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# Is Short-Term Mating the Maladaptive Result of Insecure Attachment? A Test of Competing Evolutionary Perspectives

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*Different evolutionary perspectives offer competing views on short-term mating and attachment. Some theories argue that short-term mating results from insecure attachment, particularly the maladaptive attachment features of low self-esteem, interpersonal distrust, social avoidance, and emotional instability. Other theories posit that short-term mating is adaptive, having evolved as an ecologically contingent reproductive strategy. In this view, short-term mating has multiple origins—developmental, heritable, and situational—and may not be associated with the maladaptive traits of insecure attachment. Across several different cultures, short-term mating was moderately associated with insecure attachment, and insecure attachment was strongly related to maladaptive personality. However, short-term mating was largely independent of maladaptive personality. In some cases, especially among young men, short-term mating was associated with adaptive personality traits, especially higher self-esteem. It is argued that although insecure romantic attachment is somewhat associated with short-term mating, the causal links between early parent-child attachment and short-term mating are rather limited.*

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**Keywords:** *short-term mating; romantic attachment; personality traits*

Among those who use the principles of evolution to understand human mating, there has been considerable debate over the adaptive value of short-term mating (i.e., brief affairs, one-night stands, etc.). Some theorists postulate that short-term mating can have significant adaptive value (e.g., Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Kenrick, Sadalla, Groth, & Trost, 1990), at times increasing both the quantity and quality of genetic offspring (Birkhead, 2000; Smith, 1984). A growing body of empirical evidence tends to support this view (Baker & Bellis, 1995; Barash & Lipton, 2001; Gangestad & Thornhill, 1997). Indeed, the psychology of short-

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**Author's Note:** Correspondence concerning this article may be addressed to David P. Schmitt, Department of Psychology, Bradley University, Peoria, IL 61625, USA; e-mail: dps@bradley.edu. The author would like to thank the reviewers for their thoughtful suggestions, especially their ideas concerning age and relationship status. The author would also like to thank all the members of the International Sexuality Description Project, including Lidia Alcalay, Pontificia Universidad Católica de Chile, Santiago, Chile; Juri Allik, University of Tartu, Tartu, Estonia; Lara Ault, University of Louisville, USA; Ivars Austers, University of Latvia, Riga, Latvia; Kevin L. Bennett, University of New Mexico, USA; Gabriel Bianchi, Slovak Academy of Sciences, Bratislava, Slovak Republic; Fredric Boholst, University of San Carlos, Cebu City, Philippines; Mary Ann Borg Cunene, University of Malta, Msida, Malta; Johan Braeckman, Ghent University, Ghent, Belgium; Edwin G. Brainerd Jr., Clemson University, USA; Leo Gerard A. Caral, University of San Carlos, Cebu City, Philippines; Gabrielle Caron, Université Laval, Québec, Québec, Canada; Maria Martina Casullo, University of Buenos Aires, Buenos Aires, Argentina; Michael Cunningham, University of Louisville, USA; Ikuo Daibo, Osaka University, Osaka, Japan; Charlotte De Backer, Ghent University, Ghent, Belgium; Eros De Souza, Illinois State University, USA; Rolando Diaz-Loving, National Autonomous University of Mexico, Mexico City, Mexico; Gláucia Diniz, University of Brasilia, Brasilia, Brazil; Kevin Durkin, The University of Western Australia, Crawley, Australia; Marcela Echeagaray, University of Lima, Lima, Peru; Ekin Eremsoy, Bogaziçi Üniversitesi, Istanbul, Turkey; Harald A. Euler, University of Kassel, Kassel, Germany; Ruth Falzon, University of Malta, Msida, Malta; Maryanne L. Fisher, York University, Toronto, Ontario, Canada; Dolores Foley, University of Queensland, Brisbane, Australia; Douglas P. Fry, Åbo Akademi University, Turku, Finland; Sirpa Fry, Åbo Akademi University, Turku, Finland; M. Arif Ghayur, Al-Akhawayn University, Ifrane, Morocco; Vijai N. Giri, Indian Institute of Technology, Kharagpur, India; Debra L. Golden, University of Hawaii-Manoa, USA; Karl Grammer, Ludwig-Boltzmann-Institute for Urban Ethology, Vienna, Austria; Liria Grimaldi, University of Catania, Catania, Italy; Jamin Halberstadt, University of Otago, Dunedin, New Zealand; Shamsul Haque, University of Dakah, Dakah, Bangladesh; Dora Herrera, University of Lima, Lima, Peru; Janine Hertel, Technische Universität Chemnitz, Chemnitz, Germany; Heather Hoffmann, Knox College, USA; Danica Hooper, University of Queensland, Brisbane, Australia; Zuzana Hradilekova, Comenius University, Bratislava, Slovak Republic; Jasna Hudek-Kene-evi, University of Rijeka, Rijeka, Croatia; Jas Jaafar, University of Malaya, Kuala Lumpur, Malaysia; Margarita Jankauskaite, Vilnius University, Vilnius,

*PSPB*, Vol. XX No. X, Month 2005 1-23

DOI: 10.1177/0146167204271843

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Brussel, Brussels, Belgium; Ine Vanwesenbeeck, Netherlands Institute of Social Sexological Research, Utrecht, the Netherlands; Paul L. Vasey, University of Lethbridge, Lethbridge, Alberta, Canada; João Verissimo, University of Lisbon, Lisbon, Portugal; Martin Voracek, University of Vienna Medical School, Vienna, Austria; Wendy W. N. Wan, University of Hong Kong, Hong Kong; Ta-Wei Wang, Yuan Ze University, Chung-Li, Taiwan; Peter Weiss, Charles University, Prague, Czech Republic; Andik Wijaya, Couple Clinic Indonesia, Surabaya, Indonesia; Liesbeth Woertman, Utrecht University, Utrecht, the Netherlands; Gahyun Youn, Chonnam National University, Kwangju, Republic of Korea; Agata Zupanèè, University of Ljubljana, Ljubljana, Slovenia. The author also thanks Susan Sprecher (USA), Del Paulhus (Canada), Glenn D. Wilson (England), Qazi Rahman (England), Alois Angleitner (Germany), Angelika Hofhansl (Austria), Mircea Miclea (Romania), Tamio Imagawa (Japan), Minoru Wada (Japan), Junichi Taniguchi (Japan), and Yuji Kanemasa (Japan) for their help with data collection and for contributing significantly to the samples used in this study.

term mating displays many of the classic hallmarks of human adaptation (Greiling & Buss, 2000; Symons, 1979), including the possession of "special design" features (see Thornhill, 1997).

One such design feature is that short-term mating functions particularly well in a distinct subset of reproductive environments (Burton, 1990; Draper & Harpending, 1982). For example, short-term mating tendencies have been functionally linked to environmental levels of pathogens (Gangestad & Buss, 1993), operational sex ratios (Barber, 2000; Lancaster, 1989), self-perceived mate value (Landolt, Lalumiere, & Quinsey, 1995), partner-related attributes (Simpson & Gangestad, 1992), mate value discrepancies (Buss, 1994), the presence of stepfathers (Ellis, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1999), and other ecological factors (e.g., Belsky, Steinberg, & Draper, 1991; Gangestad & Simpson, 1990). According to these evolutionary perspectives, those who seek out brief sexual relationships may be adaptively pursuing environmentally contingent reproductive strategies (Gangestad & Simpson, 2000; Low, 2000).

Other evolutionary theorists disagree with the suggestion that short-term mating is a conditional design feature of human nature and argue instead that humans have solely evolved to be lifelong monogamists (e.g., Lovejoy, 1981). Recent accounts of this perspective have asserted that the human attachment system is specifically designed to foster the desire and pursuit of long-term monogamous relationships (Hazan & Zeifman, 1999). Deviations from a monogamous mating psychology, including short-term sexual desires and promiscuous mating behaviors, represent developmental dysfunction or maladaptation of the attachment system:

It seems that a propensity to spend more of one's time seeking short-term relationships rather than long-term ones may have been a "fallout" of a failure to interface

with human's adapted for social environment (e.g., responsive paternal and maternal caregivers). (Miller & Fishkin, 1997, p. 228)

According to these evolutionary perspectives on short-term mating, those who seek brief sexual relationships failed to develop a "secure" form of attachment with their primary caregiver, a form of attachment that normally translates into long-term monogamy in adulthood (Hazan & Zeifman, 1999). Men and women alike are seen as exclusively designed for long-term pair bonding: "Our current biological design—rooted in our Pleistocene gatherer-hunter roots—strongly favors relatively enduring relationships and few sex differences in mating strategies" (Miller & Fishkin, 1997, p. 197). Promiscuity or infidelity by either gender, in this view, would have deleterious effects on survival and reproduction and is seen as maladaptively resulting from a developmental history of unstable parent-child relations (Zeifman & Hazan, 1997).

#### *Short-Term Mating as Maladaptive*

It is not uncommon for different evolutionary perspectives to clash when trying to explain a complex human behavior (Alcock, 2001; Holcomb, 1998). In the case of short-term mating, it has been especially difficult to determine which among these competing evolutionary-theoretical perspectives is more likely to be correct (Kirkpatrick, 1998). A good deal of evidence suggests that humans are, at least in part, a monogamous species. For example, the immaturity of human infants and the corresponding need for paternal investment suggest that monogamous two-parent families were a common feature of our ancestral past (see Hazan & Zeifman, 1999). Certain aspects of human physiology (e.g., concealed ovulation) may also hint that long-term bonds played a role in human evolution (cf. Møller, 1988; Parker, 1987). If humans are naturally monogamous, it seems reasonable to expect that the highly evolved human attachment system would play a pivotal role in the normative development of long-term mating tendencies. As Bowlby (1980) noted, "the way in which an individual's attachment behaviour becomes organized within his personality turns the affectional bonds he makes during his life" (p. 41).

Childhood disruptions to the attachment process (i.e., not developing a secure attachment style) seem to have negative implications for adult personality traits. For example, children who fail to develop secure attachment styles suffer from many types of personality problems including lower sociability, poorer peer relations, more symptoms of anger, and poorer behavioral self-control (Greenberg, 1999). These early attachment troubles presumably have residual effects, leading to

maladaptive personality traits in adulthood. Those who possess insecure attachment styles as adults are at higher risk for a broad range of relationship-related psychopathology, including affective, antisocial, and borderline personality disorders (for a review, see Dozier, Stovall, & Albus, 1999).

Theoretically, a primary causal origin of these maladaptive personality traits is that early in life, due to unresponsive, abusive, or inconsistent caregiving, insecure children develop a negative sense of themselves and a negative sense of others (Bartholomew, 1990). In line with the ethological model of attachment originally proposed by Bowlby (1969/1982), these negative internal working models persist as influential cognitive structures that cause a relatively permanent lack of self-worth (and anxiety about abandonment), avoidance of proximity seeking (and social isolation), and other emotional insecurities associated with maladaptive personality: "Attachment theory explains the differential development of resilient and mentally healthy personalities, and also of personalities prone to anxiety and depression, or to developing a false self or some other form of vulnerability to mental ill-health" (Bowlby, 1988, p. 132).

Eventually, these maladaptive personality traits may spill over into mating behavior by affecting interpersonal trust, intimacy, bonding, and closeness within romantic relationships (Ainsworth, 1991; Collins & Read, 1990; Simpson, Rholes, & Nelligan, 1992). Variation in parent-child attachment, therefore, is thought to contribute to adult personality in ways that deeply affect mating relationships (Simpson, 1999). Indeed, among modern social psychologists, the attachment system is seen as pivotal in the formation, maintenance, and healthy functioning of romantic relationships (Feeney, 1999).

Considerable evidence suggests that short-term mating is somehow involved in this web of insecure attachment and maladaptive personality traits (Gentzler & Kerns, 2004). For instance, children who possess secure attachment styles seem to mature into monogamous adults (Hazan & Zeifman, 1999), whereas insecure parent-child attachment relationships are "a common precursor of adult sexual deviance" (Zeifman & Hazan, 1997, p. 255). Insecure attachment styles—rooted in the maladaptive traits of low self-worth, interpersonal distrust, social avoidance, and emotional instability—have been linked to some of the defining features of short-term mating such as engaging in one-night stands, having larger numbers of sex partners, and possessing more accepting attitudes toward casual sex (Brennan & Shaver, 1995; Cooper, Shaver, & Collins, 1998; Feeney, Noller, & Patty, 1993; Gentzler & Kerns, 2004).

The many pieces of attachment evidence can be summarized as the following: (1) insecure *parent-child* attach-



ment leads to maladaptive personality traits (i.e., low self-worth, interpersonal distrust, social avoidance, and emotional instability); (2) maladaptive personality traits emerge within adult mating relationships as insecure *romantic* attachment; (3) insecure romantic attachment is associated with features of short-term mating (such as acceptance of casual sex); therefore, (4) short-term mating is a result of maladaptive personality traits. The most basic assumption of this maladaptive short-term mating perspective, then, is that dysfunctional parental relations early in life produce a maladaptive personality framework based on negative models of self (i.e., anxiety) and other (i.e., avoidance), a framework that profoundly affects later functioning in adult romantic contexts.

The negative internal models of self and other can be combined to create three types of insecure romantic attachment, each with its own distinctive pattern of maladaptive personality (Bartholomew & Horowitz, 1991). For example, those with a negative sense of themselves and a negative view of others can be described as having a “fearful” romantic attachment style. Fearful individuals tend to have low self-esteem, low interpersonal trust, low sociability, and low emotional stability (Bartholomew & Horowitz, 1991). Those with a negative sense of themselves and a positive view of others can be described as having a “preoccupied” romantic attachment style. Preoccupied individuals tend to have low self-esteem and low emotional stability but are not necessarily untrusting or asocial (Bartholomew & Horowitz, 1991). Those with a positive sense of themselves and a negative view of others can be described as having a “dismissing” romantic attachment style. Dismissing individuals tend to have low interpersonal trust and low sociability (Bartholomew & Horowitz, 1991) but are not especially low on self-esteem or emotional stability. These three insecure romantic attachment styles are viewed from the maladaptive short-term mating perspective as important sources of the desire for short-term sex and the dysfunctional pursuit of unrestricted sociosexual behaviors (for a more complete review of the theoretical links between attachment and human mating strategies, see Kirkpatrick, 1998).

#### *Short-Term Mating as Adaptive*

During the past decade, some evolutionary theorists have taken a different perspective on the same landscape of attachment evidence and have postulated, in contrast, that insecure attachment and short-term mating seem intertwined because they constitute a viable alternative to long-term mating as a reproductive strategy (Belsky, 1997; Chisholm, 1996). In this view, the desire for brief, short-term mateships is not a maladaptive failure of our normally monogamous attachment system. Rather, humans evolved with a conditional attachment system

that produces different adult mating strategies depending upon environmental contexts. Some parent-child environments may yield secure attachments that develop into long-term pair-bonding in adulthood. Other early environments may lead to insecure attachments that adaptively produce short-term mating tendencies in adulthood.

Theoretically, individuals can take either the secure and long-term or the insecure and short-term path. The developmental trajectory that is followed heavily depends on the functional clues that early environments provide about future reproductive environments. For example, the path that leads from insecure attachment to short-term mating may be tailored so that early parent-child instability portends a high mortality adult environment: “Attachment organization might have become a crude index of local mortality rates and thereby also have assumed the ‘switch’ function for entraining the development of alternative reproductive strategies” (Chisholm, 1999, p. 126). Other environmental factors that may trigger an adaptive shift to insecure attachment and short-term mating include high stress, inadequate resources, and low paternal reliability (Belsky et al., 1991; Ellis & Garber, 2000). These childhood experiences may adaptively channel people to develop uncertain and distrustful attitudes toward the reliability of future mateships—attitudes that in some ancestral conditions led to higher rates of reproductive success. Belsky (1999) has speculated that many insecure attachment styles “can be expected to be short-term in nature, and . . . may foster early and frequent conceptions (or at least would have done so in some EEAs [environments of evolutionary adaptedness])” (p. 155).

Thus, insecure attachment styles may contribute to short-term mating in adulthood, but this form of human mating may have been adaptive on occasion in our ancestral past. In this adaptive short-term mating view, short-term mating may be rooted in feelings of distrust and uncertainty concerning the reliability of future romantic relationships, but this emotional base has adaptive advantages in some reproductive cultures (Keller, 1990; Lancaster, 1989). Unfortunately, it has proven difficult to empirically contrast this perspective with the maladaptive short-term mating view, in part because fully differentiating insecure romantic attachment from short-term mating is problematic. Both constructs contain similar defining features (i.e., both involve romantic relationships that are brief, numerous, and have low emotional investment; see Kirkpatrick, 1998).

#### *Short-Term Mating as Adaptive With Multiple Origins*

Other evolutionary theorists have concurred that short-term mating can have adaptive value and is not

always a form of maladaptation, but argue further that short-term mating is probably determined by more than unstable childhood experiences (e.g., Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Schmitt, Shackelford, Duntely, Tooke, & Buss, 2001). These multiple-origins theorists postulate that some of the environmental features associated with insecure parent-child attachment possibly contribute to the development of adaptive short-term mating tendencies through interpersonal distrust but do so alongside other ecological factors such as the local pathogen prevalence, operational sex ratio, and relative mate value (Gangestad & Simpson, 2000; Schmitt, in press). For example, Buss and Schmitt (1993, p. 229) have noted that historically, men of high mate value (i.e., high status and esteem) often engage in promiscuous or unfaithful mating strategies, “whether in the form of multiple wives, concubines, mistresses, or brief sexual encounters” that would have had clear reproductive advantages (see also Betzig, 1986). It is generally not assumed by multiple-origins theorists that all of the enduring maladaptive personality traits that undergird insecure attachment must play the pivotal role in motivating short-term sexual desires and behaviors. Instead, a host of causes—including other developmental, heritable, and situational factors—are likely at work in determining the mating strategies of individuals (Low, 2000). Indeed, some findings indicate that although insecure romantic attachment and short-term mating covary, this covariance may result from third-variable causes.

For example, pheromonal features of early childhood environments, such as the presence of a stepfather (Ellis et al., 1999), may stimulate early puberty and other physiological changes in children. Early puberty, in turn, could evoke increased interest by the opposite sex (Udry & Campbell, 1994), leading to more desirable opportunities for short-term mating (Buss, 1994) while having secondary negative effects on parent-child relationships (Ellis et al., 1999). Insecure parent-child relationships may turn out to have little causal connection to short-term mating. Instead, early puberty may be a third-variable origin of both short-term mating and insecure attachment. One limitation of this particular explanation is that early puberty may itself result from cultural stress and low paternal investment. Thus, early puberty could be a mechanism by which early childhood environments control later adult mating strategies (Belsky, 1999).

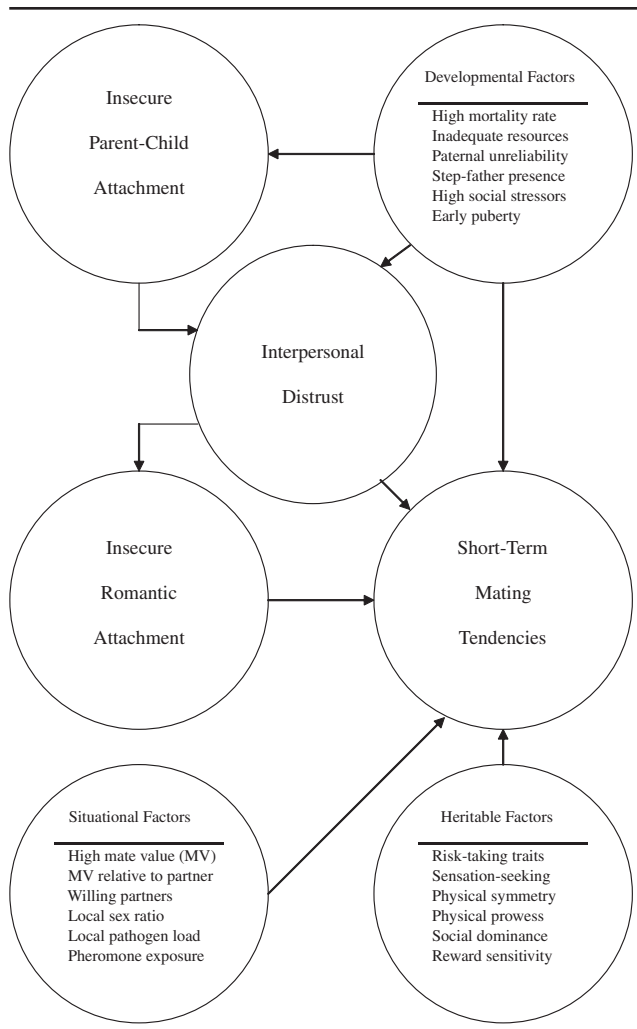
Still, situational exposure in adulthood to certain opposite-sex pheromones, such as ovulating women’s scent (Gangestad & Thornhill, 1997), could also foster a short-term mating psychology, as could a person’s age (Schmitt et al., 2003) or gender (Buss & Schmitt, 1993; Schmitt et al., 2001).

Short-term mating desires could alternately be inherited, either indirectly via pheromonal sensitivity or early puberty mechanisms, or more directly through genes related to unrestricted sociosexuality (Dunne et al., 1997; Gangestad & Simpson, 1990), pathogen resistance (Gangestad & Buss, 1993), and/or risk-taking traits associated with the human dopamine-reward system (Zuckerman, 1994). From the multiple-origins perspective, early parent-child emotional troubles and the residual internalizations of low self-worth, social avoidance, and emotional instability may have relatively little bearing on short-term mating in adulthood. Some multiple-origins perspectives have even suggested that short-term mating may be associated with more adaptive personality traits and physical attributes, especially in men: “Some men (especially those advertising such benefits [physical attractiveness and good health]) dedicated more effort to short-term, extra-pair mating tactics” (Gangestad & Simpson, 2000, p. 586).

As displayed in Figure 1, multiple-origins theorists expect that short-term mating results from a complex combination of the developmental environments of early childhood, heritable factors, and situational environments of adulthood, including the relative mate values of individual partners, local pathogen loads, local sex ratios, immediate pheromone exposure, and other as yet unknown strategic considerations (Gangestad & Simpson, 2000; Low, 2000; Schmitt, in press). Of course, some of the heritable causes of short-term mating may also contribute to developmental and situational causes, and vice versa. Of critical importance here is the fact that the multiple-origins view does not postulate that short-term mating results from the broad-based maladaptive personality traits that are consistently linked with insecure parent-child attachment. Short-term mating may be linked to the specific trait of interpersonal distrust, but this distrust is seen as functional in certain reproductive environments (Belsky et al., 1991; Chisholm, 1996). Short-term mating, both general promiscuity and extrapair infidelity, may at times be a functional, ecologically contingent response within the broad repertoire of human mating strategies.

#### *Differential Hypotheses*

One way to directly pit these competing evolutionary perspectives against one another would be to examine whether short-term mating tendencies are strongly related to maladaptive personality traits, particularly those aspects linked to insecure attachment including low self-worth, interpersonal distrust, social avoidance, and emotional instability. If the maladaptive short-term mating view is correct and deviations from long-term mating are caused by psychological dysfunction via insecure parent-child attachment, short-term mating should



**Figure 1** Schematic representation of relations among possible causes of short-term mating.

be strongly associated with both insecure romantic attachment and all of the maladaptive personality traits that undergird insecure romantic attachment. Because insecure parent-child attachment is assumed to cause negative models of self and other—a consequence of a species-typical attachment system that has failed to operate normatively—the maladaptive short-term mating perspective clearly predicts that short-term mating should be closely tied to maladaptive personality traits and psychological dysfunction: “Psychopathology is regarded as due to a person’s psychological development having followed a deviant [attachment] pathway” (Bowlby, 1980, p. 41).

In contrast, if short-term mating is a viable alternate strategy influenced by a variety of factors—developmental, heritable, and situational (Gangestad & Simpson, 2000)—then short-term mating may be somewhat correlated with insecure attachment, because the same factors (e.g., early puberty, few resources, high stress) that cause

insecure parent-child attachment might also adaptively contribute to short-term mating. However, short-term mating need not be closely related to all the hypothesized sequelae of insecure parent-child attachment. Short-term mating may be related to certain maladaptive traits (e.g., interpersonal distrust), but only insofar as these traits would be functional in high-stress reproductive situations (Belsky et al., 1991; Chisholm, 1996). Short-term mating should be unrelated to most of the maladaptive traits of insecure attachment and may actually be associated with adaptive personality traits in some contexts (e.g., men with high self-esteem) (Buss & Schmitt, 1993). The romantic relationships of short-term sexual strategists may be temporally brief, but most aspects of their personality should be relatively free from psychological disruption.

#### *Levels of Analysis*

When addressing issues of psychological function and adaptation, it is especially important to keep clear the distinction between proximate functioning and ultimate functioning (e.g., Tinbergen, 1963). In explaining the functions of short-term mating, the maladaptive short-term mating perspective views short-term mating as both proximately and ultimately dysfunctional. That is, short-term mating is both a dysfunction of the attachment system (i.e., it is proximately associated with low self-worth, interpersonal distrust, social avoidance, and emotional instability) and it is assumed that it ultimately leads to low reproductive success, or at least reliably did so in our ancestral past (Miller & Fishkin, 1997). The multiple-origins perspective views short-term as ultimately functional in some contexts (e.g., acquiring sexy son genes for women; Greiling & Buss, 2000; increasing the number of reproductive partners for men; Buss & Schmitt, 1993) and as proximately functional in many contexts (i.e., it is generally unrelated to maladaptive personality traits). The present studies were not designed to address the ultimate functionality of short-term mating. In the current studies, the proximate functioning of short-term mating was addressed by relating short-term mating and adult romantic attachment to measures of maladaptive personality traits and psychopathology.

#### STUDY 1: SHORT-TERM MATING, ROMANTIC ATTACHMENT, AND MALADAPTIVE PERSONALITY TRAITS

##### *Method*

##### *SAMPLES*

The findings reported in this study are from the International Sexuality Description Project (ISDP) (Schmitt et al., 2003, 2004). The ISDP included samples from a total of 56 nations. However, some participants did not receive, or did not fully respond to, all measures relevant

to this study. Specifically, participants from Chile, Cyprus, Jordan, South Africa, Tanzania, India, Indonesia, Bangladesh, and Malaysia were not included in this study. As shown in Table 1, the present data set included 47 nations from the world regions of North America ( $n = 3,525$ ), South America ( $n = 622$ ), western Europe ( $n = 2,323$ ), eastern Europe ( $n = 2,121$ ), southern Europe ( $n = 1,074$ ), Middle East ( $n = 885$ ), Africa ( $n = 800$ ), Oceania ( $n = 804$ ), South/Southeast Asia ( $n = 211$ ), and east Asia ( $n = 1,075$ ).

Most samples consisted of college students; some included college students plus general members of the community, and two (Finland and Mexico) consisted solely of community members (see Table 1). All samples were convenience samples. Most samples were recruited as volunteers, some received course credit for participation, and others received a small monetary reward for their participation. All samples were administered an anonymous self-report survey; most surveys were returned via sealed envelope and/or the usage of a drop box. Return rates for college student samples tended to be relatively high (about 95%), though this number was lower in some cultures. Return rates for community samples were about 50%. Further details on the sampling and assessment procedures within each nation are provided elsewhere (Schmitt et al., 2003, 2004) and are available from the author.

#### PROCEDURE

Participants were provided with a brief description of the study, including the following written instructions:

This questionnaire is entirely voluntary. All your responses will be kept confidential and your personal identity will remain anonymous. No identifying information is requested on this survey, nor will any such information be added later to this survey. If any of the questions make you uncomfortable, feel free not to answer them. You are free to withdraw from this study at any time for any reason. This series of questionnaires should take about 20 minutes to complete. Thank you for your participation.

The full instructional set provided by each collaborator varied, however, and was adapted to fit the specific culture and type of sample. Details on incentives and cover stories used across samples are available from the author.

#### MEASURES

Researchers from cultural regions where English was not the primary language were asked to use a translation/back-translation process and administer the ISDP in their native language. This procedure typically involved the primary collaborator translating the measures into the native language of the participants and then having a second person back-translate the mea-

asures into English. Differences between the original English and the back-translation were discussed, and mutual agreements were made as to the most appropriate translation. This procedure tries to balance the competing needs of making the translation meaningful and naturally readable to the native participants while preserving the integrity of the original measure and its constructs (Brislin, 1980). Samples from Morocco, Ethiopia, Fiji, the Philippines, and Hong Kong were administered the survey in English, but certain terms and phrases were annotated to clarify what were thought to be confusing words for the participants. The translation of the ISDP survey into the Flemish dialect of Dutch used only a translation procedure, as this involved mainly word variant changes from the original Dutch. Finally, pilot studies were conducted in several testing sites, in part to clarify translation and comprehension concerns.

*Demographic measure.* Each sample was first presented with a demographic measure that included questions about gender, age, ethnicity, date of birth, sexual orientation, socioeconomic status, and current relationship status. Not all of these questions were included in all samples (e.g., date of birth was considered too invasive in some cultures), and all collaborators were asked to adapt the demographic questions to obtain the most appropriate demographic variables for their culture (e.g., ethnic categories varied across cultures).

*Short-term mating measures.* The desire and pursuit of short-term mating is not a monolithic construct. Some individuals seek short-term relationships in addition to their long-term, primary relationships (i.e., infidelity) (Wiederman, 1997). Others may seek short-term partners as a primary mode of mating (i.e., promiscuity) (Paul, McManus, & Hayes, 2000). Still others may possess high levels of short-term sexual desire but have not behaviorally engaged in short-term mating. Feeney et al. (1993) found that women with certain forms of insecure attachment report more acceptance of casual sex but engage in less sex than other women, suggesting it can be critical to distinguish between sexual desires and sexual behaviors.

Because of the potential differences between sexual desires and behaviors, short-term tendencies were assessed in this study using multiple measurement modalities. Included first was a seven-item index designed to tap current interest in short-term mating, the Short-Term Mating Interests (STMI) Scale. The first three STMI items are from the Number of Partners measure (Buss & Schmitt, 1993; Schmitt et al., 2003), which asks, using open-ended scales, for the number of sex partners desired across various future time periods. Three of the most commonly analyzed items include the time periods of 1 month, 1 year, and 5 years (Schmitt



**TABLE 1: Sample Sizes, Sampling Type, and Language of Survey Across 47 Nations and 10 World Regions of the International Sexuality Description Project (ISDP)**

<i>World Region</i>	<i>Sample Size</i>		<i>Sample Type</i>	<i>Language</i>
	<i>Men</i>	<i>Women</i>		
North America	1,269	2,256		
Canada	329	618	College students	English/French
Mexico	90	100	Community-based	Spanish
United States of America	850	1,538	College students	English
South America	293	329		
Argentina	107	136	College students	Spanish
Bolivia	66	54	College students	Spanish
Brazil	37	48	College students	Portuguese
Peru	83	91	College students	Spanish
Western Europe	852	1,471		
Austria	167	223	College/community	German
Belgium (Flanders)	129	284	College students	Dutch (Flemish)
Finland	26	67	Community-based	Finnish
France	46	53	College students	French
Germany	218	372	College/community	German
Netherlands	92	111	College students	Dutch
Switzerland	57	94	College students	German
United Kingdom	117	268	College/community	English
Eastern Europe	939	1,182		
Croatia	98	100	College students	Croatian
Czech Republic	72	98	College students	Czech
Estonia	60	84	College students	Estonian
Latvia	75	78	College students	Latvian
Lithuania	39	38	College students	Lithuanian
Poland	210	379	College students	Polish
Romania	97	103	College students	Romanian
Serbia	91	94	College students	Serbian
Slovakia	55	68	College students	Slovak
Slovenia	44	40	College students	Slovenian
Ukraine	98	100	College/community	Ukrainian
Southern Europe	406	668		
Greece	37	153	College students	Greek
Italy	91	108	College/community	Italian
Malta	103	119	College students	English
Portugal	98	131	College students	Portuguese
Spain	77	157	College students	Spanish
Middle East	411	474		
Israel	130	170	College students	Hebrew
Lebanon	102	117	College students	English
Turkey	179	187	College/community	Turkish
Africa	421	379		
Botswana	94	114	College students	English
Congo, Democratic Republic of	86	48	College/community	French
Ethiopia	90	60	College/community	English
Morocco	55	67	College students	English
Zimbabwe	96	90	College students	English
Oceania	341	463		
Australia	176	261	College students	English
Fiji & Pacific Islands	65	50	College/community	English
New Zealand	100	152	College students	English

*(continued)*

et al., 2001, 2003). For the STMI, all values on these three items that were above three were truncated to three to control for extreme values. The next three STMI items are from the Time Known measure (Buss & Schmitt,

1993; Schmitt et al., 2003), which asks the likelihood of consenting to sex with someone viewed as desirable (using a scale of +3 = *definitely yes* to -3 = *definitely not*)



TABLE 1 (continued)

World Region	Sample Size		Sample Type	Language
	Men	Women		
South/Southeast Asia	93	118		
Philippines	93	118	College students	English
East Asia	518	557		
Hong Kong (China)	90	94	College students	English
Japan	125	86	College students	Japanese
Korea, Republic of	189	289	College students	Korean
Taiwan	114	88	College students	Mandarin
Worldwide ISDP sample	5,543	7,898	College/community	25 languages

NOTE: All samples were convenience samples. Further details on sampling methods within each nation are available from the author. Additional samples from Chile, Cyprus, Jordan, South Africa, Tanzania, Bangladesh, India, Indonesia, and Malaysia were included in the ISDP, but participants in those samples were not administered the complete set of measures used in this study.

TABLE 2: Descriptive Statistics and Sex Differences in Short-Term Mating, Romantic Attachment, and Personality Traits

	Men		Women		Sex Difference	
	M	SD	M	SD	t	d
Short-Term Mating Interests ( $\alpha = .79$ )	11.58	7.10	6.79	6.33	36.33***	0.68
Sociosexual Orientation Inventory ( $\alpha = .79$ )	46.92	29.73	27.46	19.59	45.72***	0.75
Relationship Exclusivity ( $\alpha = .77$ )	6.65	1.42	7.39	1.25	-31.26***	-0.54
RQ: Secure attachment	4.37	1.68	4.29	1.68	2.92**	0.05
RQ: Dismissing attachment	3.85	1.78	3.50	1.78	10.98***	0.19
RQ: Preoccupied attachment	3.49	1.82	3.26	1.84	7.16***	0.13
RQ: Fearful attachment	3.29	1.87	3.54	2.01	-7.14***	-0.12
Rosenberg Self-Esteem Scale ( $\alpha = .85$ )	3.12	0.48	3.07	0.48	6.55***	0.11
BFI: Agreeableness ( $\alpha = .71$ )	3.58	0.59	3.68	0.60	-9.83***	-0.17
BFI: Extraversion ( $\alpha = .78$ )	3.32	0.68	3.43	0.73	-8.52***	-0.14
BFI: Neuroticism ( $\alpha = .79$ )	2.78	0.72	3.13	0.75	-26.89***	-0.47

NOTE: RQ = Relationship Questionnaire; BFI = Big Five Inventory. *d* values of 0.20 are considered small, 0.5 are considered moderate, and 0.8 are considered large (Cohen, 1988).

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

after knowing that person for various time intervals. For the STMI, the time periods of 1 month, 1 year, and 5 years were used. Also included in the STMI was the Short-Term Seeking scale (Buss & Schmitt, 1993; Schmitt et al., 2003). This is a single-item 7-point rating scale ranging from 1 ("currently not at all seeking a short-term mate") to 7 ("currently strongly seeking a short-term mate"). All seven items (three from the Number of Partners measure, three from the Time Known measure, and the Short-Term Seeking scale) were added together to form the STMI. Overall, Cronbach's alpha for this STMI was .79 (see Table 2).

A seven-item measure of willingness to have sex without commitment, the Sociosexuality Orientation Inventory (SOI) (Simpson & Gangestad, 1991), was also administered. The first three items of the SOI are intended to capture overt behavioral expressions of short-term mating. Item 1 is, "With how many different partners have you had sex (sexual intercourse) within the past year?" Item 2 is, "How many different partners do you foresee yourself having sex with during the next

five years? (Please give a specific, realistic estimate)." Item 3 is, "With how many different partners have you had sex on one and only one occasion?" Open-ended blanks are provided after each of the first three questions of the SOI. The fourth item was designed to measure covert sociosexual behavior: "How often do (did) you fantasize about having sex with someone other than your current (most recent) dating partner?" This item was followed by an 8-point scale ranging from 1 ("never") to 8 ("at least once a day"). Items 5, 6, and 7 were designed to measure sociosexual attitudes. Item 5 is, "Sex without love is OK." Item 6 is, "I can imagine myself being comfortable and enjoying 'casual' sex with different partners." Item 7 is, "I would have to be closely attached to someone (both emotionally and psychologically) before I could feel comfortable and fully enjoy having sex with him or her." All three attitudinal items were followed by 9-point scales ranging from 1 (*I strongly disagree*) to 9 (*I strongly agree*). Responses to Item 7 are reverse coded so that higher scores indicate more unrestricted sociosexuality. According to Simpson and Gangestad

(1991), Items 5, 6, and 7 are highly correlated and should be merged to form a single attitudinal score. This attitudinal score is then combined with the first four SOI items to form the total SOI composite measure. However, each item of the SOI composite measure is first weighted using the following formula:  $(5 \times \text{Item 1}) + (1 \times \text{Item 2 [with a cap on Item 2 of 30]}) + (5 \times \text{Item 3}) + (4 \times \text{Item 4}) + (2 \times \text{mean of Items 5, 6, and 7}) = \text{total SOI}$ . Again, using this formula produces an SOI composite such that higher scores are associated with unrestricted sociosexuality (i.e., more short-term mating). In this study, Cronbach's alpha for the SOI was .79.

Samples were then administered a measure of the "Sexy Seven" sexuality attributes (Schmitt & Buss, 2000). The Sexy Seven measure asks participants to rate themselves compared to others they know (using a 9-point scale from 1 = *extremely inaccurate* to 9 = *extremely accurate*) on a list of 67 sexually connotative adjectives. The Sexy Seven includes one scale designed to capture short-term mating in the form of infidelity, the Relationship Exclusivity scale (RE). The RE scale contains the following adjectival items: "adulterous" (reverse scored), "devoted," "faithful," "loose" (reverse scored), "monogamous," "polygamous" (reverse scored), "promiscuous" (reverse scored), and "unfaithful" (reverse scored). In this study, the RE scale had a Cronbach's alpha of .77 (see Table 2). Further psychometrics on the RE scale can be found in Schmitt and Buss (2000).

*Romantic attachment measure.* All samples were administered the two-dimension/four-category measure of adult romantic attachment called the Relationship Questionnaire (RQ) (Bartholomew & Horowitz, 1991). This measure of attachment has one single-item secure romantic attachment scale and three single-item insecure romantic attachment scales. Each single-item scale uses a 7-point Likert-type rating format ranging from 1 = *doesn't describe me* to 7 = *very accurately describes me*, with 4 as the midpoint of each scale. This measure of romantic attachment is relatively brief, has been validated in several studies, and has been described as useful for examining the relationship of attachment to external cultural criteria (Bartholomew, 1994; Griffin & Bartholomew, 1994). In addition, although some may consider it a limitation of this study, single-item scales are increasingly being viewed as psychometrically sound alternatives to longer, more redundant multi-item scales (Barrett & Paltiel, 1996). As the key analyses in this study are done on data aggregated at the cultural level rather than on the answers of individual respondents, the loss of reliability resulting from a single-item measure is less problematic. In addition, the RQ is the only measure, among popular measures of attachment, to demonstrate independence from self-deceptive biases (Leak & Parsons, 2001).

*Personality trait measures.* All participants were asked to complete measures related to maladaptive emotional and interpersonal styles. The first was the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965). This scale contains 10 counterbalanced 4-point items ranging from *strongly agree* to *strongly disagree*. The RSES is coded so that higher scores indicate higher levels of global self-esteem. This measure has been validated across several cultures (e.g., Pullmann & Allik, 2000). In this study, Cronbach's alpha for the RSES was .85 (see Table 2).

Participants then completed the Big Five Inventory (BFI) (Benet-Martinez & John, 1998). The BFI has been used effectively across cultures and languages (Benet-Martinez & John, 1998). The measure also contains several scales potentially related to maladaptive personality traits and the internal working models of attachment as outlined by Bartholomew and Horowitz (1991). The first scale is the BFI Agreeableness scale, which is highly related to interpersonal trust (see Graziano & Eisenberg, 1997). In this study, Cronbach's alpha for the BFI Agreeableness scale was .71. The second scale is an Extraversion scale, which is highly related to social avoidance versus sociability (see Watson and Clark, 1997, for a description of extraversion's sociability facets). In this study, Cronbach's alpha for the BFI Extraversion scale was .78. The final scale that provided an index of maladaptive personality traits was emotional stability (vs. Neuroticism). Neuroticism is related to several personality disorders and susceptibilities to disease (Costa & Widiger, 1994; Strack & Lorr, 1994) and is conceptually anchored in high anxiety, depression, and vulnerability to stress—the list of traits nominated by Bowlby (1988, p. 132) as likely consequences of insecure parent-child attachment. In this study, Cronbach's alpha for the BFI Neuroticism scale was .79.

### *Results and Discussion*

Descriptive statistics for all variables can be found in Table 2. Men tended to score higher on all aspects of short-term mating, including moderate to large magnitudes of effect on the STMI ( $d = 0.68$ ), SOI ( $d = 0.75$ ), and RE ( $d = -0.54$ ) scales. These findings replicate those of other investigations (Schmitt & Buss, 2000; Schmitt et al., 2003; Simpson & Gangestad, 1991). Overall, there were small sex differences in romantic attachment, including men's higher scores on secure, dismissing, and preoccupied attachment and women's slightly higher scores on fearful attachment. Men had slightly higher self-esteem, whereas women scored higher on Extraversion and Agreeableness. There was a moderate sex difference on Neuroticism, with women scoring higher ( $d = -0.47$ ). Because of the prevalence of sex differences, all subsequent analyses were conducted within each sex.

**TABLE 3: Is Short-Term Mating Linked to Romantic Attachment Styles in Men and Women Across Cultures?**

World Region	Attachment Style							
	Secure		Dismissing		Preoccupied		Fearful	
	M	W	M	W	M	W	M	W
North America								
Short-Term Mating Interests	-.02	-.04*	.08**	.05*	-.01	.09***	.05*	.07***
Unrestricted Sociosexual Orientation	.01	-.03	.12***	.08***	-.04	.03	.04	.08***
Lack of Relationship Exclusivity	.01	-.03	.12***	.10***	-.04	.06**	.01	.10***
South America								
Short-Term Mating Interests	.11	.21***	.01	.02	.11	-.02	.04	.08
Unrestricted Sociosexual Orientation	.00	.07	.06	-.07	-.09	.01	.05	.00
Lack of Relationship Exclusivity	.06	-.08	.15**	.13**	.01	.11*	.02	.15**
Western Europe								
Short-Term Mating Interests	-.05	-.02	.18***	.11***	-.05	.02	.13***	.06*
Unrestricted Sociosexual Orientation	.01	.02	.16***	.14***	-.07*	.01	.08*	-.03
Lack of Relationship Exclusivity	-.11***	.01	.20***	.16***	.01	.03	.15***	.08***
Eastern Europe								
Short-Term Mating Interests	-.04	-.04	.09**	.09**	.02	.07*	-.03	.05
Unrestricted Sociosexual Orientation	.07*	.04	.12***	.01	-.06*	-.03	-.02	.01
Lack of Relationship Exclusivity	-.02	.02	.17***	.15***	-.03	.00	.03	.04
Southern Europe								
Short-Term Mating Interests	.09*	-.03	.07	.04	.09	.08*	.06	-.02
Unrestricted Sociosexual Orientation	.08	.04	.10*	.09**	-.07	.04	.02	-.01
Lack of Relationship Exclusivity	.12**	.02	.07	.07*	.03	.06	.11*	.05
Middle East								
Short-Term Mating Interests	-.08	.02	.12**	-.05	.13**	-.01	.11*	-.10*
Unrestricted Sociosexual Orientation	.17***	.02	.17***	.10**	-.06	-.03	-.04	-.08
Lack of Relationship Exclusivity	.07	.03	.16***	.07	-.06	.00	-.05	.02
Africa								
Short-Term Mating Interests	.05	-.02	-.04	-.12*	.03	.04	-.08	-.03
Unrestricted Sociosexual Orientation	.04	.09*	.03	-.06	-.06	.01	-.04	-.04
Lack of Relationship Exclusivity	-.06	.07	.05	-.09*	.07	-.02	-.03	-.13**
Oceania								
Short-Term Mating Interests	-.02	.02	.08	.05	-.08	.04	-.13*	.07
Unrestricted Sociosexual Orientation	-.02	-.05	-.04	.04	-.10*	-.01	-.12**	.10**
Lack of Relationship Exclusivity	-.01	-.01	.04	.12**	.05	.02	.08	.17***
South/Southeast Asia								
Short-Term Mating Interests	-.02	-.06	.21	.11	-.26*	.01	-.20	-.08
Unrestricted Sociosexual Orientation	-.05	-.03	.26**	-.01	-.22*	.17*	-.15	-.03
Lack of Relationship Exclusivity	-.06	.15	.13	.09	-.16	.17*	.06	.30***
East Asia								
Short-Term Mating Interests	-.05	-.03	.00	-.04	.16***	.02	.07	.19***
Unrestricted Sociosexual Orientation	-.02	-.04	.05	-.01	.06	.08*	-.02	.08*
Lack of Relationship Exclusivity	-.06	-.10**	.08*	-.05	.02	-.02	.05	.01

NOTE: Reported are partial correlations controlling for the effects of nation within each world region.

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

#### ROMANTIC ATTACHMENT AND SHORT-TERM MATING

To efficiently examine the relationship between adult romantic attachment and short-term mating, national samples within each of the 10 world regions of the ISDP were combined. All correlational analyses within regions represent partial correlations controlling for the effects of individual nation. This was necessary because if a given nation was exceptionally high on two scales, the scales would artificially appear to correlate with one another across combined samples. As seen in Table 3, for both men and women all three indexes of short-term

mating were generally unrelated to the secure form of romantic attachment. Note that the RE scale will be referred to as Lack of RE so that its reported correlations will be displayed in the same direction as the STMI and SOI.

Dismissing romantic attachment was positively correlated with short-term mating in most regions, a finding that replicates previous North American studies (e.g., Brennan & Shaver, 1995; Simpson, 1990). In the North America region of the ISDP, men and women who were dismissing tended to report higher short-term mating interests, expressed more unrestricted sociosexuality,

and lacked relationship exclusivity. This was generally true within both men and women across regions, though in some cases the links failed to reach significance, and occasionally were stronger within men than women. An exception to the positive association between dismissing attachment and short-term mating occurred in Africa, where short-term mating was negatively correlated with dismissing attachment in women. One reason for caution when interpreting the African result is that almost all participants were college students. Unlike many Western cultures, college students may be unrepresentative of many national African populations. The effect of sampling only college students renders these findings tentative until more sophisticated sampling techniques can be employed.

Dismissing attachment is normally associated with interpersonal avoidance (Feeney, 1999), supporting the view that short-term mating stems from a generally negative internal working model of others and a subsequent insecurity about emotional closeness and proximity seeking during times of stress. Dismissing individuals tend to have higher self-esteem (Bartholomew, 1990), implying perhaps that short-term mating will be associated with high self-esteem. However, some attachment theorists have argued that dismissing individuals at an unconscious level feel negatively about themselves, and their conscious report of high self-esteem may be a way of defending a fragile sense of self from potential hurt by others (Klohn & John, 1998). Overall, dismissing romantic attachment displayed the strongest associations with short-term mating.

Preoccupied attachment was positively correlated with short-term mating in women across some regions, but not all. Because preoccupied attachment is rooted in low self-esteem (based on Bartholomew, 1990), a theoretical implication of this finding is that women who desire and engage in short-term mating are low on self-worth and may further exhibit other consequences of insecure parent-child attachment such as interpersonal distrust, social avoidance, and/or emotional instability. The fact that women interested in short-term mating tend to score high on other measures of insecure attachment bolsters this view and is consistent with previous research (e.g., Brennan & Shaver, 1995). Interestingly, men who were preoccupied often tended to score lower on short-term mating indexes. In western Europe, eastern Europe, Oceania, and south/Southeast Asia, men who scored high on preoccupied attachment scored low on sociosexuality. This may suggest that high self-worth is associated with more short-term mating in men, a finding inconsistent with the maladaptive short-term mating perspective.

Finally, fearful romantic attachment (consisting of negative models of self and other) was positively corre-

lated with short-term mating in both men and women, though this result was inconsistent across world regions. In men, fearful attachment was linked to lower short-term mating in Oceania, and in women was linked to lower short-term mating in the Middle East and Africa. However, as predicted by the maladaptive short-term mating perspective, there were positive links between fearful attachment and at least one index of short-term mating in North America, South America, western Europe, southern Europe, the Middle East, Oceania, south/Southeast Asia, and east Asia.

Overall, short-term mating was related to insecure attachment in ways that suggest that people who desire and engage in short-term mating may have a basic lack of self-worth (at least for women), distrust others, avoid social closeness, and possess emotional instability. This basic psychological profile, according to the maladaptive short-term mating perspective, exists because insecure parent-child attachments lead people down a path—through maladaptive personality traits and insecure romantic attachment—to short-term mating. However, as noted earlier, insecure romantic attachments and short-term mating may stem from third variables (e.g., mate value, heritable differences, early puberty). It is possible that the association between insecure romantic attachment and short-term mating is not causal, and that short-term mating, though related to some of the content of measures of adult romantic attachment, is unrelated to most of the maladaptive personality traits caused by insecure parent-child attachment (Dozier et al., 1999; Greenberg, 1999). To address this issue, the correlations between romantic attachment, short-term mating, and maladaptive personality traits were examined.

*ROMANTIC ATTACHMENT, SHORT-TERM MATING, AND MALADAPTIVE PERSONALITY TRAITS*

Table 4 displays the correlations of adult romantic attachment and short-term mating with maladaptive personality traits. As seen down the left side of Table 4, high scores on the secure scale of the RQ were generally related to high self-esteem, high agreeableness (i.e., high trust), high extraversion (i.e., low avoidance), and high emotional stability (i.e., low anxiety) across regions. Thus, secure romantic attachment correlated with indexes of maladaptive personality traits in ways that support the Bartholomew and Horowitz (1991) model of self and other.

Insecure romantic attachments, on the other hand, were positively associated with maladaptive forms of personality. Dismissing individuals had particularly low agreeableness (i.e., low trust) and in some regions also had low extraversion scores (i.e., were socially avoidant). Dismissing attachment was associated with increased



**TABLE 4: Are Attachment Styles and Short-Term Mating Related to Maladaptive Personality Traits Among Men and Women?**

Mental Health	Attachment Style												Short-Term Mating									
	Secure			Dismissing			Preoccupied			Fearful			STMI			SOI			Lack of RE			
	M	W		M	W		M	W		M	W		M	W		M	W		M	W		
Self-esteem	.23***	.26***		.05*	.01		-.29***	-.28***		-.21***	-.29***		-.01	-.04*		.05*	-.03		-.01	-.03		-.11***
North America	.07	.13**		-.03	.03		-.24***	-.26***		-.17**	-.26***		-.03	-.02		.11***	-.06		.02	-.06		-.08
South America	.23***	.27***		-.07*	-.02		-.25***	-.27***		-.28***	-.36***		.07*	.03		.12***	.02		-.03	.10***		-.04*
Western Europe	.15***	.22***		.00	-.03		-.24***	-.22***		-.26***	-.25***		.12***	-.01		.12***	.10***		-.01	.10***		-.05*
Eastern Europe	.15***	.25***		-.02	.01		-.28***	-.24***		-.25***	-.25***		.02	.02		.08*	.07*		.04	.07*		-.03
Southern Europe	.24***	.18***		-.01	.05		-.27***	-.36***		-.21***	-.29***		-.05	.02		.13**	.06		.02	.06		.02
Middle East	.07	.06		-.06	.00		-.14**	-.14**		-.19***	-.13**		-.05	-.05		-.12**	-.17***		-.29***	-.07		-.02
Africa	.22***	.33***		.00	.08*		-.33***	-.34***		-.26***	-.35***		.17***	-.11**		.09*	-.07		-.10*	-.07		-.14***
Oceania	-.11	.18*		.06	.13		-.23**	-.24***		-.15	-.16*		.22*	-.04		.30**	.18*		.07	.18*		-.19**
South/Southeast Asia	.13**	.18***		-.05	.02		-.26***	-.28***		-.24***	-.24***		-.08*	-.13***		.13**	-.04		-.12**	-.04		-.17***
East Asia	Agreeableness																					
North America	.23***	.23***		-.13***	-.13***		-.06***	-.06***		-.22***	-.21***		-.16***	-.13***		-.15***	-.17***		-.18***	-.17***		-.20***
South America	-.01	.07		.03	.06		.04	.04		-.04	-.10*		.05	-.05		-.06	-.08		-.12*	-.08		.07
Western Europe	.15***	.19***		-.18***	-.10***		.01	.01		-.22***	-.19***		-.12***	-.08**		-.12***	-.12***		-.16***	-.12***		-.14***
Eastern Europe	.01	.15***		-.12***	-.16***		.04	-.01		-.10***	-.19***		-.04	-.05		-.12***	-.12***		-.24***	-.12***		-.20***
Southern Europe	.05	.12***		-.13**	-.11**		.02	-.02		-.18***	-.16***		-.17***	-.09*		-.17***	-.21***		-.19***	-.21***		-.20***
Middle East	.13**	.17***		-.20***	-.18***		-.02	.01		-.19***	-.25***		-.15**	-.06		-.17***	-.10**		-.22***	-.10**		-.17***
Africa	.08	-.02		-.10*	.00		-.04	.03		-.18***	-.09*		-.23***	-.08		-.14**	-.14**		-.24***	-.14**		-.10*
Oceania	.21***	.19***		-.02	-.07		.01	-.09*		-.19***	-.19***		.07	-.03		.09	.00		-.35***	.00		-.15*
South/Southeast Asia	-.02	.08		.14	-.07		-.04	-.01		-.22**	-.15*		.07	-.03		.09	.00		-.23***	.00		-.15*
East Asia	.14***	.09*		-.25***	-.16***		.02	-.05		-.18***	-.19***		-.04	-.08*		-.08*	-.19***		-.23***	-.08*		-.23***
Extraversion																						
North America	.26***	.27***		-.06*	-.05**		-.13***	-.10***		-.22***	-.19***		.11***	.06**		.13***	.13***		-.12***	.13***		-.04*
South America	.23***	.16**		-.05	.02		.04	-.15**		-.04	-.16**		.05	.08		.12*	.15**		-.22***	.15**		.04
Western Europe	.25***	.29***		-.11***	-.04		-.11***	-.16***		-.33***	-.32***		-.03	.03		.14***	.12***		.03	.12***		.09***
Eastern Europe	.24***	.31***		-.03	.04		-.12***	-.12***		-.26***	-.27***		.12***	.11***		.20***	.19***		.13***	.19***		.08**
Southern Europe	.14**	.30***		-.02	-.03		-.17***	-.18***		-.21***	-.26***		.01	.01		.12**	.16***		.08	.16***		.16***
Middle East	.27***	.27***		.00	.06		-.18***	-.19***		-.24***	-.24***		.02	.06		.17***	.08*		.16***	.08*		.11**
Africa	.10*	.18***		-.03	-.08		-.11**	.07		-.16***	-.05		.12*	.12*		.07	.09*		.03	.09*		.03
Oceania	.22***	.33***		-.10*	-.04		-.08	-.17***		-.23***	-.28***		.15**	.03		.17***	.17***		.15**	.05		.03
South/Southeast Asia	.08	.23**		.10	.01		-.01	-.09		-.13	-.18*		.14	.05		.29**	.22**		-.06	.22**		.09
East Asia	.15***	.28***		-.09*	.06		-.09*	-.13**		-.16***	-.04		.09*	.09*		.17***	.08*		.02	.08*		.03
Emotional Stability																						
North America	.18***	.19***		.10***	-.11***		-.33***	-.24***		-.21***	-.18***		.00	-.05*		.01	.04*		-.01	.04*		-.06**
South America	-.02	.09*		.05	.10*		-.19***	-.20***		-.09	-.15**		.16**	-.03		.12**	-.03		.09	-.03		.09*
Western Europe	.14***	.21***		.10***	.10***		-.24***	-.24***		-.28***	-.27***		-.01	-.02		.07**	.04		.01	.00		.00
Eastern Europe	.08**	.16***		.09**	.15***		-.16***	-.19***		-.19***	-.18***		.09**	.11***		.07**	.04		.00	.07**		-.06*
Southern Europe	.13**	.16***		.05	.00		-.25***	-.22***		-.28***	-.22***		.02	-.04		.06	-.04		.00	.06		-.05
Middle East	.17***	.09*		.04	.09*		-.28***	-.23***		-.22***	-.22***		-.18***	.06		.02	.03		-.03	.03		.00
Africa	.09*	-.08		-.08	.00		-.15**	-.08		-.21***	-.14**		-.08	-.02		.05	.00		-.19***	.00		-.05
Oceania	.13**	.22***		.13**	.08*		-.25***	-.30***		-.21***	-.31***		.11*	-.10*		.02	-.01		-.04	-.01		.00
South/Southeast Asia	.12	.11		.27**	.30***		-.21*	-.32***		-.18**	-.11		.17	.10		.24**	.01		-.02	.01		-.15
East Asia	.17***	.25***		.17***	.08*		-.25***	-.27***		-.17***	-.12**		-.05	-.05		.03	.01		-.08*	.01		-.01

NOTE: STMI = Short-Term Mating Interest; SOI = Unrestricted Sociosexuality Orientation; RE = Relationship Exclusivity.

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

emotional stability in some cultural regions, though in North America dismissing women were emotionally unstable. Preoccupied individuals tended to have exceptionally low self-esteem across regions, as well as score somewhat low on extraversion and very low on emotional stability. Fearful people had a highly negative personality profile, possessing low self-esteem, low agreeableness, low extraversion, and low emotional stability. These findings provide support for the notion that insecure romantic attachment is caused by maladaptive personality traits, including those rooted in low self-worth, distrust of others, social avoidance, and emotional instability (Shaver & Brennan, 1992).

Contrary to the maladaptive short-term mating perspective, however, short-term mating measures were mostly unrelated to maladaptive personality traits. Indeed, men who were more oriented toward short-term mating often scored *higher* in both self-esteem and extraversion. On the SOI, for example, men who were sociosexually unrestricted (i.e., men whose attitudes and behaviors are oriented toward short-term mating) tended to have higher self-esteem in every region except Africa. Among women, this trend was evident in eastern and southern Europe, though short-term mating was associated with lower self-esteem for women in Africa and south/Southeast Asia. Short-term mating men and women in almost every region were higher on extraversion (i.e., were not socially avoidant) and sometimes had more emotional stability than those uninterested in short-term mating (e.g., men in South America, eastern Europe, Oceania, and south/Southeast Asia; women in North America, South America, and eastern Europe).

The finding that short-term mating was especially associated with higher levels of self-esteem in men may be explained by sex differences in the functioning of self-worth (e.g., Kirkpatrick & Ellis, 2001). Most studies have found that when short-term mating is valued within a social group, those with high self-esteem have more sexual partners (Perlman, 1974). When long-term mating is valued, those with high self-esteem have fewer mating partners (Stratton & Spitzer, 1967; see also Baumeister, 1997). The view that men, on average, may prefer and value short-term mating more than women (Buss & Schmitt, 1993; Schmitt et al., 2003) may explain why men who have high self-esteem desire and engage in more short-term mating than those with low self-esteem. In eastern and southern Europe, women with high self-esteem were more oriented toward short-term mating, suggesting that in those regions women's social groups may value having more sexual partners.

Overall, these findings seem to refute the notion that desiring and pursuing short-term mateships stems from a low sense of self-worth, social avoidance, and/or emo-

tional instability. Contrary to the maladaptive short-term mating perspective (e.g., Miller & Fishkin, 1997; Zeifman & Hazan, 1997), and in support of some multiple-origins perspectives (e.g., Buss & Schmitt, 1993; Gangestad & Simpson, 2000), short-term mating was largely unassociated with maladaptive personality traits. Notably, there was a strong trend among both men and women for short-term mating to be associated with a lack of interpersonal trust (i.e., low agreeableness). The central link between insecure parent-child attachments and short-term mating appears to involve interpersonal distrust, a distrust that may theoretically function as an adaptive response to uncertain reproductive environments of adulthood (Belsky et al., 1991; Chisholm, 1996).

*DOES INSECURE ROMANTIC ATTACHMENT MEDIATE THE LINK BETWEEN MALADAPTIVE PERSONALITY TRAITS AND SHORT-TERM MATING?*

According to the maladaptive short-term mating perspective, unstable and abusive relationships with primary caregivers cause children to possess insecure parent-child attachment styles. These styles are rooted on personality traits of low self-esteem, interpersonal distrust, social avoidance, and emotional instability. These maladaptive traits emerge in adulthood as insecure romantic attachment styles, and insecure romantic attachment is viewed as the key source of short-term mating tendencies in adulthood. If this model is correct, insecure romantic attachment styles should mediate the relationship between maladaptive personality traits and short-term mating.

Baron and Kenny (1986) outlined four steps for establishing a mediational relationship. As applied to this case, the first step is that maladaptive personality traits should be correlated with short-term mating. In almost every way, the maladaptive short-term mating perspective failed this step. However, one maladaptive trait did correlate consistently with short-term mating: low agreeableness (i.e., interpersonal distrust). The second step is to show that maladaptive personality traits are correlated with insecure romantic attachment. For agreeableness, this was primarily true for dismissing romantic attachment. The third step is to show that insecure romantic attachment is related to short-term mating. Again, this was primarily true for dismissing romantic attachment. The fourth step is to examine whether insecure romantic attachment mediates the relationship between maladaptive personality traits and short-term mating. In this case, regressions were performed to examine whether the links between low agreeableness and measures of short-term mating were reduced to zero after controlling for dismissing romantic attachment. Regressions showed that the significant links between agree-

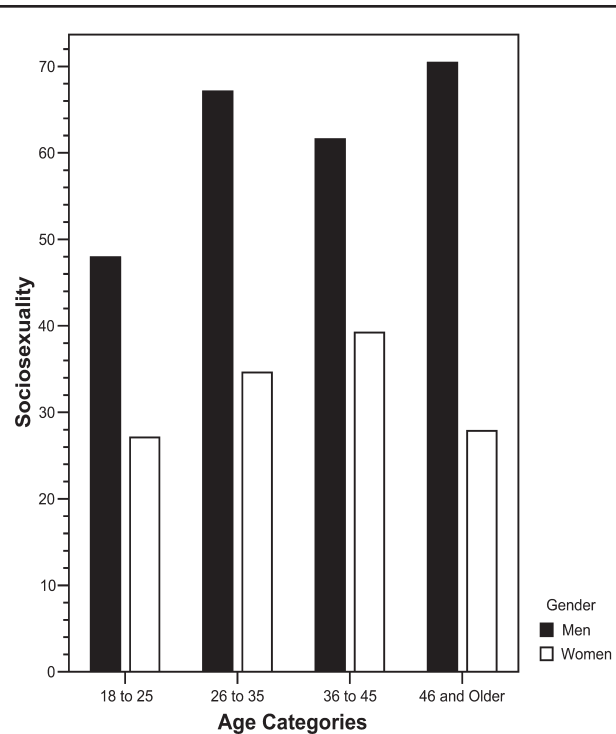
ableness and STMI ( $\beta = -.10, p < .001$ ), SOI ( $\beta = -.13, p < .001$ ), and Lack of RE ( $\beta = -.21, p < .001$ ) were completely unaffected after controlling for dismissing romantic attachment. Consequently, insecure romantic attachment should not be viewed as mediating the links between maladaptive personality traits and short-term mating.

*DO AGE AND RELATIONSHIP STATUS INFLUENCE THE LINKS AMONG ROMANTIC ATTACHMENT, SHORT-TERM MATING, AND MALADAPTIVE PERSONALITY TRAITS?*

A major caveat to the conclusion that short-term mating is largely unrelated to maladaptive personality traits concerns the very limited nature of ISDP sampling. The ISDP samples consisted mainly of college students, most of whom were both young and single. This leaves open the possibility that short-term mating may be associated with a wide range of maladaptive personality traits among older and married individuals. For example, it is possible that short-term mating is adaptive and normative among single college students, and those who fail to experiment with multiple sexual relations while they are young tend to possess maladaptive traits of low self-worth, social avoidance, and emotional instability (see Shedler & Block, 1990, for similar views on drug use). In contrast, short-term mating could take on a different meaning and function once outside of college and engaged in more serious romantic pursuits. Among older and married individuals, therefore, it is possible that short-term mating is much less frequent and is firmly rooted in maladaptive personality traits. To investigate this possibility, the ISDP sample was divided into four age groups (see Table 5), including those who were 18 to 25 (4,507 men, 6,782 women), 26 to 35 (709 men, 726 women), 36 to 45 (173 men, 221 women), and older than 45 (86 men, 120 women). To investigate the effects of relationship status, the ISDP sample was divided into those who were single (1,989 men, 2,317 women), dating one person exclusively (1,658 men, 3,029 women), living together (260 men, 365 women), and married (363 men, 442 women).

As shown in Table 5, regardless of age or relationship status, secure romantic attachment was generally associated with adaptive personality traits (high self-esteem, high agreeableness, high extraversion, and high emotional stability), and the insecure forms of attachment were systematically related to maladaptive personality traits. For example, fearful romantic attachment was consistently related to low self-esteem, low agreeableness, low extraversion, and low emotional stability. All correlations in Table 5 represent partial correlations controlling for individual nation.

The links among short-term mating tendencies and personality traits were somewhat affected by age and



**Figure 2** Gender and age related to sociosexuality.

relationship status. Among men who were young and men who were single, the STMI and SOI positively correlated with self-esteem, extraversion, and emotional stability (see Table 5). This supports the conclusions reached earlier that men who engage in short-term mating do not possess maladaptive personality traits (with the exception of distrust) and may, in fact, possess adaptive traits in certain contexts. Among older men and married men, however, these associations were generally not significant. This suggests that when men move beyond the youthful days of singlehood, short-term mating may cease to be an adaptive enterprise. These findings still lend support for the position that short-term mating can be adaptive, in this case within the specific context of single men who are still in their youth. These findings also refute the view that short-term mating is solely a maladaptive and enduring failure of parent-child attachment in that the functionality of short-term mating shifts across gender, relationship status, and developmental time.

Interestingly, mean levels of short-term mating actually increased as men got older and more involved in serious romantic relationships. For example, as shown in Figure 2, men and women who were older had higher levels of sociosexuality,  $F(3, 10,312) = 22.73, p < .001$ . In addition, as men and women entered into more serious romantic relationships (i.e., moving in together and get-

TABLE 5: Are Attachment Styles and Short-Term Mating Related to Maladaptive Personality Traits Across Different Ages and Relationship Statuses?

Mental Health	Attachment Style						Short-Term Mating								
	Secure		Dismissing		Preoccupied		Fearful		STMI		SOI		Lack of RE		
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	
Self-esteem															
18 to 25	.16***	.24***	.01	.02	-.28***	-.27***	-.22***	-.26***	.08***	-.01	.13***	.02	-.06***	-.11***	
26 to 35	.21***	.18***	-.03	-.04	-.23***	-.24***	-.28***	-.26***	.01	.00	.09***	.00	-.05	-.06	
36 to 45	.20	.08	-.13*	.01	-.21**	-.24***	-.31***	-.28***	.04	-.02	.00	.09	-.02	.02	
46 and older	.12*	.07	.09	.05	-.07	-.17*	-.26***	-.37***	.06	-.15	-.02	-.01	-.04	-.18*	
Single	.19***	.27***	.04*	.06**	-.31***	-.24***	-.23***	-.23***	.11***	.03	.15***	.02	-.05*	-.09***	
Dating one person	.15***	.22***	.01	.03	-.26***	-.28***	-.20***	-.27***	.08**	-.03	.12***	.01	-.07**	-.14***	
Living together	.21***	.23***	-.09	.03	-.19***	-.28***	-.26***	-.22***	.13*	.09	.06	.08	-.14**	.02	
Married	.25***	.08	-.08	-.03	-.17***	-.17***	-.24***	-.30***	.02	.01	-.02	-.04	-.17***	-.09*	
Agreeableness															
18 to 25	.14***	.18***	-.10***	-.09***	.00	-.05***	-.15***	-.16***	-.09***	-.06***	-.11***	-.11***	-.22***	-.20***	
26 to 35	.10**	.19***	-.06*	-.12***	-.01	-.01	-.15***	-.23***	-.13***	-.04	-.16***	-.13***	-.17***	-.18***	
36 to 45	.17*	.08	-.23**	-.04	-.04	-.07	-.19**	-.14*	-.27**	-.10	-.16*	-.23***	-.17*	-.20**	
46 and older	.41***	.21***	-.14	-.10	.03	-.02	-.29**	-.15	-.08	-.01	-.08	-.22**	-.23*	-.27**	
Single	.16***	.21***	-.11***	-.08***	-.03	-.02	-.18***	-.13***	-.09***	-.02	-.09***	-.09***	-.25***	-.24***	
Dating one person	.16***	.19***	-.11***	-.08***	-.04*	-.06***	-.15***	-.19***	-.06**	-.06***	-.14***	-.12***	-.19***	-.18***	
Living together	.04	.20***	-.11*	-.19***	.08	-.02	-.09	-.26***	-.18**	.09	-.08	-.14**	-.14*	-.16***	
Married	.12*	.15***	-.08	-.08	.03	-.04	-.19***	-.17***	-.21***	-.02	-.14**	-.12**	-.11*	-.10*	
Extraversion															
18 to 25	.21***	.28***	-.06***	-.02*	-.13***	-.14***	-.22***	-.22***	.11***	.10***	.17***	.15***	.09***	.06***	
26 to 35	.26***	.20***	-.08*	-.05	-.08*	-.16***	-.28***	-.24***	.04	.06	.18***	.08**	.16***	.08*	
36 to 45	.17*	.23***	.11	.02	-.04	-.12*	-.26***	-.22***	.03	-.06	.12	.14*	.11	.11*	
46 and older	.24*	.28***	.12	.05	-.05	-.06	-.30**	-.21**	.03	-.09	-.10	.20*	-.09	.14	
Single	.21***	.29***	-.04*	-.01	-.17***	-.12***	-.23***	-.19***	.17***	.14***	.20***	.17***	.14***	.06**	
Dating one person	.23***	.29***	-.07**	-.01	-.10***	-.15***	-.22***	-.23***	.06*	.08***	.09***	.12***	.03	.04*	
Living together	.21***	.17***	-.11*	-.05	-.11*	-.11*	-.31***	-.28***	.04	.07	.20***	.17***	.07	.11*	
Married	.25***	.23***	-.10*	-.07	-.01	-.07	-.25***	-.22***	.03	-.03	.04	.09*	-.03	.05	
Emotional stability															
18 to 25	.13***	.17***	.09***	.12***	-.27***	-.23***	-.22***	-.18***	.05***	.00	.07***	.02	-.02	-.03**	
26 to 35	.12***	.12***	.06*	.05	-.16***	-.18***	-.12***	-.22***	-.04	-.03	.04	.08*	-.01	-.02	
36 to 45	.10	.11	.10	.05	-.23***	-.21***	-.20**	-.31***	-.13	-.04	-.10	-.07	-.17*	-.07	
46 and older	.29**	.09	-.02	.16*	-.21*	-.08	-.30**	-.21**	.13	.07	-.23*	-.09	-.34***	-.15	
Single	.14***	.23***	.10***	.14***	-.32***	-.24***	-.23***	-.18***	.06**	.02	.08***	.03	-.02	-.02	
Dating one person	.14***	.13***	.08***	.12***	-.26***	-.23***	-.22***	-.21***	.04	.00	-.05*	.00	-.01	-.04**	
Living together	.17**	.18***	.02	.07	-.10	-.25***	-.14**	-.21**	.06	.01	.01	.00	.03	.05	
Married	.07	.03	.00	.04	-.14**	-.15***	-.13**	-.21**	-.07	.00	-.02	.03	.14**	-.06	

NOTE: STMI = Short-Term Mating Interests; SOI = Unrestricted Sociosexuality Orientation; RE = Relationship Exclusivity.

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



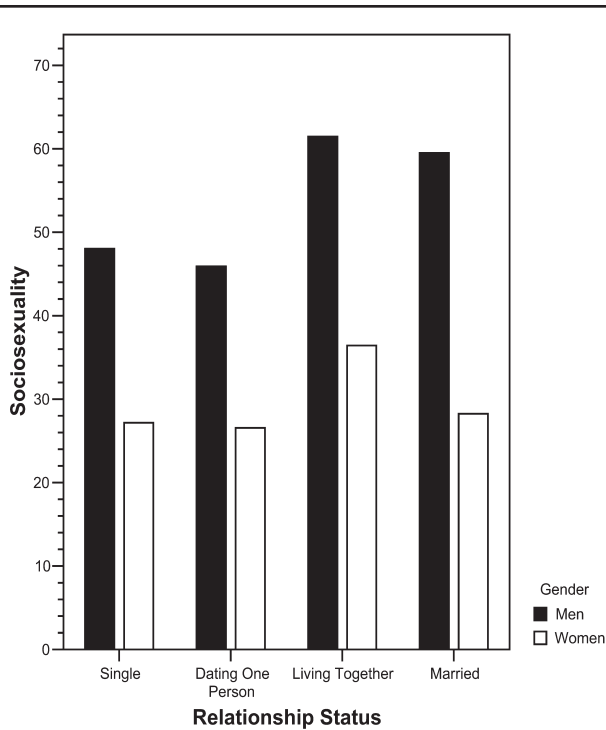


Figure 3 Gender and relationship status related to sociosexuality.

ting married), their sociosexuality increased as well,  $F(3, 10,312) = 16.28, p < .001$  (see Figure 3). This latter effect was especially present among men, showing a significant interaction of sex and relationship status,  $F(3, 10,312) = 4.29, p < .01$ . These findings suggest that men are desiring, thinking about, and engaging in more, not less, short-term mating as they move beyond the youthful days of singlehood. Even so, the many older men who carry through with their short-term desires appear not to possess adaptive personalities. Whether this is because maladaptive personality traits lend themselves to charm and success at short-term mating among older men (Linton & Wiener, 2001; McHoskey, 2001) or whether maladaptive traits remove inhibitions particularly associated with infidelity once married (Schmitt et al., 2004) remains to be investigated.

Among men and women, short-term mating in the specific form of infidelity (i.e., the Lack of RE scale) was consistently linked with low self-esteem, low agreeableness, and to some extent with low emotional stability. Thus, although among young men short-term mating is generally related to adaptive personality traits, and older men engage more short-term mating overall, sexual infidelity at any age is associated with maladaptive personality traits. Of course, this causal association could be such that unfaithful men begin with high self-worth and emotional stability but the act of engaging in adultery leads to

guilt, self-doubt, and depression. Future longitudinal studies will be needed to address this issue.

#### STUDY 2: ROMANTIC ATTACHMENT, SHORT-TERM MATING, AND ADULT PSYCHOPATHOLOGY

The pattern of results from Study 1 revealed that short-term mating is somewhat related to insecure romantic attachment, particularly to the dismissing and fearful forms of attachment insecurity. This seemed to support the maladaptive short-term mating perspective that short-term mating results from insecure parent-child attachment. However, both interests in short-term sex and sociosexually engaging in short-term romances were largely unrelated to the maladaptive personality traits that underlie insecure romantic attachment (except for distrust), and in some cases were linked with positive features of personality (especially among young and single men). These findings would seem to refute the maladaptive short-term mating perspective.

The results of Study 1, however, were based on relatively indirect indexes of maladaptive personality traits. The personality trait scale of Emotional Stability (vs. Neuroticism), for example, contains items associated with interpersonal anxiety and is highly related to personality disorders, but it is not a measure of personality dysfunction per se (Costa & Widiger, 1994). In Study 2, a standardized measure designed to directly assess psychopathological tendencies was used to determine whether short-term mating is associated with clinically low levels of self-worth, interpersonal distrust, social avoidance, and a broad array of attachment-related interpersonal difficulties.

#### Method

##### SAMPLE AND PROCEDURE

The participants in this study were 73 men and 82 women from a midsized private university in Illinois. Participants from this sample took part in the study for extra credit in psychology courses and were primarily 18 to 24, middle class, and European American. All participants were presented with a packet of questionnaires to be completed anonymously.

##### MEASURES

All measures used in Study 1 were used in Study 2. In addition, participants in Study 2 were given a measure specifically designed to assess a broad range of adult psychopathology, including interpersonal forms of psychological dysfunction, the Personality Assessment Screener (PAS) (Morey, 1997). PAS scales and items include the Negative Affect scale ( $\alpha = .50$ ; e.g., "It's often hard for me to enjoy myself because I am worrying about things"), the Suicidal Thinking scale ( $\alpha = .83$ ; e.g., "I have thought about suicide for a long time"), the Social

Withdrawal scale ( $\alpha = .85$ ; e.g., “I make friends easily” [reverse coded]), the Alienation scale ( $\alpha = .44$ ; e.g., “People around me are faithful to me” [reverse coded]), and the Psychotic Features scale ( $\alpha = .81$ ; e.g., “Some people do things to make me look bad”). In all cases, alpha levels were similar to those reported in the literature (Morey, 1997).

### *Results and Discussion*

The relationships between adult romantic attachment and short-term mating that were found in Study 1 were largely replicated in Study 2. Secure attachment was inversely related to short-term mating, whereas insecure attachment styles were associated with higher levels of short-term desire and behavior. Detailed analyses are available from the author.

As seen at the top of Table 6, women with secure romantic attachment tended to possess higher levels of mental health, including less negative affect, less suicidal thinking, less social withdrawal, and less alienation. Oddly, secure women did report slightly more psychotic features. Dismissing men tended to have more social withdrawal and alienation but less suicidal thinking and psychotic features. Dismissing women possessed higher alienation. Preoccupied men and women possessed higher negative affect, and preoccupied men had less suicidal thinking and more social withdrawal. Finally, fearful men had lower social withdrawal and higher alienation, whereas fearful women had higher social withdrawal, alienation, and psychotic features. Overall, these results support the view that insecure romantic attachment is rooted in maladaptive personality traits.

Similar to Study 1, many indexes of short-term mating were unrelated to features of maladaptive personality, and contrary to the maladaptive short-term mating view were sometimes associated with better mental health. For example, in men STMI was associated with lower negative affect and lower suicidal thinking, though it was positively associated with alienation. For men, SOI was linked with lower social withdrawal and higher alienation, and Lack of RE (i.e., infidelity) was associated with lower suicidal thinking and lower psychotic features. These findings contradict the notion that pursuing short-term mating stems from a low sense of self-worth and high anxiety (as indicated by suicidal thinking and negative affect), at least in men. It also confirms the notion that other factors likely play an interactive role in determining desires for short-term sex, one other factor likely being gender (see Schmitt et al., 2001, 2003). Finally, if short-term mating reflects a failure to develop self-worth, this link is strikingly reversed in the current data. Seeking short-term mates was linked with lower social withdrawal—indicating that short-term maters do not pathologically avoid close contact with others.

For women, the only significant links were between SOI and lower social withdrawal and higher psychotic features. These findings provide additional evidence that short-term mating may not be based on the psychological dysfunctions that underlie insecure romantic attachment. The one exception to this was the association of short-term mating with interpersonal distrust via the Alienation and Psychotic Features scales. The Psychotic Features scale, for example, may be related to distrust in others with items such as “Some people do things to make me look bad” and “Some people try to keep me from getting ahead.”

The overall pattern in Study 2 was for short-term mating desires to be unrelated to psychopathology. Among men, however, short-term desires were often related to lower levels of psychopathology. To illustrate this basic trend, the five psychopathology scales indicative of attachment-related dysfunction were summed to form an Overall Psychopathology Index (OPI) ( $\alpha = .76$ ). Responses to the STMI scale were then categorized as low or high using a median split. This resulted in 28 men and 43 women categorized as having low levels of short-term mating interests, and 45 men and 36 women categorized as having high levels of short-term mating interests. Using gender (male vs. female) and the STMI categorical variable to predict the OPI, a significant main effect of short-term mating interest was found,  $F(1, 148) = 6.30, p < .01$ . As shown in Figure 4, it appeared that this interaction was driven by the fact that men who had high desires for short-term mating ( $M = 6.40, SD = 2.82$ ) had much lower overall psychopathology than men who had low interests ( $M = 8.50, SD = 2.86$ ),  $t(71) = 3.07, p < .01, d = 0.73$ . This same effect was somewhat apparent in women ( $d = 0.20$ ), but was not statistically significant. A similar pattern of findings was apparent when relating sociosexuality and relationship exclusivity to overall psychopathology. These findings suggest that men who desire and engage in short-term mating have less, not more, psychopathology.

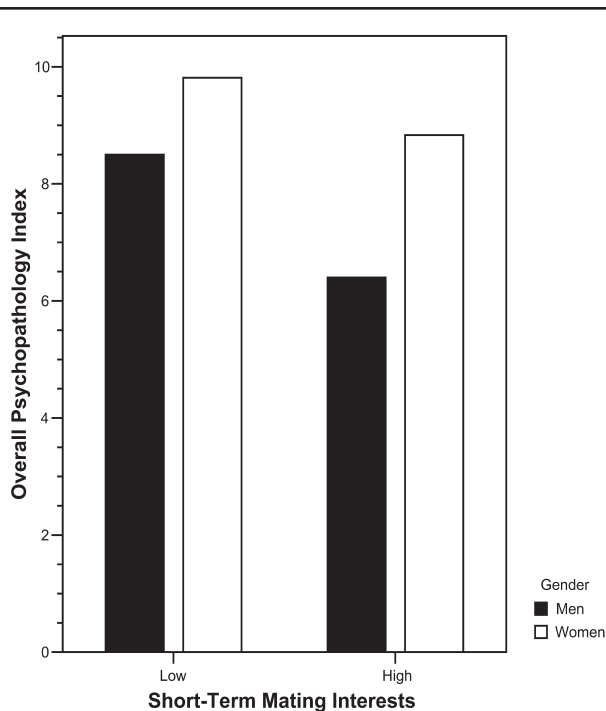
### *General Discussion*

Two basic perspectives on the adaptive value of short-term mating were contrasted in this article. The theory that humans are psychologically designed to mate within exclusive pair-bonds led to the maladaptive short-term mating perspective. Short-term mating is seen in this view as maladaptive residue of failing to develop secure attachments in childhood (Hazan & Zeifman, 1999; Miller & Fishkin, 1997). The multiple-origins perspective, in contrast, postulates that short-term mating evolved as an adaptive alternative within a complex array of mating strategies and that short-term mating may be strategically evoked by many different ecological contingencies, including heritable, developmental, and situa-

**TABLE 6: Are Attachment Styles and Short-Term Mating Similarly Related to Psychopathology?**

Psychopathology Scale	Attachment Style						Short-Term Mating							
	Secure		Dismissing		Preoccupied		Fearful		STMI		SOI		Lack of RE	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Negative Affect	.15	-.52***	.03	-.08	.30**	.23*	-.06	.16	-.22*	-.02	-.03	.13	.00	.05
Suicidal Thinking	-.13	-.41***	-.31**	.01	-.23*	-.02	-.13	.09	-.51***	-.07	.09	.14	-.45***	.15
Social Withdrawal	.18	-.44***	.36***	.05	.29**	-.13	-.22*	.19*	-.12	-.14	-.28**	-.23*	.14	-.16
Alienation	-.02	-.31**	.44***	.23*	.14	.09	.28**	.34***	.33**	.15	.36***	.11	-.19	.00
Psychotic Features	-.07	.18*	-.31**	.15	-.03	.12	-.01	.31**	-.17	.09	-.11	.30**	-.19*	-.07

NOTE: STMI = Short-Term Mating Interest; SOI = Unrestricted Sociosexuality Orientation; RE = Relationship Exclusivity. Results are based on the responses of 73 men and 82 women.  
 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



**Figure 4** Gender and short-term mating interests related to psychopathology.

tional factors (Gangestad & Simpson, 2000). Short-term mating is seen in this view as potentially unrelated to psychological dysfunction (Schmitt et al., 2001) and may be linked to greater mental health in men (Buss & Schmitt, 1993). Across two studies, short-term mating desires and behaviors were mostly unrelated to maladaptive personality traits and psychological dysfunction. When these links reached statistical significance, short-term mating was often associated with adaptive traits and less psychopathology, especially among men.

These research findings make two original and important contributions to the social psychological literature on human mating. First, it helps to resolve a clash between competing evolutionary perspectives on short-term mating. This clash has been especially difficult to resolve previously because short-term mating and insecure romantic attachment are often defined in redundant ways, with overlapping concepts and operationalizations (Kirkpatrick, 1998). By distinguishing between the maladaptive short-term mating and multiple-origins perspectives in a way that allowed for testing of competing hypotheses, this research demonstrated that short-term mating is not the conceptual equivalent of insecure romantic attachment. Moreover, short-term mating is probably not a general failure of the secure attachment system, the developmental residue of low self-esteem, social avoidance, and emotional instability. Instead, short-term mating appears to be influenced

through insecure attachment by means of lowered interpersonal trust—a finding that is consistent with the view that short-term mating adaptively emerges in unstable reproductive environments (Belsky et al., 1991; Chisholm, 1996). This finding may help narrow the focus of future research and theory on the developmental origins of short-term mating.

Second, the confluence of insecure romantic attachment, short-term mating, and maladaptive personality traits was examined together for the first time among diverse samples and cultures. It seems clear in the college students samples of the ISDP that short-term mating is somewhat related to insecure attachment (especially dismissing attachment), and various forms of insecure attachment are differentially related to maladaptive personality traits. However, short-term mating is generally unrelated to maladaptive personality traits, with the exception of interpersonal trust. In some cases, short-term desires and behaviors are associated with adaptive features of personality, such as higher self-esteem in young men. Thus, the link between short-term mating and insecure attachment may not be a causal one based on low self-esteem, social avoidance, and emotional instability.

The evidence from across the current set of studies suggests that overall, those people who desire and engage in short-term mating do not have unfavorable views of themselves, are not less interested on socializing, are not less emotionally stable, and do not possess a greater tendency toward interpersonal psychopathology than do others. It is extremely difficult to reconcile these findings with the view that short-term mating primarily results from the psychological residue of insecure parent-child attachment. To the contrary, the accumulated evidence suggests that at least some short-term mating is linked with higher self-esteem, increased sociality, and an emotionally stable disposition. The finding that short-term mating is linked with lower interpersonal trust supports the view that early experiences play a role in short-term mating but may do so in a specific way—preparing the child for an uncertain and untrusting adult environment (Belsky, 1999; Chisholm, 1996). Alongside additional evidence from behavioral ecology (Westneat, Sherman, & Morton, 1990), primatology (Hrdy, 1981; Parker, 1987; Smuts, 1985), human reproductive biology (Baker & Bellis, 1995; Thornhill & Palmer, 2000), and other psychological studies on the special design features of short-term mating (Gangestad & Thornhill, 1997; Schmitt et al., 2004; Shackelford, LeBlanc, & Drass, 2000), the current studies can be seen as strengthening the claim that short-term mating is a specialized adaptive alternative within the broad repertoire of human reproductive strategies.



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Received November 6, 2003.

Revision accepted September 20, 2004.