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Adult Attachment in a Nationally Representative Sample

Kristin D. Mickelson
Harvard Medical School and Institute for Social Research, University of Michigan

Ronald C. Kessler
Harvard Medical School

Phillip R. Shaver
University of California, Davis

The explosion of adult attachment research in the last decade has been limited by its reliance on college student and distressed samples. Using a large nationally representative sample of American adults, the authors examined the relation of sociodemographics, childhood adversity, parental representations, adult psychopathology, and personality traits to adult attachment in an effort to replicate previous findings and extend the theory. Distribution of adult attachment styles was similar to that in prior studies: 59% secure, 25% avoidant, and 11% anxious. Adult attachment was associated with several sociodemographic variables (e.g., income, age, race) not previously studied. Childhood adversities of an interpersonal nature were strongly related to insecure adult attachment. Various types of adult psychopathologies and personality traits were also strongly related to adult attachment. Implications for adult attachment theory and future research are discussed.

Beginning with Hazan and Shaver (1987; see Shaver & Clark, 1994, and Shaver & Hazan, 1993, for reviews), a number of social psychologists during the past decade have extended Bowlby and Ainsworth's work (Bowlby, 1982; Ainsworth, Blehar, Waters, & Wall, 1978) on infant–caregiver attachment to the study of adult romantic attachment styles. The major premises of this work are that (a) the emotions and relational behavior patterns of adults, like those of infants, are guided by internal working models of self and relationship partners constructed from prior relationship experiences (Bartholomew & Horowitz, 1991; Shaver, Collins, & Clark, 1996) and (b) these models both shape an individual's beliefs about whether the self is worthy of love and whether others can be trusted to provide love and support and also influence the kinds of interactions individuals have with others and their interpretations of these interactions (Bowlby, 1973).

Hazan and Shaver (1987, 1990) based their measure of adult romantic attachment on three patterns, or styles, of behavior identified in infants' relationships with their primary caregivers (usually mothers; see Ainsworth et al., 1978). The three styles are often termed *secure, avoidant,* and *anxious* (or *anxious–ambivalent*). Adults with a secure attachment style are comfortable depending on others and find it easy to get close to others. Those with an avoidant attachment style are uncomfortable being close to others and find it difficult to trust them. Those with an anxious attachment style see others as reluctant to get close, worry that others do not really care about them, and are often viewed by others as clingy.

A number of empirical studies, using Hazan and Shaver's (1987) or other measures of adult attachment, have found that the distribution of adult attachment styles is similar to those found for infants, such that approximately 55% of individuals are classified as secure, 25% as avoidant, and 20% as anxious (see reviews by Shaver & Clark, 1994, and Shaver & Hazan, 1993). Scores of cross-sectional studies have shown that these adult attachment styles are related to a broad array of social psychological variables, including relationship functioning (Brennan & Shaver, 1995), personality (Collins & Read, 1990; Shaver & Brennan, 1992), depression (Carnelley, Pietromonaco, & Jaffe, 1994), social support (Simpson, 1990; Simpson, Rholes, & Nelligan, 1992), religiosity (Kirkpatrick & Shaver, 1990), substance use (Brennan & Shaver, 1995; Senchak & Leonard, 1992), and domestic violence (Dutton, Saunders, Starzomski, & Bartholomew, 1994). Whether attachment styles are

Kristin D. Mickelson, Department of Health Care Policy, Harvard Medical School, and Institute for Social Research, University of Michigan; Ronald C. Kessler, Department of Health Care Policy, Harvard Medical School; Phillip R. Shaver, Department of Psychology, University of California, Davis.

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Correspondence concerning this article should be addressed to Kristin D. Mickelson, Department of Health Care Policy, Harvard Medical School, 180 Longwood Avenue, Boston, Massachusetts 02115. Electronic mail may be sent via the Internet to mickelson@hcp.med.harvard.edu.

causes, consequences, or merely concomitants of these correlated variables is unclear from these largely cross-sectional studies. However, evidence from a smaller number of longitudinal studies shows that attachment styles established early in life can predict later social outcomes in childhood, adolescence, and adulthood (see Rothbard & Shaver, 1994, for a review; and Waters, Merrick, Albersheim, & Treboux, 1995, for a recent longitudinal study spanning 20 years), suggesting that they may play a causal role in relationship processes. Still, whether attachment styles are causal is a matter of considerable debate and will be resolved only with long-term longitudinal or experimental-intervention studies.

Prior to conducting these studies, however, a more basic issue needs to be settled—namely, whether these findings regarding adult attachment can be replicated and extended in the general population. A major limitation of extant research on adult romantic attachment styles is that the vast majority of studies have been based on samples of college students, with the few remaining studies being focused either on volunteers recruited from newspaper ads (Hazan & Shaver, 1987) or distressed adults such as incest survivors (Alexander, 1993) or alcoholics (Joyce, Sellman, Wells, & Frampton, 1994). It is not clear whether the results based on such samples also apply to the general adult population. The purpose of the present article is to address this problem by examining the distribution and correlates of adult attachment styles in a large nationally representative sample of adults. Five broad classes of theoretically relevant correlates were examined: sociodemographic variables, retrospective reports of childhood adversities, retrospective reports of childhood relationships with parents, adult psychopathology, and adult personality traits.

Sociodemographics

Possibly because of sample restriction, previous research has failed to identify important sociodemographic correlates of adult attachment styles. For example, although there is suggestive evidence from a few previous studies that married respondents are more likely than nonmarrieds to report a secure attachment style (e.g., Hazan & Shaver, 1987), most studies have focused on college students (the majority of whom are single) and consequently have not investigated correlations between adult attachment and marital status. Although most college student studies have failed to find sex differences in adult attachment styles (Shaver & Hazan, 1993; Shaver, Papalia, et al., 1996), this might reflect the fact that sex differences in many domains are smaller in samples of college students than in general population samples. Presumably, this finding is due to selection bias coupled with the fact that the roles of men and women are more equal among college students than in the rest of the adult population (Tavris & Wade, 1984). We have been unable to locate any published studies that examined the relation of adult attachment styles to other important sociodemographic variables such as race or socioeconomic status (SES). We do know, however, that children in lower SES homes experience less continuity in their attachments than children in higher SES homes (see review by Shaver & Hazan, 1993), suggesting that lower SES may be related to insecure attachment. Our analyses of these sociodemographic correlates of adult attachment, which are exploratory in nature, are the first to be reported based on a broad sample of American adults.

Childhood Adversity

Given the premise that adult attachment styles are based on earlier interpersonal experiences, it is surprising that little prior research has comprehensively evaluated the extent to which childhood traumas such as sexual abuse, physical violence, or death of a parent are related to insecure romantic attachment. However, a small number of studies have examined the relation of selective traumas to adult romantic attachment. Shaver and Rubenstein (1980), prior to the operationalization of adult attachment styles, found that loss in childhood was linked to adult loneliness. Among women, sexual abuse and incest have been found to be related to anxious attachment in relationships, less willingness to depend on others, and more reluctance to get close to others (Alexander, 1993; Mallinckrodt, McCreary, & Robertson, 1995). Among college students, poor parental marital quality (but not divorce) and parental drinking problems have been found to be related to insecure romantic attachment, especially avoidant attachment (Brennan & Shaver, 1993; Brennan, Shaver, & Tobey, 1991). Finally, it should be noted that researchers using the Adult Attachment Interview (Main, Kaplan, & Cassidy, 1985) have more fully examined the negative consequences of childhood traumas on adult attachment representations (e.g., Cicchetti, Toth, & Lynch, 1995; Lutz & Hock, 1995). These studies have shown that childhood maltreatment of various kinds has significant consequences for adult attachment organization. But the focus of this research tends to be more on how the resolution of these adversities affects future parental caregiving rather than on how the childhood experiences affect adult romantic attachment. In an effort to extend prior research, we examined the relation of a detailed set of retrospectively reported childhood adversities, including separation–loss events, interpersonal traumas, parental psychopathologies, and other nonsocial traumas to the adult attachment styles of our respondents.

Parental Bonding

Adult romantic attachment styles have been shown to relate systematically to mental representations of parents (Bringle & Bagby, 1992; Hazan & Shaver, 1987; Levy, Blatt, & Shaver, 1996; Rothbard & Shaver, 1991). Whereas secure attachment is related to warm, positive representations of parents, avoidant attachment is related to cool and rejecting representations, and anxious attachment is related to a mixture of positive and negative representations. Another common finding is that, among college students, the relationship with one's mother is related more strongly to adult attachment styles than the relationship with one's father—often termed the *maternal strength hypothesis* (Brennan & Shaver, 1993; Levy et al., 1996; Main et al., 1985). To determine whether these previous findings would replicate in a large representative sample, we used a common measure of adults' retrospective representations of relationships with their parents, the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979).

Adult Psychopathology

Although there is a substantial comorbidity between mood and substance abuse disorders (Kessler et al., 1997), there are hints in the attachment literature that mood disorders (with or without substance abuse disorders) may be more related to anxious than to avoidant attachment, whereas substance abuse disorders (with or without mood disorders) may be more related to avoidant than to anxious attachment. However, as with childhood adversity, most prior studies have neglected to search for such patterns. Hazan and Shaver (1990) found that adults with insecure attachments reported more depression and physical symptoms than those with secure attachments. Carnelley et al. (1994) found that mildly depressed women were insecure in their romantic relationships. Furthermore, other studies have found depression to be linked specifically with anxious attachment (Pettem, West, Mahoney, & Keller, 1993; Zuroff & Fitzpatrick, 1995). Patrick, Hobson, Castle, and Howard (1994) found that other disorders are also linked with specific attachment styles: Patients with borderline personality disorder were more likely to have an anxious attachment style, whereas those with dysthymia were more likely to have an avoidant attachment style. With respect to substance abuse disorders, Senchak and Leonard (1992) found that men with an avoidant attachment style were more likely to be heavy drinkers than men with a secure or anxious attachment style. We examined the relation of four categories of disorders: mood, anxiety, substance abuse, and other disorders (schizophrenia, conduct, antisocial) to adult attachment.

Adult Personality Traits

Shaver and Brennan (1992), in a study of the Big Five personality traits, found that, among college students, secure individuals were less neurotic and more extroverted than avoidant and anxious individuals. Secure individuals were also more agreeable than avoidant individuals. Moreover, self-esteem has been found to be higher in securely attached individuals than in insecurely attached individuals (e.g., Collins & Read, 1990; Feeney & Noller, 1990). We assessed neuroticism, extroversion, openness to experience, and self-esteem to see if we could find similar relations to adult attachment style in a representative sample.

Connections between attachment styles and forms of religiosity have been suggested by Kirkpatrick (e.g., 1994). In preliminary studies, secure adults had the highest probability of a secure sense of God, as if models of parents had been extended to include God as a supportive "father," whereas avoidant adults were more likely to be atheists, and anxious adults were more likely to engage in emotional expressions of religiosity, such as speaking in tongues (Kirkpatrick & Shaver, 1990, 1992). We assessed these traits to see whether previous findings would replicate in a representative sample.

Although prior studies have not directly examined the relation of locus of control to adult attachment, such a relation has been suggested. Miller, Lefcourt, Holmes, Ware, and Saley (1986) found that adults with an internal locus of control dealt with marital problems directly (hence, perhaps more securely), whereas Seligman and Schulman (1986) showed that people with an external locus of control quit a job or task sooner after encountering an obstacle than those with an internal locus of control (similar to insecurely attached individuals' higher breakup rates). Thus, we included locus of control in our analyses of personality and adult attachment with the expectation that internal locus of control would be related to secure adult attachment and external locus of control would be related to insecure adult attachment.

To summarize, unlike prior research, our study examined adult attachment in a nationally representative sample of adults. Our purpose was twofold: (a) to see if previous findings, based mainly on college students, would replicate in a large representative sample of adult Americans and (b) to determine whether, when sufficient variation is present, adult attachment styles are related to five major categories of variables, namely, sociodemographics, childhood adversity, adult representations of childhood parental bonding, adult psychopathology, and adult personality. Although our research was primarily exploratory, given the dearth of prior representative studies, it was guided by attachment theory and by previous findings obtained mainly with college samples.

Method

Sample

The data came from the National Comorbidity Survey (NCS; Kessler et al., 1994). The NCS is a nationwide household survey of the U.S. population between ages 15 and 54, designed to produce data on the prevalence and correlates of psychiatric disorders. The sample was based on a stratified, multistage area probability sampling frame of the noninstitutionalized civilian population in the 48 coterminous states, with a supplemental sample of students living in campus group housing. The 8,098 respondents who participated in the NCS were selected using probability methods from 1,205 block-level segments. The segments were created within a stratified sample of small areas in 172 counties in 34 states throughout the United States. The survey was administered face-to-face in the homes of respondents by trained interviewers. The response rate was 82.4%.

Respondents in the 15–24 age range were oversampled compared to older respondents in order to guarantee that the number of respondents in this age range would be roughly equal to the numbers in each of the other age ranges: 25–34, 35–44, and 45–54. These respondents would otherwise have been underrepresented because so many of them live with their parents.[1] The survey also included a supplemental sample of students living in campus group housing because there are approximately two million such students in the United States who would be unrepresented in a more conventional household survey that excluded persons living in institutional housing (U.S. Bureau of the Census, 1991).[2]

[1] The oversampling of 15–24-year-old respondents was carried out in a random 25% of households throughout the entire field period. This fractional oversampling scheme was established on the basis of analysis of household composition data from the U.S. National Health Interview Survey (NHIS; U.S. Department of Health and Human Services, 1992) and was designed to generate a sample with roughly equal numbers of respondents in the four 10-year age ranges 15–24, 25–34, 35–44, and 45–54.

[2] We did not include supplemental samples of other institutional populations (e.g., prisons, hospitals, nursing homes) or of the homeless population both because of the expense of doing so and the fact that these people make up such a small proportion of the total U.S. population in the target age range of the NCS that their inclusion would have no meaningful effect on the total population estimates.

Table 1
NHIS–NCS Part I Demographic Comparisons (N = 8,098)

Variable	U.S. population (NHIS; %)	NCS weighted (%)	NCS unweighted (%)
Sex			
Male	49.1	49.5	47.5
Female	50.9	50.5	52.5
Age (years)			
15–24	25.5	24.7	21.8
25–34	30.8	30.1	32.4
35–44	25.9	27.1	27.7
45–54	17.8	18.1	18.1
Marital status			
Married–cohabiting	59.8	62.9	54.4
Divorced–separated–widowed	10.1	10.0	15.5
Never married	30.1	27.1	30.1
Race			
White	75.0	75.3	75.1
Black	11.9	11.5	12.5
Hispanic	8.6	9.7	9.1
Other	4.5	3.5	3.3
Education (years)			
0–11	22.5	22.3	18.2
12	36.8	37.4	33.1
13–15	21.2	21.7	26.3
≥16	19.5	18.6	22.4
Region			
Midwest	24.6	23.8	25.6
Northeast	20.0	20.2	19.2
West	21.7	19.6	19.6
South	33.7	36.4	35.6
Urbanicity			
Major metropolitan	71.2	67.8	68.9
Other urban	8.1	7.5	6.5
Rural	20.7	24.7	24.6
Total *N*	65,244	8,098	8,098

Note. NHIS = National Health Interview Survey; NCS = National Comorbidity Survey.

The data were weighted to adjust for variation in probabilities of selection across households and within households. The data were poststratified by means of an iterative procedure to approximate the national population distributions of the cross-classification of age, sex, race–ethnicity, marital status, education, living arrangements, region, and urbanicity as defined by the 1989 U.S. NHIS.[3]

To demonstrate the representativeness of the sample, Table 1 reports the distributions of the NCS along a variety of sociodemographic dimensions and compares the distributions with population distributions obtained from the 1989 U.S. NHIS. The NHIS was used as a population comparison rather than the U.S. Bureau of the Census Current Population Survey because it includes a much wider array of sociodemographic variables for purposes of poststratification. The second column in Table 1 reports the adjusted distributions after poststratification, whereas the third column reports the NCS distributions before poststratification. Clearly, our sample is more representative of American adults than any group studied previously by adult attachment researchers.

Procedure

A two-phase sample design was used in the NCS. In the first phase, the Part 1 diagnostic interview was administered to all 8,098 respondents. This interview took an average of 55 min to administer. In the second phase, a Part 2 risk factor interview was administered to a probability subsample of 5,877 respondents consisting of (a) all Part 1 respondents ages 15–24, (b) all older Part 1 respondents who were positive on initial questions in one or more diagnostic sections of the interview (possible cases), and (c) a one-in-six random subsample of all remaining Part 1 respondents. The Part 2 interview took an average of 68 min to administer and, in most cases, was administered during the same interview session, although a separate visit or telephone interview was sometimes required.

Interviewers and Interviewer Training

All interviewers went through a rigorous program of training in general interviewing technique (Guenzel, Berckmans, & Cannell, 1983), a 7-day study-specific training program for the NCS, and periodic refresher courses. Supervisors reviewed and edited all interviews, sending back errors or omissions to interviewers, who recontacted respondents to obtain the necessary information. Supervisors also recontacted a sam-

[3] A nonresponse survey was carried out in which selected nonrespondents were offered a substantial financial incentive to complete a short form of the diagnostic interview. Significantly higher rates of both lifetime and current psychiatric disorders were found among these initial nonrespondents than among respondents in the main survey. The survey data were weighted to compensate for this nonresponse.

ple of respondents throughout the study to verify responses and guarantee high quality interviewer performance.

Measures

Attachment style. Adult attachment style was measured in two related ways: qualitative (categorical) and quantitative (scaled), using Hazan and Shaver's (1987) attachment style measure. Each respondent provided a self-rating on three scales: secure, avoidant, and anxious (see Shaver & Brennan, 1992, for a precedent). The ratings were made on 4-point scales, with 1 = *not at all like me,* 2 = *a little like me,* 3 = *somewhat like me,* and 4 = *a lot like me.* The three scales were significantly correlated: secure was negatively correlated with the two insecure scales (avoidant, $r = -.38$; anxious, $r = -.12$); avoidant and anxious were positively correlated ($r = .27$). These rating scales were used in correlation and regression analyses.

Because a self-categorization of attachment style was not requested in the interview, an inferential qualitative (categorical) style assessment was derived to examine the distribution of attachment by sociodemographic characteristics. Our coding of attachment style was derived as follows. If one of the respondent's three ratings was higher than the other two (i.e., if one was closer to *a lot like me*), he or she was assigned to the corresponding attachment category (secure, avoidant, or anxious, whichever received the uniquely high score). Such an assignment was possible for 6,387 respondents. If, instead, a respondent recorded two relatively high scores that were tied, and one of the high categories was secure, the respondent was assigned to the equally high insecure category, on the assumption that, if anything, the self-ratings might be biased in the secure direction (Brennan, Clark, & Shaver, in press). This coding rule was applied to 1,087 respondents, 721 assigned to the avoidant category and 366 assigned to the anxious category. If a respondent had two relatively high and tied insecure ratings (i.e., if a person's avoidant and anxious ratings were tied and were higher than the secure rating), he or she was assigned to the less common anxious category, in order not to muddy the avoidant category with people who were in fact relatively eager for closeness and intimacy. This coding rule was applied to 242 respondents.[4] Finally, 364 respondents gave the same rating to all three attachment-style descriptions; no attempt was made to assign them to one of Hazan and Shaver's (1987) three categories. These individuals were labeled *unclassified.* Of the 7,716 respondents who could be assigned to an attachment category using the rules just described, only approximately 15% were assigned to a category on the basis of tie-breaking procedures; the other 85% provided one rating that was clearly higher than the other two. Therefore, our tie-breaking procedure did not affect the results very much. Furthermore, as mentioned above, this categorization of attachment styles was used only to examine the distribution of attachment by sociodemographic characteristics; all other analyses were performed on the continuous rating scales.

Sociodemographics. Eight sociodemographic characteristics were assessed: sex, age, marital status, race, income, education, region, and urbanicity. Region refers to the geographic region in which a person lives (Midwest, Northeast, West, South). Urbanicity refers to the size of the population where a person lives (major metropolitan, other urban–suburban, rural).

Childhood adversities. For purposes of the present study, adversities were classified as occurring in childhood if the adverse event was experienced prior to the age of 16 years. We examined four kinds of adversities: separation–loss events, interpersonal traumas, parental psychopathologies, and other nonsocial traumas. Separation–loss events were defined as events in which the individual experienced loss of a parent or child prior to the age of 16 years (death of a parent, parental divorce–separation, long absence (6 months or more) of a parent, childhood miscarriage, childhood abortion). Interpersonal traumas were defined as events in which another person directly harmed the individual: serious assault, physical abuse, serious neglect, threatened with a weapon (which included being kidnapped or held captive), rape, sexual molestation, childhood pregnancy,[5] or the individual witnessed interpersonal trauma between the parents (poor parental marital quality, parents violent to each other). Parental psychopathology refers to an individual's father or mother being reported by the respondent to have suffered from depression, anxiety, substance abuse, suicidal behavior, and/or antisocial behavior during the individual's childhood. The fourth and final category contained adverse events that could not be classified as separation–loss, interpersonal, or parental psychopathology (e.g., financial adversity, life-threatening accident, natural disaster, witnessing a trauma).

The operational definitions of these adversities were based primarily on previously developed instruments. In all cases our goal was to select instruments that were already validated and known to be subject to the least possible recall bias. The majority of the adversities were taken from the Posttraumatic Stress Disorder (PTSD) section of the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan, & Ratcliff, 1981). Rather than use the administration procedure in the DIS, however, a strategy of listing the traumas one by one (used by Resnick, Kilpatrick, & Lipovsky, 1991) was adopted. The traumas also were referred to by number rather than name (e.g., "Did event number five ever happen to you?" rather than "Were you ever raped?") because previous research on sensitive items suggests that this questioning method improves accuracy (Bradburn & Sudman, 1979). Parental divorce–separation, long absence of a parent, and parents' marital quality were based on an expansion of standard Institute for Social Research (ISR) questions concerning childhood living arrangements and similar questions used in the Home Environment Interview (Robins, 1985). Parental violence questions were taken from the Conflict Tactics Scale (Straus, 1979), the most widely used measure of family violence. Measures of parental psychopathology were taken from the Family History Research Diagnostic Criteria interview (Endicott, Andreason, & Spitzer, 1978), a widely used method for obtaining informant reports about the mental health of relatives. Financial adversity during childhood was assessed with a subjective measure asking individuals to rate whether their childhood family's standard of living was better, similar, or worse than those in their community (relative financial adversity). Two objective assessments of a respondent's standard of living during childhood were also included: education and occupation of the individual's major financial supporter during childhood.

Parental bonding. A subset of questions concerning parent–child relationships was taken from the Parental Bonding Instrument (PBI; Parker et al., 1979), a widely used scale that assesses current representations of a respondent's childhood relationship with parents. In the NCS, three dimensions were assessed separately for mother and father: warmth, overprotectiveness, and consistency.

Diagnostic assessment. Diagnostic and Statistical Manual of Mental Disorders (DSM–III–R; American Psychiatric Association, 1987) diagnoses were based on a modified version of the Composite International Diagnostic Interview (CIDI; World Health Organization [WHO],

[4] Analyses using the categorical classifications were also performed without these respondents; the results remained the same, suggesting that the findings were not influenced by our coding decision.

[5] Although we acknowledge that childhood pregnancy is sometimes the result of a consensual sexual relationship, our survey did not distinguish between desired and undesired childhood pregnancy. However, past research has shown that childhood pregnancy is often a negative experience. For example, Beardslee, Zuckerman, Amaro, and McAllister (1988) found that adolescent pregnancy was significantly related to depression, with the rate of depression being approximately twice that found in prior studies of nonpregnant adolescents. In addition, onset for depression occurred most often during pregnancy and continued long after the pregnancy. In general, we believe that childhood pregnancy is reasonably classified as a childhood adversity.

1990a). The CIDI is a structured diagnostic interview developed in a collaborative project between WHO and the Alcohol, Drug Abuse, and Mental Health Administration (Robins, Wing, Wittchen, & Helzer, 1988). The CIDI was developed in modular form to allow researchers to use only a subset of diagnostic sections.[6] WHO field trials of the CIDI have documented excellent interrater reliability (Wittchen et al., 1991), good test–retest reliability (Wacker, Battegay, Mullejans, & Schlosser, 1990), and good validity relating to concordance with clinical diagnoses (Spengler & Wittchen, 1989). The NCS used the sections that yield four groups of diagnoses: mood disorders (major depressive episode, manic episode, dysthymia), anxiety disorders (panic disorder, agoraphobia, social phobia, simple phobia, PTSD, generalized anxiety), psychoactive substance use disorders (alcohol abuse, alcohol dependence, drug abuse, drug dependence), and other disorders (schizophrenia, conduct disorder, antisocial disorder). For a fuller discussion of the diagnostic assessment used in the NCS, see Kessler et al. (1994).

Personality measures. Several personality traits were assessed in the NCS: self-esteem, locus of control, neuroticism, extroversion, openness to experience, and religiosity. Given the enormous scope of the NCS, however, it was not possible to use full measures of these constructs. Instead, short forms of the scales were selected based on data analyses from previous studies designed to select the best subset of items to operationalize an entire scale. A short form of the Rosenberg (1965) self-esteem scale was used (α = .89), as well as short forms of Levenson's (1973) locus of control scales (internal, α = .63; luck, α = .69; powerful others, α = .76) and Goldberg's (1992) neuroticism (α = .89), extroversion (α = .84), and openness to experience (α = .80) scales. All scores on these scales were standardized prior to analysis.

The religiosity measures comprised items used for many years in surveys at the ISR. Christian fundamentalism was operationalized by three dichotomous questions: (a) "Have you been 'born again,' that is, had a turning point in your life when you committed yourself to Jesus Christ?"; (b) "Do you ever try to encourage people to believe in Jesus and accept Him as their Savior?"; (c) "Please tell me whether you agree or disagree with the following statement: 'The Bible is the actual Word of God and is to be taken literally, word for word.' " Responses were summed and standardized to obtain a fundamentalism score (α = .68). Overall religiosity was assessed with four questions: (a) "In general, how important are religious or spiritual beliefs in your daily life (very, somewhat, not very, or not at all)?"; (b) "How often do you usually attend religious services (more than once a week, about once a week, one to three times a month, less than once a month, or never)?"; (c) "When you have problems or difficulties in your family, work, or personal life, how often do you seek spiritual comfort (almost always, often, sometimes, rarely, or never)?"; (d) "When you have decisions to make in your daily life, how often do you ask yourself what God would want you to do (almost always, often, sometimes, rarely, or never)?" Responses were summed and standardized to obtain an overall religiosity score (α = .85), with higher scores indicating greater religiosity.

Analysis Procedures

The data were analyzed using linear and logistic regression analysis with the attachment scales (in the linear models) or classifications (in the logistic models) as the outcome variables. As a result of the complex sample design and weighting, estimates of standard errors were obtained using the method of Jackknife Repeated Replication (Rust, 1985). An SAS macro was used to implement this procedure by computing estimates in each of 42 subsample pseudoreplicates and manipulating these estimates to arrive at design-based standard errors. These estimates take into account both the clustering and weighting in the study's design.

Results

Distribution of Adult Attachment Styles

As shown in the first row of Table 2, 59.0% of the respondents were classified as secure, 25.2% as avoidant, and 11.3% as anxious; 4.5% were unclassified because their three attachment style rating scores were equal. This distribution was found to vary significantly as a function of each of the eight sociodemographic variables included in the remainder of the table. Respondents classified as secure were more likely than other respondents to be female, older, married, white, better educated, and better off financially. Respondents classified as avoidant were more likely than other respondents to be male, in the age range 25–44, married or previously married (as opposed to never married), and to be either Black or "other." Respondents classified as anxious were more likely than other respondents to be young, previously married, Black or Hispanic, less well educated, and less well off financially. No clear pattern of association between attachment styles and region or urbanicity was discernible.

To gain an understanding of how these predictors function jointly in a metric sense (rather than an explained variance sense), we constructed a composite profile of the "security-enhancing" characteristics. Using only respondents who could be classified as secure, avoidant, or anxious (i.e., excluding unclassified respondents), the seven characteristics most strongly associated with the secure attachment category (female, married–cohabiting, age 45 or older, white, 13+ years of education, $20,000+ of income, from the Midwest) were combined into a profile measure in which individuals were assigned a number based on how many of these security-enhancing characteristics they possessed. When the distribution of attachment styles was re-examined using this profile measure, three noteworthy trends were found. First, there was a monotonic increase in the proportion of secures as the number of security-enhancing characteristics increased. Although only half of those with none of the characteristics were classified as secure, close to three-quarters of individuals with five or more characteristics were classified as secure. Second, there was little change in the proportion of avoidants as the number of characteristics increased (none of the characteristics: 20.3%; five or more characteristics: 21.3%). Third, there was a sharp decline in the proportion of anxious respondents as the number of security-enhancing characteristics increased. Approximately 30% of people who did not possess any of the characteristics were classified as anxious compared with only 6% of those who possessed five or more of the characteristics.

Childhood Adversity

The remainder of the analyses were performed on the three attachment rating scales, with the scores standardized prior to

[6] Diagnoses were generated with the CIDI diagnostic program (World Health Organization, 1990b).

Table 2
Distribution of Adult Attachment Types by Sociodemographic Characteristics

Variable	*N*	Secure %	Secure *SE*	Avoidant %	Avoidant *SE*	Anxious %	Anxious *SE*	Unclassified %	Unclassified *SE*	χ^2	*df*	*p*
Total sample	8,080	59.0	1.0	25.2	0.7	11.3	0.6	4.5	0.3			
Sex												
Male	3,997	56.8_b	1.1	27.6_a	1.0	10.8_a	0.7	4.8_a	0.5			
Female	4,083	61.2_a	1.2	22.8_b	0.8	11.7_a	0.7	4.2_a	0.4	28.0	3	.001
Age (years)												
15–24	2,000	58.7_b	1.3	19.8_c	1.3	17.4_a	1.2	4.2_a	0.6			
25–34	2,435	56.9_b	1.5	27.9_a	1.2	10.7_b	0.9	4.6_a	0.6			
35–44	2,189	58.7_b	1.6	28.4_a	1.2	$8.6_{b,c}$	0.8	4.3_a	0.7			
45–54	1,456	63.6_a	1.7	23.3_b	1.5	8.0_c	1.0	5.1_a	0.9	145.5	9	.001
Marital status												
Married–cohabiting	5,077	61.4_a	1.1	26.5_a	0.9	8.1_b	0.6	4.1_b	0.4			
Divorced–separated–widowed	811	48.2_c	2.5	25.7_a	1.7	18.2_a	1.6	7.9_a	1.3			
Never married	2,192	57.6_b	1.2	22.1_b	1.0	16.2_a	0.9	4.2_b	0.6	184.9	6	.001
Race												
White	6,087	$60.8_{a,b}$	1.0	$25.0_{a,b}$	0.8	10.2_b	0.6	$4.1_{b,c}$	0.3			
Black	926	50.8_c	2.9	28.1_a	2.2	16.0_a	1.5	5.2_c	1.1			
Hispanic	783	57.8_b	3.0	21.0_b	2.3	15.3_a	2.1	5.9_c	1.2			
Other	284	$51.9_{b,c}$	3.4	31.5_a	3.8	9.2_b	2.1	$7.4_{a,c}$	2.2	79.2	9	.001
Income ($)												
0–19,999	2,053	49.2_b	1.8	26.6_a	1.2	18.3_a	1.4	6.0_a	0.6			
20,000–34,999	1,985	61.1_a	1.4	24.0_a	1.2	11.0_b	1.0	3.9_b	0.5			
35,000–69,999	2,851	63.0_a	1.2	24.1_a	1.0	8.8_b	0.8	4.1_b	0.5			
≥70,000	1,190	63.0_a	2.3	27.4_a	2.2	5.7_c	0.8	3.9_b	1.1	203.7	9	.001
Education (years)												
0–11	1,802	55.4_c	1.7	21.7_c	1.3	16.9_a	1.4	6.0_a	0.8			
12	3,020	55.0_c	1.5	27.8_a	1.0	11.9_b	1.0	5.4_a	0.6			
13–15	1,756	61.4_b	1.8	$25.7_{a,b}$	1.5	9.9_b	1.1	3.1_b	0.6			
≥16	1,502	68.8_a	1.6	$23.8_{b,c}$	1.5	5.0_c	0.5	2.5_b	0.5	199.1	9	.001
Region												
Midwest	1,632	62.0_a	2.3	23.1_a	1.7	9.7_a	1.5	5.2_a	0.8			
Northeast	1,918	$59.4_{a,b}$	1.2	25.4_a	0.7	12.1_a	1.0	3.1_b	0.7			
West	2,947	57.2_b	1.7	25.6_a	1.2	12.1_a	0.9	5.1_a	0.6			
South	1,582	$58.9_{a,b}$	2.4	26.3_a	1.7	10.3_a	1.1	$4.5_{a,b}$	0.6	28.2	9	.001
Urbanicity												
Major metropolitan	3,647	59.0_a	1.6	25.2_a	1.1	11.9_a	1.0	3.9_b	0.5			
Other urban	2,688	59.8_a	1.7	24.7_a	1.3	10.9_a	1.2	$4.5_{a,b}$	0.5			
Rural	1,744	57.9_a	1.1	25.7_a	1.0	10.6_a	0.7	5.8_a	0.9	12.9	6	.044

Note. Common subscripts in each column block indicate that means do not significantly differ at $p < .05$.

analysis.[7] Linear regressions were performed on each childhood adversity to predict the three attachment ratings. Table 3 reports the metric regression coefficients and corrected standard errors for each adversity and the three attachment scales. The first column reports the proportion of the population who experienced each adversity. For separation–loss events, only one adversity was found to relate significantly to any of the attachment scales: Parental divorce–separation was related negatively to the secure attachment rating and positively to the anxious attachment rating. To test whether parental divorce–separation related differently to the two forms of insecure attachment, the difference between the avoidant and anxious ratings was used as a dependent variable in a regression analysis. The difference between the avoidant and anxious slopes was marginally significant ($p < .10$), such that parental divorce–separation tended to be related more to anxious than to avoidant attachment.

As shown in Table 3, most of the interpersonal traumas were significantly related to the attachment ratings. Physical abuse, serious neglect, being threatened with a weapon, perceiving parents' marital quality as poor, and witnessing violence between parents were all related negatively to the secure rating. All nine interpersonal traumas were related positively to the avoidant rating, and all but serious assault were related positively to the anxious rating. None of the analyses involving the avoidant–anxious difference score were significant. In general, then, the effects in the interpersonal traumas section of Table 3 were mostly due to differences between securely and insecurely

[7] Parallel analyses (i.e., proportions, logistic regressions) were performed on the three attachment categories for each predictor variable. These results are not discussed here; they were similar to those found with the continuous scales, but the linear regression results were stronger and more consistent. Moreover, the continuous ratings more accurately reflect the individuals' self-perceptions as opposed to the constructed categories, which forced individuals into one category if two attachment scores were tied. If interested, readers may obtain tables of the categorical analyses from Kristin Mickelson or from the NCS homepage (see author note).

Table 3
Association Between Adult Attachment Ratings and Childhood Adversities

Adversity	%	*SE*	Secure		Avoidant		Anxious		Avoidant–anxious[a]	
			b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Separation–loss										
Childhood miscarriage	0.36	0.1	−0.01	0.20	0.18	0.18	0.12	0.29	0.05	0.23
Childhood abortion	0.44	0.1	0.25	0.17	0.31	0.31	−0.01	0.26	0.32	0.49
Parental divorce–separation	18.46	0.7	−0.15**	0.05	0.07	0.06	0.18***	0.04	−0.11	0.06
Death of a parent										
Mother	3.35	0.4	−0.01	0.10	0.13	0.11	0.18	0.14	−0.05	0.16
Father	5.86	0.5	0.11	0.10	−0.10	0.08	0.02	0.08	−0.11	0.12
Mother–father[b]			−0.12	0.14	0.22	0.13	0.16	0.15		
Long absence (>6 months)										
Mother	0.50	0.1	−0.24	0.17	−0.05	0.31	0.19	0.31	−0.25	0.20
Father	6.57	0.4	0.10	0.08	−0.08	0.07	0.08	0.07	−0.16	0.07
Mother–father			−0.34*	0.17	0.03	0.32	0.11	0.31		
Interpersonal traumas										
Serious assault	2.27	0.2	−0.18	0.11	0.21*	0.10	0.16	0.09	0.05	0.11
Physical abuse	6.05	0.4	−0.19*	0.08	0.32***	0.07	0.31***	0.06	0.00	0.08
Serious neglect	2.82	0.3	−0.32***	0.08	0.61***	0.11	0.75***	0.09	−0.14	0.12
Threatened with a weapon	3.13	0.3	−0.34***	0.08	0.40***	0.08	0.24**	0.09	0.16	0.09
Rape	1.88	0.2	−0.19	0.12	0.39***	0.11	0.52***	0.13	−0.13	0.14
Sexual molestation	6.24	0.4	−0.03	0.06	0.18**	0.06	0.25**	0.08	−0.08	0.10
Childhood pregnancy	0.66	0.1	−0.19	0.22	0.54**	0.18	0.58**	0.22	−0.04	0.20
Parents' relationship										
Poor marital quality	10.97	0.6	−0.21**	0.07	0.20***	0.06	0.16**	0.06	0.04	0.05
Parents violent to each other	18.76	0.7	−0.19***	0.05	0.29***	0.05	0.33***	0.05	−0.03	0.06
Parental psychopathology										
Depression										
Mother	22.68	1.0	−0.02	0.04	0.20***	0.03	0.10*	0.04	0.10*	0.04
Father	14.44	0.6	−0.03	0.05	0.14**	0.05	0.10*	0.04	0.04	0.07
Mother–father[b]			0.01	0.06	0.06	0.07	−0.00	0.05		
Anxiety										
Mother	17.31	0.9	−0.07	0.04	0.25***	0.04	0.18***	0.04	0.07	0.05
Father	12.26	0.7	0.01	0.06	0.15**	0.05	0.10*	0.05	0.05	0.06
Mother–father			−0.08	0.07	0.11	0.06	0.08	0.05		
Substance abuse										
Mother	6.28	0.5	−0.07	0.07	0.17*	0.07	0.07	0.07	0.09	0.07
Father	18.70	0.9	−0.05	0.04	0.17***	0.05	0.08	0.05	0.09	0.05
Mother–father			−0.02	0.07	−0.00	0.07	−0.00	0.07		
Suicidal behavior										
Mother	3.05	0.3	−0.03	0.09	0.12	0.09	0.26*	0.13	−0.14	0.11
Father	1.57	0.3	0.06	0.14	0.36*	0.17	0.39**	0.14	−0.03	0.27
Mother–father			−0.09	0.16	−0.24	0.20	−0.13	0.18		
Antisocial behavior										
Mother	1.20	0.1	−0.26**	0.11	0.57***	0.15	0.41*	0.17	0.16	0.18
Father	4.84	0.4	−0.24*	0.11	0.14	0.08	0.10	0.09	0.04	0.11
Mother–father			−0.03	0.16	0.43**	0.16	0.31	0.17		
Other traumas										
Life-threatening accident	4.85	0.3	−0.17	0.09	0.12	0.08	0.19*	0.08	−0.07	0.09
Natural disaster	7.35	0.4	−0.04	0.08	0.14*	0.07	0.05	0.04	−0.08	0.10
Witnessing a trauma	7.23	0.5	−0.06	0.07	0.10	0.08	0.07	0.07	0.03	0.08
Relative financial adversity	10.82	0.6	−0.01	0.08	0.19**	0.06	0.15*	0.06	0.04	0.07
Parent's occupation[c]			0.00	0.00	−0.00	0.00	−0.00	0.00	0.00	0.00
Parent's education			0.01	0.00	−0.02	0.00	−0.02*	0.01	−0.00	0.00

[a] Childhood adversity was used to predict the difference between avoidant and anxious ratings. [b] Regressions were performed on the difference between attachment ratings for maternal events and attachment ratings for paternal events. [c] Duncan socioeconomic index.
* $p < .05$. ** $p < .01$. *** $p < .001$.

attached individuals, not to differences between kinds of insecure attachment.

The results in Table 3 also show that only one of the parental psychopathologies was related to an individual's secure rating: Both maternal and paternal antisocial behavior were related negatively to the secure rating. However, only maternal antisocial behavior was also related positively to the avoidant and anxious ratings. Two disorders yielded significant associations with the insecure attachment ratings for both parents: depression and anxiety. Individuals whose mother or father suffered from de-

pression or anxiety were more likely to endorse both avoidant and anxious attachment styles than those who did not have a parent with these disorders. Only maternal depression distinguished between avoidant and anxious ratings: Maternal depression was related more strongly to avoidant than to anxious attachment. In addition, having a mother or father with a substance abuse disorder was related positively to being avoidant, but not to being anxious. Finally, paternal suicidal behavior was related positively to both insecure ratings, whereas maternal suicidal behavior was related only to the anxious rating.

Four of the other nonsocial traumas were related to the adult attachment ratings (see Table 3). Having a life-threatening accident was related positively to being anxious. Being in a natural disaster was slightly related positively to being avoidant. Relative financial adversity was related positively to both the avoidant and anxious ratings. Finally, education of the primary breadwinner was related negatively to being anxious. In other words, as the parent's education increased, endorsement of the anxious attachment style decreased. None of the nonsocial traumas distinguished between avoidant and anxious attachment.

A differential analysis was performed to determine whether the "maternal strength" pattern found in prior research was replicated in this study. To test whether maternal events and disorders were more strongly related to attachment than paternal events and disorders, the difference between the attachment rating scores for mother and father was used as a dependent variable in regression analyses. These analyses, labeled Mother–father in Table 3, revealed two significant differences: (a) maternal antisocial behavior was related more strongly (and positively) to avoidant attachment than paternal antisocial behavior and (b) long absence of mother was related more strongly (and negatively) to secure attachment than long absence of father.

Parental Bonding

As with childhood adversity, linear regressions were performed on each parent–child relationship scale to predict the three attachment ratings. Table 4 reports the standardized regression coefficients and corrected standard errors for each of the three attachment scales. The parent–child relationship scores were standardized prior to analysis. Three dimensions of the parent–child relationship were assessed: warmth, overprotectiveness, and consistency. Maternal and paternal warmth were significant predictors of all three attachment ratings, with warmth being related positively to the secure rating and negatively to the two insecure ratings. There were no significant differences between avoidant and anxious attachment for parental warmth. In addition, there were no significant differences between maternal and paternal warmth for any of the three attachment ratings.

Paternal (but not maternal) overprotectiveness was related positively to the secure rating. Maternal and paternal overprotectiveness were differentially related to being avoidant. Maternal overprotectiveness was related positively to being avoidant, whereas paternal overprotectiveness was related negatively to being avoidant. Only maternal overprotectiveness was related to the anxious rating, such that the more overprotective the individual felt his or her mother to have been, the more strongly he or she endorsed the anxious attachment style. However, only paternal overprotectiveness distinguished between avoidant and anxious attachment: Paternal overprotectiveness was related negatively to avoidant but positively to anxious. Maternal–paternal differences emerged for overprotectiveness on all three attachment ratings. For secure attachment, paternal overprotectiveness was related more strongly than maternal. For avoidant attachment, as stated above, maternal and paternal overprotectiveness differed in the valence of their association, not in the strength. Finally, for anxious attachment, maternal overprotectiveness was related more strongly than paternal.

Parental consistency was not significantly associated with any of the adult attachment ratings. In addition, neither maternal nor paternal consistency distinguished between avoidant and anxious attachment. Only one significant maternal–paternal difference was found for consistency. Although maternal consistency was related positively to anxious attachment, paternal consistency was related negatively.

Table 4
Associations Between Adult Attachment Ratings and Parental Representations

Parent–child representation	Secure		Avoidant		Anxious		Avoidant–anxious[a]	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Parental warmth								
Mother	0.11***	0.02	−0.15***	0.02	−0.13***	0.02	−0.02	0.02
Father	0.12***	0.02	−0.15***	0.02	−0.10***	0.03	−0.05	0.03
Mother–father[b]	−0.01	0.02	0.00	0.02	−0.03	0.02		
Parental overprotectiveness								
Mother	−0.01	0.02	0.04*	0.02	0.05*	0.02	−0.01	0.02
Father	0.06**	0.02	−0.04*	0.02	0.02	0.02	−0.05*	0.02
Mother–father	−0.07***	0.02	0.08***	0.02	0.04*	0.02		
Parental consistency								
Mother	0.03	0.02	−0.00	0.02	0.02	0.02	−0.02	0.02
Father	0.03	0.02	−0.02	0.02	−0.02	0.02	0.00	0.02
Mother–father	−0.00	0.02	0.02	0.02	0.04*	0.02		

[a] Parental representation was used to predict the difference between avoidant and anxious ratings. [b] Regressions were performed on the difference between attachment ratings for maternal representations and attachment ratings for paternal representations.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Adult Psychopathology

In Table 5, the lifetime prevalences of the *DSM–III–R* psychiatric disorders assessed in the NCS are reported. As with the previous tables, the metric regression coefficients and corrected standard errors relating these disorders to the adult attachment styles are presented for each disorder and each of the three attachment ratings. Adult psychopathology was used to predict each of the three attachment ratings. Except for alcohol abuse, drug abuse, and schizophrenia, all of the psychiatric disorders were related negatively to being secure and positively to being avoidant and anxious. Schizophrenia was not a significant predictor of the secure rating, and alcohol and drug abuse were not significant predictors of the anxious rating. Alcohol abuse and drug dependence were the only two disorders that discriminated between avoidant and anxious attachment. Both were related more strongly to being avoidant than to being anxious.

Adult Personality Traits

As shown in Table 6, except for overall religiosity, the personality characteristics were significant predictors of all three attachment ratings. Self-esteem, internal locus of control, extroversion, and openness to experience showed the same pattern of relations. All four traits were related positively to the secure rating and negatively to the two insecure ratings. External locus of control and neuroticism yielded the opposite pattern; they were related negatively to the secure rating and positively to the two insecure ratings. Christian fundamentalism was related positively to all three attachment ratings. However, overall religiosity was related only to being more secure. Self-esteem, internal locus of control, luck, extroversion, and Christian fundamentalism discriminated between the two insecure ratings. Except for extroversion, which was related more strongly to the avoidant attachment style, the other three were related more strongly to the anxious attachment style.

Discussion

Distribution

The distribution of adult attachment styles—59% secure, 25% avoidant, and 11% anxious—in our nationally representative sample is similar to the distributions found previously in less representative but large-sample studies of college students and newspaper readers (e.g., Brennan et al., 1991; Hazan & Shaver, 1987; see Shaver & Hazan, 1993, for a review) as well as in studies of American infants (Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983; van IJzendoorn, 1994). The only major discrepancy between our distribution and previously reported distributions is for anxious attachment; most prior studies of college students have found approximately twice the number of anxious individuals as found in our study (see reviews by Shaver & Clark, 1994, and Shaver & Hazan, 1993).

Furthermore, in our study, anxious attachment was related negatively to age (from 17.4% in the 15–24 age range to 8.0% in the 45–54 age range), a result that is consistent with the higher proportion of anxious individuals found in studies using college students. This result could suggest that anxious adults

Table 5
Associations Between Adult Attachment Ratings and Life Prevalences of DSM–III–R Psychiatric Disorders

Type of disorder	Prevalence of disorder		Secure		Avoidant		Anxious		Avoidant–anxious[a]	
	%	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Mood										
Major depressive episodes	17.08	0.7	−0.23***	0.04	0.42***	0.05	0.34***	0.05	0.08	0.06
Manic episode	1.67	0.3	−0.42*	0.19	0.97***	0.14	0.87***	0.16	0.10	0.20
Dysthymia	6.36	0.4	−0.30***	0.06	0.48***	0.08	0.35***	0.07	0.13	0.09
Anxiety										
Panic disorder	3.51	0.3	−0.36***	0.10	0.51***	0.13	0.41***	0.06	0.10	0.13
Agoraphobia	6.68	0.4	−0.31***	0.07	0.65***	0.07	0.61***	0.08	0.04	0.09
Social phobia	13.36	0.7	−0.27***	0.05	0.52***	0.04	0.52***	0.05	−0.00	0.05
Simple phobia	11.29	0.6	−0.16**	0.05	0.37***	0.05	0.46***	0.06	−0.09	0.08
PTSD	7.82	0.5	−0.16**	0.06	0.42***	0.08	0.47***	0.07	−0.05	0.09
Generalized anxiety	5.16	0.3	−0.28***	0.08	0.60***	0.09	0.44***	0.07	0.16	0.13
Psychoactive substance use										
Alcohol abuse	9.46	0.5	−0.12*	0.05	0.17**	0.06	−0.03	0.05	0.20*	0.08
Alcohol dependence	14.10	0.7	−0.13**	0.05	0.28***	0.05	0.25***	0.06	0.03	0.07
Drug abuse	4.45	0.3	−0.16*	0.08	0.14*	0.06	0.03	0.05	0.11	0.08
Drug dependence	7.50	0.4	−0.22**	0.08	0.35***	0.07	0.20***	0.06	0.15*	0.07
Other										
Schizophrenia	1.26	0.2	−0.26	0.17	0.78***	0.17	0.48**	0.18	0.30	0.18
Conduct disorder	12.96	0.6	−0.21***	0.04	0.33***	0.05	0.32***	0.05	0.01	0.07
Antisocial disorder	3.15	0.2	−0.35***	0.08	0.57***	0.08	0.46***	0.09	0.11	0.11

Note. *DSM–III–R* = *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.; American Psychiatric Association, 1987); PTSD = posttraumatic stress disorder.
[a] Adult psychopathology was used to predict the difference between avoidant and anxious ratings.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6
Associations Between Adult Attachment Ratings and Adult Personality Characteristics

Characteristic	Secure		Avoidant		Anxious		Avoidant–anxious[a]	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Self-esteem	0.17***	0.02	−0.32***	0.02	−0.37***	0.02	0.05*	0.02
Internal locus of control	0.11***	0.02	−0.10***	0.02	−0.18***	0.02	0.08***	0.02
External locus of control								
Luck	−0.04*	0.02	0.13***	0.02	0.21***	0.02	−0.08**	0.03
Powerful others	−0.07***	0.02	0.15***	0.02	0.14***	0.02	0.02	0.03
Neuroticism	−0.16***	0.02	0.29***	0.02	0.29***	0.02	−0.00	0.02
Extroversion	0.31***	0.02	−0.35***	0.02	−0.14***	0.02	−0.21***	0.03
Openness to experience	0.15***	0.02	−0.12***	0.02	−0.10***	0.02	−0.02	0.02
Christian fundamentalism	0.04*	0.02	0.04*	0.02	0.09***	0.02	−0.04*	0.02
Overall religiosity	0.08***	0.02	−0.01	0.02	−0.01	0.01	−0.00	0.02

[a] Personality characteristics were used to predict the difference between avoidant and anxious ratings.
* $p < .05$. ** $p < .01$. *** $p < .001$.

either gradually become secure (by finding or creating a trusting, positive marital–romantic relationship) or more self-protectively avoidant as they age. However, it is also plausible that the decline is due to cohort effects. Based on the dramatic societal changes occurring since the end of World War II (e.g., increases in divorce rates, geographic mobility, participation of mothers in the labor force, and rates of psychiatric disorders in the general population), attachment styles of people born in successive NCS cohorts may be different as a result of their different life experiences. This possibility is consistent with recent findings of an increasing number of anxiety disorders in recent cohorts (Wittchen, Zhao, Kessler, & Eaton, 1994). It is not clear, however, why cohort differences would occur mainly in the prevalence of anxious attachment and not in the prevalence of avoidant attachment.

Adjudication between these contending possibilities is important, both because it would speak to whether attachment styles are generally stable throughout the adult life course or are subject to change, and because it would shed light on the possibility that secular changes in society have led to an aggregate change in the distribution of attachment styles across successive cohorts. Given that only the relative prevalence of anxious and secure styles is affected by age, and given longitudinal findings reported recently by Klohnen and Bera (1996), we tentatively favor the interpretation that anxious attachment becomes less common with age.

Sociodemographics

As mentioned earlier, most previous attachment studies have not identified significant sociodemographic correlates of adult attachment styles. In the present study, which included the full range of sociodemographic variability, being white, female, well-educated, middle-class, married, middle-aged, and from the Midwest were all associated significantly with an increased likelihood of attachment security in adulthood. A few of these characteristics, such as being married and being successful at work, may both affect and be affected by attachment security (Hazan & Shaver, 1990). The most plausible interpretation of the others is that they reflect an influence of the sociodemographic variables or their correlates on adult attachment (e.g., sex and race, which clearly exist prior to one's attachment style). Yet, the direction of effect remains unclear because of the cross-sectional nature of the study. Does attachment style affect one's SES, education, and relationship status, or vice versa? Or are there reciprocal effects between adult attachment and sociodemography?

Interestingly, although a combination of these security-enhancing sociodemographic variables was not related to decreased avoidant attachment, it was related to decreased anxious attachment. Given that anxious attachment is thought to be related most strongly to inconsistent, unpredictable treatment by attachment figures, and avoidant attachment is thought to be related most strongly to cool, consistently rejecting, and distant treatment by attachment figures (Ainsworth et al., 1978; Rothbard & Shaver, 1994), we can speculate that the positive effects of the security-enhancing sociodemographic variables on attachment style are due to greater consistency in treatment by others and not necessarily to lack of rejection. The relative stability of rates of avoidant attachment across a wide variety of sociodemographic contexts suggests that avoidance may be rooted more in biological temperament than are secure and anxious attachment (Goldsmith & Alansky, 1987; Seifer, Schiller, Sameroff, Resnick, & Riordan, 1996).

Childhood Adversity

What patterns, if any, can be discerned from this study about the relation of childhood adversities to adult attachment? First, because not all of the childhood adversities were significantly related to adult attachment, our results suggest that simply experiencing a trauma in childhood does not automatically predestine an individual to problems in future relationships. Rather, the data indicate that it is the type of childhood adversity that matters most for adult attachment. Second, childhood interpersonal traumas (e.g., physical abuse, serious neglect) had the most consistent associations with insecure adult attachment styles, being strongly related to increased anxious and avoidant attachment as well as to decreased secure attachment. Third, parental psychopathologies had strong associations with insecure attach-

ment, but only one significant association with secure attachment. One particularly interesting finding is that parental substance abuse (in line with findings reported by Brennan et al., 1991) was related to offsprings' avoidant attachment. As mentioned below, substance abuse was also related to avoidant attachment for respondents themselves. Although it is easy to draw attachment-theoretical connections between certain kinds of parenting and grown-up children's attachment patterns, it is also worthwhile to consider the possibility that the apparent similarities between parental and adult–child pathologies are due in part to inherited temperament (Goldsmith & Alansky, 1987; Seifer et al., 1996).

Only one separation–loss event had a significant association with adult attachment. Unlike previous studies of college students (e.g., Brennan & Shaver, 1993), which failed to find significant effects of parental divorce on grown-up children's romantic attachment styles, our study (which included a wider range of socioeconomic niches and ages) found that parental divorce was negatively related to attachment security and positively related to anxious (but not avoidant) attachment. The marginal differential association with anxious but not avoidant attachment suggests that the experience of parental divorce includes the perception of attachment figures as inconsistently available rather than as cold or rejecting.

Finally, we found that financial adversity during childhood was related positively to insecure adult attachment. This result is consistent with prior literature that has found lower SES children experience less continuity in their attachments than children in higher SES homes (see review by Shaver & Hazan, 1993).

To summarize, these patterns suggest that it is adversities in which an adult directly betrays the trust of a child that are most likely to affect adult attachment. Moreover, personal behavior that parents cannot easily control (e.g., depression, substance abuse, antisocial behavior) tend to be associated with avoidant rather than anxious attachment in adulthood, which suggests that individuals with troubled parents may learn that it is not safe to depend on others. More important, these patterns may offer a clue about possible mechanisms for the relation between childhood adversity and adult psychopathology. For example, Kessler and Magee (1994) found that the relation between childhood violence and depression in adulthood was mediated by adult interpersonal conflicts. In other words, if adult interpersonal conflicts were absent, there was no association between childhood violence and adult depression. This finding, along with those of the present study, suggests that adult attachment plays a mediating or moderating role in the relation between childhood adversities and adult psychopathology. If future studies find such a relationship to exist between childhood adversities, adult attachment, and adult psychopathology, interventions could be designed to help improve the relationship skills of adults traumatized during childhood, which could in turn decrease the occurrence and severity of adult mental illness.

Parental Bonding

We found that abstract characterizations of parents were related less strongly to respondents' adult attachment ratings than were specific indications of parental abuse. This result is surprising given the assumption by many researchers that traumatic childhood events, especially interpersonal ones, threaten the bonding process with one's parents, which ultimately leads to insecure attachments in adult relationships. Although significant and theoretically consistent patterns were found between adult attachment and parental warmth, overprotectiveness, and consistency, they were not as strong as those found for actual adverse events. This suggests that childhood adversity may either directly affect adult attachment or affect it through a process other than damaged parental bonding. However, another possibility is that because our measure of parental bonding is a shortened version of the PBI (Parker et al., 1979), it attenuates the true associations found with more complete measures; or, alternatively, abstract characterizations may be less valid and more easily biased than recall of specific events.

In general, we did not find support for the maternal strength hypothesis (Botens, Shaver, & Levy, 1991; Brennan & Shaver, 1993). Whereas prior studies of college students have found that maternal characteristics are stronger predictors of attachment style than paternal characteristics, in our study maternal and paternal events showed similar relations to adult attachment, suggesting that mothers and fathers have comparable influences on offsprings' adult attachment styles. In only two instances was there evidence for the maternal strength hypothesis: Maternal antisocial behavior was related more strongly to avoidant attachment than paternal antisocial behavior, and long absence of the mother was related more strongly to secure attachment than long absence of the father. This latter finding is consistent with Bowlby's (1973) theory that maternal separation has important consequences for later social development.

The instances in which maternal and paternal representations significantly differed (parental overprotectiveness, parental consistency) were mainly due to a difference in the valence of the relation not in the strength of the relation. For example, paternal overprotectiveness was related negatively to avoidant attachment, whereas maternal overprotectiveness was related positively to avoidant attachment. These findings suggest that when differences between mothers and fathers are found for adult attachment it may be due more to the way in which maternal versus paternal events or representations affect an adult child's attachment style rather than to the strength of those effects. Alternatively, the lack of support for the maternal strength hypothesis in our study, and evidence for it in college student samples, may suggest that maternal strength is limited to adolescents. To test this possibility, we conducted post hoc analyses examining the youngest age group (15–24), but these analyses also failed to support the maternal strength hypothesis. Thus, we can rule out this alternative explanation.

Adult Psychopathology and Personality

All forms of assessed psychopathology in the respondents were related significantly to one or more of the adult attachment ratings, and usually to all three, suggesting that attachment style has a pervasive predisposing effect on the development of more specific psychological disorders, or that having a psychological disorder distorts one's internal working models of self and others. In general, there were few differences between correlates of avoidant and anxious attachment. Two important exceptions

are alcohol abuse and drug dependence, both of which were much more characteristic of people with avoidant than with anxious attachments. According to previous studies that have found similar relations (Brennan & Shaver, 1995; Dozier & Kobak, 1992; Simpson, Rholes, & Nelligan, 1992), this result could be due to adults who cannot express their feelings of distress to others (including attachment figures) being more likely to attempt to alter their moods with the help of drugs of various kinds. However, as with the sociodemographic variables, longitudinal studies are needed to determine whether these relations between adult psychopathology and adult attachment are bidirectional or unidirectional.

The findings for personality traits show that all of the personality measures examined here were related to secure and insecure attachment ratings. Secure attachment was related to higher self-esteem, internal locus of control, extroversion, and openness to experience—all of which fit well with the designation of security. Both avoidant and anxious attachment were associated with external locus of control, neuroticism, introversion, and lack of openness to experience. The only significant differences between avoidant and anxious attachment are that avoidance was differentially associated with extroversion, and anxious attachment was differentially associated with low self-esteem, internal locus of control, luck, and Christian fundamentalism—the latter perhaps involving the kind of religious emotionality discussed by Kirkpatrick and Shaver (1990) in connection with anxious attachment. Interestingly, overall religiosity was associated positively with attachment security but was unrelated to the two forms of insecure attachment.

Limitations

Two limitations of this study are important to highlight. First, we used a brief measure of adult attachment. Longer and more reliable measures of adult attachment have been proposed recently by, among others, Brennan et al. (in press), Brennan and Shaver (1995), Collins and Read (1990), Feeney, Noller, and Callan (1994), and Griffin and Bartholomew (1994). Hazan and Shaver's (1987) three-category conception of attachment styles has been elaborated by Bartholomew (e.g., Bartholomew & Horowitz, 1991) into a two-dimensional, four-category conception that is being used by numerous investigators. Bartholomew (e.g., Bartholomew & Horowitz, 1991; Scharfe & Bartholomew, 1994) has also created an extensive interview procedure that appears to produce more reliable assessments of attachment style. Future large-scale studies will benefit from improvements in measuring adult attachment style. These improvements are important because some of the lack of differentiation between anxious and avoidant attachment ratings in the present study may be due to the brevity of the rating scales. Perhaps especially in noncollege samples or subsamples, multiitem scales may be necessary to spell out the differences between the two (or in Bartholomew's theory, three) kinds of insecure attachment.

A second limitation is the cross-sectional nature of the sampling procedure. Because of this, it is impossible to make cause–effect statements about adult attachment style and its correlates. Longitudinal studies would help us to determine whether adult attachment style predicts the onset of psychiatric disorders or vice versa, as well as to distinguish between age and cohort effects.

Conclusion

In summary, the three adult attachment patterns delineated by Hazan and Shaver (1987; Shaver, Hazan, & Bradshaw, 1988), following distinctions made about infants by Ainsworth and her colleagues (1978), were assessed, for the first time, in a large representative sample of American adults. The distribution pattern of the three attachment styles was similar to what has been found in previous studies. Unlike previous studies, ours encompassed wide sociodemographic heterogeneity and allowed us to detect associations between adult attachment styles and several sociodemographic categories. Many interesting connections between adult attachment, on the one hand, and childhood adversity and parental characteristics, on the other, were obtained, but the strongest connections involved interpersonal traumas such as physical abuse and serious neglect rather than more abstract characteristics of parents, such as judged warmth and consistency. Attachment styles, especially the primary distinction between insecure and secure attachment, were related to respondents' personality traits and indicators of psychopathology. On the few occasions in which avoidant and anxious attachment had significantly different correlates, the results fit well with previous findings and theory. Taken together, our results are compatible with the application of attachment theory to adult relationships (Shaver & Clark, 1994) and suggest new lines of inquiry—for example, concerning the cohort effect or apparent decline in anxious attachment across the adult years. Finally, future longitudinal studies of both long- and short-term design will be worthwhile because attachment patterns appear to be central organizing factors in personality and social development, and attachment theory appears to provide valuable leads about the underlying reasons for associations among a variety of social and personality variables.

References

Ainsworth, M. D. S., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment.* Hillsdale, NJ: Erlbaum.

Alexander, P. C. (1993). The differential effects of abuse characteristics and attachment in the prediction of long-term effects of sexual abuse. *Journal of Interpersonal Violence, 8,* 346–362.

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev.). Washington, DC: Author.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61,* 226–244.

Beardslee, W. R., Zuckerman, B. S., Amaro, H., & McAllister, M. (1988). Depression among adolescent mothers: A pilot study. *Journal of Developmental and Behavioral Pediatrics, 9,* 62–65.

Botens, D. D., Shaver, P. R., & Levy, K. N. (1991). *Styles of romantic attachment and parental representations.* Unpublished manuscript, State University of New York at Buffalo.

Bowlby, J. (1982). *Attachment and loss: Vol. I. Attachment* (2nd ed.). New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss: Vol. II. Separation: Anxiety and anger.* New York: Basic Books.

Bradburn, N. M., & Sudman, S. (1979). *Improving interview methods and questionnaire design.* San Francisco: Jossey-Bass.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (in press). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships.* New York: Guilford Press.

Brennan, K. A., & Shaver, P. R. (1993). Attachment styles and parental divorce. *Journal of Divorce and Remarriage, 21,* 161–175.

Brennan, K. A., & Shaver, P. R. (1995). Dimensions of adult attachment, affect regulation, and romantic relationship functioning. *Personality and Social Psychology Bulletin, 21,* 267–283.

Brennan, K. A., Shaver, P. R., & Tobey, A. E. (1991). Attachment styles, gender, and parental problem drinking. *Journal of Social and Personal Relationships, 8,* 451–466.

Bringle, R. G., & Bagby, G. J. (1992). Self-esteem and perceived quality of romantic and family relationships in young adults. *Journal of Research in Personality, 26,* 340–356.

Campos, J. J., Barrett, K., Lamb, M. E., Goldsmith, H. H., & Stenberg, C. (1983). Socioemotional development. In M. M. Haith & J. J. Campos (Eds.), *Handbook of child psychology, Vol. 2. Infancy and psychobiology* (pp. 783–915). New York: Wiley.

Carnelley, K. B., Pietromonaco, P. R., & Jaffe, K. (1994). Depression, working models of others, and relationship functioning. *Journal of Personality and Social Psychology, 66,* 127–140.

Cicchetti, D., Toth, S. L., & Lynch, M. (1995). Bowlby's dream comes full circle: The application of attachment theory to risk and psychopathology. *Advances in Clinical Child Psychology, 17,* 1–75.

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology, 58,* 644–663.

Dozier, M., & Kobak, R. R. (1992). Psychophysiology and adolescent attachment interviews: Converging evidence for repressing strategies. *Child Development, 63,* 1473–1480.

Dutton, D. G., Saunders, K., Starzomski, A., & Bartholomew, K. (1994). Intimacy–anger and insecure attachment as precursors of abuse in intimate relationships. *Journal of Applied Social Psychology, 24,* 1367–1386.

Endicott, J., Andreason, N., & Spitzer, R. L. (1978). *Family history research diagnostic criteria.* New York: Biometrics Research, New York State Psychiatric Institute.

Feeney, J. A., & Noller, P. (1990). Attachment style as a predictor of adult romantic relationships. *Journal of Personality and Social Psychology, 58,* 281–291.

Feeney, J. A., Noller, P., & Callan, V. J. (1994). Attachment style, communication, and satisfaction in the early years of marriage. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Attachment processes in adulthood* (Vol. 5, pp. 269–308). London: Jessica Kingsley.

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment, 4,* 26–42.

Goldsmith, H. H., & Alansky, J. A. (1987). Maternal and infant temperamental predictors of attachment: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 55,* 805–816.

Griffin, D. W., & Bartholomew, K. (1994). The metaphysics of measurement: The case of adult attachment. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Attachment processes in adulthood* (Vol. 5, pp. 17–52). London: Jessica Kingsley.

Guenzel, P. J., Berckmans, T. R., & Cannell, C. F. (Eds.). (1983). *General interviewing techniques: A self-instructional workbook for telephone and personal interviewer training.* Ann Arbor: Institute for Social Research, Survey Research Center, University of Michigan.

Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52,* 511–524.

Hazan, C., & Shaver, P. R. (1990). Love and work: An attachment-theoretical perspective. *Journal of Personality and Social Psychology, 59,* 270–280.

Joyce, P. R., Sellman, D., Wells, E., & Frampton, C. M. (1994). Parental bonding in men with alcohol disorders: A relationship with conduct disorder. *Australian and New Zealand Journal of Psychiatry, 28,* 405–411.

Kessler, R. C., Crum, R. M., Warner, L. A., Nelson, C. B., Schulenberg, J., & Anthony, J. C. (1997). The life-time co-occurrence of *DSM–III–R* alcohol abuse and dependence with other psychiatric disorders in the National Comorbidity Survey. *Archives of General Psychiatry, 54,* 313–321.

Kessler, R. C., & Magee, W. J. (1994). Childhood family violence and adult recurrent depression. *Journal of Health and Social Behavior, 35,* 13–27.

Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen, H.-U., & Kendler, K. S. (1994). Lifetime and 12-month prevalence of *DSM–III–R* psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry, 51,* 8–19.

Kirkpatrick, L. A. (1994). The role of attachment in religious belief and behavior. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Attachment processes in adulthood* (Vol. 5, pp. 239–265). London: Jessica Kingsley.

Kirkpatrick, L. A., & Shaver, P. R. (1990). Attachment theory and religion: Childhood attachments, religious beliefs, and conversion. *Journal for the Scientific Study of Religion, 29,* 315–334.

Kirkpatrick, L. A., & Shaver, P. R. (1992). An attachment-theoretical approach to romantic love and religious belief. *Personality and Social Psychology Bulletin, 18,* 266–275.

Klohnen, E. C., & Bera, S. (1996). *Behavioral and experiential patterns of avoidantly and securely attached women across adulthood: A 30-year longitudinal perspective.* Manuscript submitted for publication.

Levenson, H. (1973). Multidimensional locus of control in psychiatric patients. *Journal of Consulting and Clinical Psychology, 41,* 397–404.

Levy, K. N., Blatt, S. J., & Shaver, P. R. (1996). *Styles of romantic attachment and parental representations.* Manuscript submitted for publication.

Lutz, W. J., & Hock, E. (1995). Maternal separation anxiety: Relations to adult attachment representations in mothers of infants. *Journal of Genetic Psychology, 156,* 57–72.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research. *Monographs of the Society for Research in Child Development, 50*(1–2, Serial No. 209), 66–104.

Mallinckrodt, B., McCreary, B. A., & Robertson, A. K. (1995). Co-occurrence of eating disorders and incest: The role of attachment, family environment, and social competencies. *Journal of Counseling Psychology, 42,* 178–186.

Miller, P. C., Lefcourt, H. M., Holmes, J. G., Ware, E. E., & Saley, W. E. (1986). Marital locus of control and marital problem solving. *Journal of Personality and Social Psychology, 51,* 161–169.

Parker, G., Tupling, H., & Brown, L. B. (1979). A parental bonding instrument. *British Journal of Medical Psychology, 52,* 1–10.

Patrick, M., Hobson, R. P., Castle, D., & Howard, R. (1994). Personality disorder and the mental representation of early social experience. *Development and Psychopathology, 6,* 375–388.

Pettem, O., West, M., Mahoney, A., & Keller, A. (1993). Depression and attachment problems. *Journal of Psychiatry and Neuroscience, 18,* 78–81.

Resnick, H. S., Kilpatrick, D. G., & Lipovsky, J. A. (1991). Assessment of rape-related posttraumatic stress disorder: Stressor and symptom dimensions. *Psychological Assessment, 3,* 561–572.

Robins, L. N. (1985). Early home environment and retrospective recall: A test for concordance between siblings with and without psychiatric disorders. *American Journal of Orthopsychiatry, 55,* 27–41.

Robins, L. N., Helzer, J. E., Croughan, J. L., & Ratcliff, K. S. (1981). National Institute of Mental Health diagnostic interview schedule: Its history, characteristics and validity. *Archives of General Psychiatry, 38,* 381–389.

Robins, L. N., Wing, J., Wittchen, H.-U., & Helzer, J. E. (1988). The Composite International Diagnostic Interview: An epidemiologic instrument suitable for use in conjunction with different diagnostic systems and in different cultures. *Archives of General Psychiatry, 45,* 1069–1077.

Rosenberg, M. (Ed.). (1965). *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press.

Rothbard, J. C., & Shaver, P. R. (1991). *Attachment styles and the quality and importance of attachment to parents.* Unpublished manuscript, Psychology Department, State University of New York at Buffalo.

Rothbard, J. C., & Shaver, P. R. (1994). Continuity of attachment across the life span. In M. B. Sperling & W. H. Berman (Eds.), *Attachment in adults: Clinical and developmental perspectives* (pp. 31–71). New York: Guilford Press.

Rust, K. (1985). Variance estimation for complex estimators in sample surveys. *Journal of Official Statistics, 1,* 381–397.

Scharfe, E., & Bartholomew, K. (1994). Reliability and stability of adult attachment patterns. *Personal Relationships, 1,* 23–44.

Seifer, R., Schiller, M., Sameroff, A. J., Resnick, S., & Riordan, K. (1996). Attachment, maternal sensitivity, and infant temperament during the first year of life. *Developmental Psychology, 32,* 12–25.

Seligman, M. E. P., & Schulman, P. (1986). Explanatory style as a predictor of productivity and quitting among life insurance sales agents. *Journal of Personality and Social Psychology, 50,* 832–838.

Senchak, M., & Leonard, K. E. (1992). Attachment styles and marital adjustment among newlywed couples. *Journal of Social and Personal Relationships, 9,* 51–64.

Shaver, P. R., & Brennan, K. A. (1992). Attachment styles and the "Big Five" personality traits: Their connections with each other and with romantic relationship outcomes. *Personality and Social Psychology Bulletin, 18,* 536–545.

Shaver, P. R., & Clark, C. L. (1994). The psychodynamics of adult romantic attachment. In J. M. Masling & R. F. Bornstein (Eds.), *Empirical perspectives on object relations theories* (pp. 105–156). Washington, DC: American Psychological Association.

Shaver, P. R., Collins, N. L., & Clark, C. L. (1996). Attachment styles and internal working models of self and relationship partners. In G. J. O. Fletcher & J. Fitness (Eds.), *Knowledge structures in close relationships: A social psychological approach* (pp. 25–61). Hillsdale, NJ: Erlbaum.

Shaver, P. R., & Hazan, C. (1993). Adult romantic attachment: Theory and evidence. In D. Perlman & W. Jones (Eds.), *Advances in personal relationships* (Vol. 4, pp. 29–70). London: Jessica Kingsley.

Shaver, P. R., Hazan, C., & Bradshaw, D. (1988). Love as attachment: The integration of three behavioral systems. In R. J. Sternberg & M. L. Barnes (Eds.), *The psychology of love* (pp. 68–99). New Haven, CT: Yale University Press.

Shaver, P. R., Papalia, D., Clark, C. L., Koski, L. R., Tidwell, M. C., & Nalbone, D. (1996). Androgyny and attachment security: Two related models of optimal personality. *Personality and Social Psychology Bulletin, 22,* 582–597.

Shaver, P. R., & Rubenstein, C. (1980). Childhood attachment experience and adult loneliness. In L. Wheeler (Ed.), *Review of personality and social psychology* (Vol. 1, pp. 42–73). Beverly Hills, CA: Sage.

Simpson, J. A. (1990). The influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology, 59,* 971–980.

Simpson, J. A., Rholes, W. S., & Nelligan, J. S. (1992). Support-seeking and support-giving within couple members in an anxiety-provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology, 62,* 434–446.

Spengler, P., & Wittchen, H.-U. (1989). Procedural validity of standardized symptom questions for the assessment of psychotic symptoms: A comparison of the CIDI with two clinical methods. *Comprehensive Psychiatry, 29,* 309–322.

Straus, M. A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. *Journal of Marriage and the Family, 41,* 75–88.

Tavris, C., & Wade, C. (1984). *The longest war: Sex differences in perspective.* New York: Harcourt Brace Jovanovich.

U.S. Bureau of the Census. (1991). *Statistical abstract of the United States 1991: The national data book.* Washington, DC: U.S. Government Printing Office.

U.S. Department of Health and Human Services. (1992). *National Health Interview Survey, 1989* [Computer file]. Hyattsville, MD: National Center for Health Statistics.

van IJzendoorn, M. H. (1994). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin, 117,* 387–403.

Wacker, H. R., Battegay, R., Mullejans, R., & Schlosser, C. (1990). Using the CIDI in the general population. In C. N. Stefanis, A. D. Rabavilas, & C. R. Soldatos (Eds.), *Psychiatry: A world perspective* (pp. 138–143). New York: Elsevier.

Waters, E., Merrick, S. K., Albersheim, L. J., & Treboux, D. (1995, April). *Attachment security from infancy to early adulthood: A twenty-year longitudinal study.* Poster presented at the biennial meeting of the Society for Research in Child Development, Indianapolis, IN.

Wittchen, H.-U., Robins, L. N., Cottler, L. B., Sartorious, N., Burke, J. D., Regier, D. A., & Participants in the multicentre WHO/AD-AMHA field trials. (1991). Cross-cultural feasibility, reliability and sources of variance in the Composite International Diagnostic Interview (CIDI). *British Journal of Psychiatry, 159,* 645–653.

Wittchen, H.-U., Zhao, S., Kessler, R. C., & Eaton, W. W. (1994). DSM-III-R generalized anxiety disorder in the National Comorbidity Survey. *Archives of General Psychiatry, 51,* 355–364.

World Health Organization. (1990a). *Composite International Diagnostic Interview* (CIDI, Version 1.0.). Geneva, Switzerland: Author.

World Health Organization. (1990b). *Composite International Diagnostic Interview Computer Programs* (Version 1.1.). Geneva, Switzerland: Author.

Zuroff, D. C., & Fitzpatrick, D. K. (1995). Depressive personality styles: Implications for adult attachment. *Personality and Individual Differences, 18,* 253–365.

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