. I believe he would be a good provider for me and my children.

   1 Strongly Disagree
   2
   3
   4 Neither agree nor disagree
   5
   6
   7 Strongly Agree
APPENDIX 7. EXAMPLE OF ONLINE DATING PROFILE

Quick Match: Male
Ages 18-35
USA

Relationship Survey
Online Dating Profile

My Info
Name: Ian
Relationship Status: Single
Income: $10,000-$15,000

About Me
Don't have time for games. Check me out if you're interested. Looking for a partner in crime.
APPENDIX 8. UNLV IRB APPROVAL

UNLV Social/Behavioral IRB - Expedited Review
Approval Notice

DATE: June 15, 2016
TO: Peter Gray, PhD
FROM: UNLV Social/Behavioral IRB

PROTOCOL TITLE: [893709-1] Mate Preferences among Single Mothers
SUBMISSION TYPE: New Project

ACTION: APPROVED
APPROVAL DATE: June 12, 2016
EXPIRATION DATE: June 11, 2017
REVIEW TYPE: Expedited Review

Thank you for submission of New Project materials for this protocol. The UNLV Social/Behavioral IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a protocol design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

PLEASE NOTE:
Upon approval, the research team is responsible for conducting the research as stated in the protocol most recently reviewed and approved by the IRB, which shall include using the most recently submitted Informed Consent/Assent forms and recruitment materials.

Should there be any change to the protocol, it will be necessary to submit a Modification Form through ORI - Human Subjects. No changes may be made to the existing protocol until modifications have been approved.

ALL UNANTICIPATED PROBLEMS involving risk to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NONCOMPLIANCE issues or COMPLAINTS regarding this protocol must be reported promptly to this office.

This protocol has been determined to be a Minimal Risk protocol. Based on the risks, this protocol requires continuing review by this committee on an annual basis. Submission of the Continuing Review Request Form must be received with sufficient time for review and continued approval before the expiration date of June 11, 2017.

If you have questions, please contact the Office of Research Integrity - Human Subjects at IRB@unlv.edu or call 702-895-2794. Please include your protocol title and IRBNet ID in all correspondence.
Thank you for submission of Amendment/Modification materials for this protocol. The UNLV Social/Behavioral IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a protocol design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

Modifications reviewed for this action include:

- Add online dating profile stimuli

This IRB action will not reset your expiration date for this protocol. The current expiration date for this protocol is June 11, 2017.

PLEASE NOTE:
Attached with this approval notice is the official Informed Consent/Assent (IC/A) Form for this study. Only copies of this official IC/A form may be used when obtaining consent. Please keep the original for your records. If your project has been revised and now involves paying research participants or the procedures for paying participants has been changed, it is recommended to contact Carisa Shaffer, ORI Program Coordinator at (702) 895-2794 to ensure compliance with subject payment policy.

Should there be any change to the protocol, it will be necessary to submit a Modification Form through ORI - Human Subjects. No changes may be made to the existing protocol until modifications have been approved.

ALL UNANTICIPATED PROBLEMS involving risk to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NONCOMPLIANCE issues or COMPLAINTS regarding this protocol must be reported promptly to this office.

This protocol has been determined to be a Minimal Risk protocol. Based on the risks, this protocol requires continuing review by this committee on an annual basis. Submission of the Continuing Review
UNLV Social/Behavioral IRB - Expedited Review
Modification Approved

DATE: February 15, 2017
TO: Peter Gray, PhD
FROM: UNLV Social/Behavioral IRB

PROTOCOL TITLE: [893709-3] Mate Preferences among Single Mothers
SUBMISSION TYPE: Amendment/Modification

ACTION: APPROVED
APPROVAL DATE: February 14, 2017
EXPIRATION DATE: June 11, 2017
REVIEW TYPE: Expedited Review

Thank you for submission of Amendment/Modification materials for this protocol. The UNLV Social/Behavioral IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a protocol design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

Modifications reviewed for this action include:

- Expand subject inclusion criteria to allow for non-Hispanic/Latino ethnicities, and expand allowable age range from 18-25 to 18-35
- Add “stop” questions and captcha codes to online surveys to help prevent robot completion fraud
- Update protocol proposal form to accommodate the above
- Update online informed consent form ‘all participants’ to accommodate the above
- Add research team members: Jaclynn Peavler, Sarah Shumsker

This IRB action will not reset your expiration date for this protocol. The current expiration date for this protocol is June 11, 2017.

PLEASE NOTE:
If your project has been revised and now involves paying research participants or the procedures for paying participants has been changed, it is recommended to contact Carla Shaffer, ORI Program Coordinator at (702) 895-2794 to ensure compliance with subject payment policy.

Should there be any change to the protocol, it will be necessary to submit a Modification Form through ORI - Human Subjects. No changes may be made to the existing protocol until modifications have been approved.

ALL UNANTICIPATED PROBLEMS involving risk to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NONCOMPLIANCE issues or COMPLAINTS regarding this protocol must be reported promptly to this office.
REFERENCES CITED


CIRRICULUM VITAE

Prevention Research Center for Family & Child Health
University of Colorado Dept. of Pediatrics, Mail Stop 8410
13121 E. 17th Ave, Room 5318
Aurora, CO 80045
Carol.francoc@ucdenver.edu

EDUCATION

University of Nevada, Las Vegas
Master of Arts, Anthropology
Concentration in Biological Anthropology
May 2018

University of Nevada, Las Vegas
Bachelor of Arts, Anthropology
Aug 2013

University of Nevada, Las Vegas
Bachelor of Arts, Psychology; Anthropology Minor
Dec 2010

RELEVANT PROFESSIONAL HISTORY

Prevention Research Center for Family & Child Health
Department of Pediatrics
University of Colorado Anschutz Medical Campus
Professional Research Assistant
Collect and analyze qualitative and quantitative data related to the Nurse-Family Partnership program; nurse home-visiting programs; piloting, innovations, and program implementation
Microsoft Office Suite, NVivo, SPSS, Stata, RedCap
Sep 2017 – Present

Nevada Institute for Children’s Research & Policy
School of Community Health Sciences
University of Nevada, Las Vegas
Research Assistant
Clark County Child Death Review coordinator & data analyst; Baby Safe Sleep Program data analyst; Choose Your Partner Carefully Campaign focus group assistant and data analyst
Aug 2014 – Sep 2017

Office of Undergraduate Research
University of Nevada, Las Vegas
Special Appointment
Grant writer, data management: NIH NIGMS Research Education Grant: Initiative for Maximizing Student Development Program
Dec 2016 – Jan 2017
MoneyTree, Inc.  
Las Vegas, NV  
Jun 2007 – Aug 2014  
Vault supervisor, new team member mentor/trainer

Desert Behavioral Health  
Las Vegas, NV  
Jun 2013 – Jan 2014  
Qualified Mental Health Associate (QMHA)  
Psychosocial Rehabilitation, Basic Skills Training

RESEARCH INTERESTS & RELEVANT PROFESSIONAL SKILLS

Evolutionary and cross-cultural perspectives on human behavior, single parenthood, child abuse & neglect, maternal & child health

Data collection, qualitative & quantitative research methods, ethnographic research methods, focus groups, data management, literature reviews, survey preparation & administration, manuscript preparation for publication, report writing, professional & academic presentations, grant writing, parametric and non-parametric statistical tests

SPSS, R, Stata, Nvivo, Microsoft Office Suite, Qualtrics, Surveymonkey, RedCap

PUBLICATIONS & PRESENTATIONS


AFFILIATIONS

- Human Behavior & Evolution Society
- American Anthropological Association
  - Evolutionary Anthropology Society
  - Biological Anthropology Section
- The International Society for Evolution, Medicine & Public Health
- Society for the Scientific Study of Sexuality
- Society for Cross Cultural Research
- American Association of Physical Anthropologists
- Lambda Alpha National Collegiate Honor Society, Anthropology
- Anthropology Society, UNLV
  - Secretary & Social Media, 2015-2016
- Psi Chi International Honor Society, Psychology

PUBLIC SERVICE

| Nevada State Undergraduate Research Journal (NSURJ) Nevada System of Higher Education Department of Anthropology, UNLV Las Vegas, NV | Manuscript Reviewer/Referee Open House Lab Assistant Volunteer Instructor |
| --- | --- | --- | --- |
| American Anthropological Association |  |  |  |
| Young Survivor Coalition |  | Volunteer, Fundraising |
| Learning for Life, Ward Elementary School Las Vegas, NV |  | Fall 2011 – Spring 2014 |
|  |  |  |  |