INTRAPERSONAL CHARACTERISTICS AND THE TIMING OF DIVORCE: A PROSPECTIVE INVESTIGATION

Joan S. Tucker

Brandeis University

Nancy R. Kressin & Avron Spiro III

Veterans Affairs Outpatient Clinic and Boston University School of Public Health

John Ruscio

Brandeis University

──────────────── ABSTRACT ────────────────

Data from two longitudinal studies (Normative Aging Study and Terman Life Cycle Study) were used to investigate the intrapersonal predictors of earlier and later divorce. Initially married individuals were classified as having not divorced, divorced before 20 years of marriage, or divorced after 20 or more years of marriage. Individuals rated as more disagreeable (angry, vain/egotistical, lacking sympathy/tenderness) and more impulsive (lacking conscientiousness and perseverance) were at higher risk for earlier than later divorce. Although individuals rated higher on neuroticism were more likely to divorce, certain aspects of neuroticism (feelings of inadequacy and sensitivity) were not associated with the timing of divorce. Results indicate that intrapersonal characteristics that are associated with divorces occurring relatively early in marriages are not necessarily predictive of divorces occurring in marriages of longer duration.

KEY WORDS ● divorce ● personality ● psychological adjustment ● timing

When most couples marry, it is with the sincere intention of remaining happily married for the rest of their lives. However, current estimates reveal the grim reality of marriage: over one-half of all first marriages are expected to end in separation or divorce (Castro Martin & Bumpass, 1989). What factors differentiate those individuals who fulfill their dream of having a stable marriage from those who find their marriage ending in divorce? The answer to this complex question remains elusive. Although a number of demographic predictors of divorce have been identified (e.g. Bumpass et al., 1991), comparatively little is known about the psychosocial characteristics and processes that are associated with marital dissolution.

There are several conceptual approaches to studying the psychosocial predictors of divorce (Kurdek, 1993). One approach involves focusing on the intrapersonal characteristics of the partners in order to determine whether there are certain individual characteristics, such as personality traits or aspects of psychological adjustment, which increase the risk of marital dissolution. This approach has a long history, dating back to the work of Terman (1938) and Kelly (1939) who hoped to find the personality type associated with marital unhappiness and instability. Intrapersonal characteristics may be associated with divorce in a number of different ways. For example, certain types of individuals, such as those who are neurotic or hostile, may have a more negative view of the marital relationship or may be particularly difficult to live with (Kurdek, 1993). Impulsive or emotionally unstable individuals may choose to abandon the marriage at the earliest signs of discontent. Although this approach does not disavow the role of interpersonal dynamics in marital stability, it is assumed that these dynamics are a function of intrapersonal characteristics (Bradbury et al., 1995).

The best methodology to study intrapersonal predictors of divorce is a prospective design that assesses these characteristics before divorce. A few such studies have assessed intrapersonal characteristics at the beginning of marriage. In one of the longest investigations of married couples, Kelly & Conley (1987) selected a group of 300 couples who were followed for nearly 50 years from the time of their engagements. Couples who eventually divorced were characterized, at the time of their engagement, by greater neuroticism of both the husband and the wife, as well as lack of impulse control on the part of the husband (Kelly & Conley, 1987). Extroversion and agreeableness were weakly associated with marital dissolution. Kurdek's (1993) 5-year study of 286 newlyweds revealed a similar pattern of results: marital dissolution was predicted from the husband's and the wife's neuroticism, and the wife's lack of conscientiousness. Extroversion, agreeableness and openness were not significant predictors of marital dissolution. In contrast, a study of newlyweds who were followed for 4 years failed to find associations of marital stability with various characteristics relevant to neuroticism and impulsivity, but did indicate that the husband's extroversion and the wife's lack of congeniality predicted divorce (Bentler & Newcomb, 1978).

Similar results have come from the few studies that have assessed

intrapersonal characteristics even earlier — in childhood or adolescence. Using data from the Oakland Growth Study and Berkeley Guidance Study, Rockwell and his colleagues compared women who had divorced and those who had remained stably married by the age of 40 on a number of characteristics assessed in adolescence (Rockwell et al., 1979). Although divorce was not predicted by the characteristics associated with impulse management, self-awareness and acceptance, or a positive interpersonal style, women who divorced by the age of 40 had been more rebellious, less thin-skinned and less uncomfortable with uncertainty as adolescents compared with women who had not divorced. A later investigation using the Berkeley Guidance Study data set showed that children who were prone to temper tantrums were more likely to experience divorce by the age of 40 compared with children who were not as ill-tempered (Caspi et al., 1987). Neuroticism, measured in adolescence, was also found to predict divorce by the age of 32 for women only (Kiernan, 1986). Studies such as these, which assess intrapersonal characteristics before marriage, are important because they rule out the possibility that the reporting of intrapersonal characteristics is influenced by couple characteristics.

As this literature review indicates, studies have not been entirely consistent in identifying intrapersonal predictors of divorce (see Karney & Bradbury, 1995, for a meta-analysis of this literature). However, these studies generally suggest that intrapersonal characteristics relevant to impulsivity or lack of conscientiousness, disagreeableness and neuroticism are associated with divorce. Further, at least some of the intrapersonal characteristics that predict divorce are evident as early as childhood or adolescence.

It should be noted that much of the research on predictors of divorce has been atheoretical in terms of how these intrapersonal characteristics contribute to the risk of divorce. However, the results from this research are consistent with other lines of evidence on the life outcomes of individuals with these characteristics. For example, impulsivity or a lack of conscientiousness has been associated with engagement in unhealthy behaviors, lower educational attainment and lower psychological adjustment in adulthood (e.g. Tucker & Friedman, 1996). Disagreeableness has similarly been associated with engagement in unhealthy behaviors (e.g. Musante et al., 1992), as well as impaired social relationships and lower occupational attainment (Caspi et al., 1987). In a 36-year prospective study, conscientiousness was found to predict higher conventional social accomplishment (e.g. having close friends and starting a family), whereas neuroticism was associated with lower social accomplishment (Franz et al., 1991). This broader body of work suggests possible mechanisms through which these intrapersonal characteristics may affect marital stability.

A serious limitation of the small body of prospective research investigating intrapersonal predictors of divorce is that it has focused almost exclusively on divorces occurring within the first few years of marriage or by the age of 40. Although the risk of marital dissolution declines over time (Heaton, 1991), a sizable percentage of divorces occur in long-term

marriages. For example, more than 10 percent of divorces occur in marriages that have lasted at least 20 years (National Center for Health Statistics, 1984). It may be the case that intrapersonal characteristics are risk factors for divorce only during the first years of marriage. Or, certain intrapersonal characteristics may not be risk factors for divorce in relatively young marriages, but may emerge as risk factors at later stages of marriage.

Several models of marital dissolution have been developed that consider the timing of the divorce. For example, Becker's (1991) model of marital dissolution suggests that certain risk factors may have more of an impact on marital instability at certain points in the marriage. He proposes that divorces occurring relatively early in the marriage are more strongly influenced by the acquisition of unfavorable information about the spouse after marriage, whereas divorces occurring later in the marriage are more strongly influenced by changes and life events that impact the marriage. According to this model, personality traits should be more strongly related to earlier than to later divorce (p. 328). In another effort to account for the timing of divorce, Heaton and his colleagues outlined two conceptual models of the associations between risk factors for divorce and the timing of divorce (Heaton et al., 1985). The *adjustment model* of divorce proposes that certain risk factors for marital dissolution decline in importance as marital duration increases. This may be due, for example, to the early dissolution of the most problematic marriages or the ability of couples to eventually adjust to the risk factors. The *perpetual problem model* of divorce proposes that certain risk factors for marital dissolution have a continual influence throughout the duration of the marriage, perhaps due to a lack of attrition for the most problematic marriages or more difficulty in adjusting to these risk factors. It is possible that both of Heaton et al.'s models are relevant to intrapersonal predictors of divorce; certain characteristics may be risk factors for divorce occurring relatively early in the marriage, whereas other characteristics may be associated with divorce at both earlier and later stages of marriage.

Despite the theoretical work that has acknowledged the potential importance of the timing of divorce, an implicit assumption of most research in this area is that intrapersonal characteristics pose similar risks for divorce at all stages of the marital relationship. However, if it were the case that these characteristics only predicted earlier divorce, or that different characteristics predicted earlier vs later divorce, this finding would have several important implications. It would suggest that our current knowledge about intrapersonal risk factors for divorce, which is largely based on the study of early divorces, is inadequate for understanding the precipitating factors for divorce in long-term marriages. It would also suggest that certain types of people are not only at higher risk for divorce, but are particularly susceptible at certain stages in the marital relationship. Not only might this information have clinical significance, but it would point to the need for future research aimed at understanding why and how certain intrapersonal characteristics pose differential risks

throughout the course of the marital relationship. Finally, it would high-light an important weakness in many of the current models of divorce, which do not account for the timing of divorce.

We are aware of only one empirical investigation comparing the intra-personal predictors of earlier and later divorce over a time-span of more than a decade. Kelly & Conley (1987) compared individuals who remained married, broke their engagement, or divorced within 20 years after the engagement, and divorced after more than 20 years from the time of the engagement. The authors did not report tests of statistical significance for these analyses. However, the results seemed to indicate that the impulsive-ness of the husband and the neuroticism of both the husband and the wife predicted earlier divorce, but only the husband's neuroticism predicted later divorce. Based on this very limited evidence, there is reason to believe that at least some intrapersonal characteristics may primarily be associated with earlier divorce, whereas others may be associated with divorces occurring at both earlier and later stages of marriage.

The present study will continue this line of investigation by comparing the intrapersonal characteristics associated with divorce occurring earlier in the marriage (after fewer than 20 years of marriage) and divorce occurring later in the marriage (after 20 or more years of marriage). The intrapersonal characteristics that will be investigated are those that have most consistently emerged as predictors of earlier divorce in previous studies: neuroticism, disagreeableness (including hostility) and impulsivity/ lack of conscientiousness. Based on this previous research, each of these intrapersonal characteristics is expected to predict divorce. However, the present study will investigate whether or not these intrapersonal character-istics also predict the timing of divorce. Based on the preliminary work of Kelly & Conley (1987), it is hypothesized that characteristics associated with neuroticism will predict both earlier and later divorce, whereas characteristics associated with impulsivity/lack of conscientiousness will only predict earlier divorce. There is no previous empirical research to suggest a specific hypothesis regarding disagreeableness. However, based on Heaton et al.'s (1985) adjustment model, it might be expected that marriages involving disagreeable spouses are often faced with immediate and severe problems, resulting in the relatively early dissolution of mar-riages involving the most disagreeable spouses. Thus, it is hypothesized that disagreeableness will predict earlier divorce, but will not predict later divorce. The analyses used to test these hypotheses will control for two demographic variables that might be associated with both the intrapersonal characteristics and marital history: age at marriage and education level (as an indicator of socioeconomic status).

Data from two longitudinal studies, the VA Normative Aging Study (NAS) and the Terman Life Cycle Study (TLCS), will be used in this investigation. These studies differ in terms of the intrapersonal character-istics that were assessed, how they were assessed and the age at which they were assessed. However, both data sets contain information on various intrapersonal characteristics collected prior to divorce, as well as informa-

tion on marital history. In the NAS, aspects of psychological adjustment relevant to disagreeableness and neuroticism were evaluated in a sample of males through self-reports on the Cornell Medical Index during the first marriage. In the TLCS, males and females were rated by their parents and teachers, in almost all cases prior to the first marriage, on several personality traits associated with disagreeableness and impulsivity/lack of conscientiousness. It should be noted that although there have been other investigations of predictors of divorce using the TLCS data set (Sears, 1977; Terman & Oden, 1947; Tucker et al., 1996) none of these has considered the timing of divorce.

Method

Between 1961 and 1970, 2280 men (age 21–80 years) from the Boston area were recruited to participate in the **Normative Aging Study** (NAS; Bossé et al., 1984). Participants in this study, although not VA patients, were recruited through the Boston VA Outpatient Clinic. The participants were chosen from a larger pool of 6000 men based on geographic stability and the absence of disease. The men in this sample are predominantly White (98%) and most have at least a high school education (86% are high school graduates and 26% are college graduates). Twenty-three percent of the men are or were employed in professional occupations and 21 percent are or were employed in semi-professional occupations. The NAS has an attrition rate from all causes of less than 1 percent per year.

Several exclusions were used in the present study. Due to the large age range in the original sample, men who were not between the ages of 26–45 years (inclusive) at entrance were eliminated. Men who were not in their first marriage at entry were also eliminated. These two exclusions resulted in a sample size of 1350. An additional 577 men were eliminated due to incomplete information on marital history (see below), resulting in a sample size of 773. Those who were excluded from the final sample due to incomplete information on marital history do not significantly differ from those who were included in the final sample on any of the CMI measures (all t's < 1.70, NS). Final sample sizes in the present analyses vary due to missing information on particular CMI subscales.

At six assessment periods (1962–1970, 1973, 1981, 1982, 1983–1986, 1984–1988), participants reported on their current marital status. Due to missing information on the exact date of divorce (if applicable), it was not possible to calculate a continuous variable for the timing of divorce. However, information on changes in marital status between assessments was used to classify participants into one of three marital history groups. The No Divorce group consists of individuals who have no record of divorce across the assessment periods ($n = 702$). The Earlier Divorce group includes individuals who experienced their first divorce after fewer than 20 years of marriage ($n = 34$). The Later Divorce group includes individuals who experienced their first divorce after 20 or more years of marriage ($n = 37$).

The Terman Life Cycle Study (TLCS) was initiated by Lewis Terman at Stanford University (Terman & Oden, 1947). The original sample for this study was 856 males and 672 females who were born between 1900–1925. Participants were recruited through schools in California and were chosen on the

basis of intelligence. The sample is homogeneous with respect to intelligence (IQ of 135 or greater) and race (99% White). Almost all participants (99%) graduated from high school and 69 percent graduated from college. As of 1955 (approximately age 45 years), 46 percent of the employed men were in professional occupations and 41 percent were in semi-professional occupations. Half of the women were full-time homemakers and 40 percent of the women with full-time employment were either teachers or office workers. Participants were assessed at 5–10 year intervals from 1922–1993. Less than 10 percent of the sample was lost to follow-up or discontinued participation. There are no known differences between those who continued the study and those who did not (Sears, 1984).

Individuals who had never married ($n = 141$), reported being separated from their first marriage partner ($n = 6$), or had insufficient information on their marital history ($n = 176$) were excluded from the analyses. An additional 126 individuals were excluded because information was missing on either age at marriage or years of education. Finally, there was missing information on 494 individuals for parent ratings and for 683 individuals for teacher trait ratings (402 individuals had missing information on both). These exclusions resulted in a potential sample size of 585 for analyses involving parent trait ratings and 396 for analyses involving teacher trait ratings. Final sample sizes varied due to missing information on particular trait ratings. Those who were excluded from the final sample due to insufficient information on marital history and those who were included in the final sample did not significantly differ on any of the personality ratings (all t's < 1.50, NS). Similarly, those who were excluded from the final sample due to missing information on all of the personality ratings and those who were included in the final sample did not significantly differ on marital history ($\chi^2(2) = 1.82$, NS).

At each assessment period in adulthood, participants indicated their current marital status, as well as any changes in marital status since the last assessment. It was not possible to calculate a continuous variable for the timing of divorce due to missing information on the exact date of divorce (if applicable). However, information on changes in marital status between assessments allowed for the classification of participants into one of three marital history groups. Individuals in the No Divorce group had no record of experiencing a divorce as of 1986 (parent ratings: $n = 456$; teacher ratings: $n = 313$). Individuals in the Earlier Divorce group experienced their first divorce after fewer than 20 years of marriage (parent ratings: $n = 106$; teacher ratings: $n = 68$). The Later Divorce group experienced their first divorce after 20 or more years of marriage (parent ratings: $n = 23$; teacher ratings: $n = 15$).

NAS. Most of the participants completed the Cornell Medical Index (Brodman et al., 1949) when they were recruited into this study (1961–1970). Only 10 men in our final sample completed the CMI between 1971–1979 rather than at baseline. All of these men were in the No Divorce group. The CMI questionnaire has six subscales which assess aspects of psychological adjustment. Each subscale contains 5–12 items and respondents are asked to indicate whether or not each item is true of them. The Depression subscale was not included in the present analyses due to only 2 percent of the sample reporting any symptoms of depression. The following five subscales were used in the analyses, with Cronbach's alpha and a sample item in parentheses: Inadequacy ($\alpha = .65$; 'Do you wish you always had someone at your side to advise you?'); Anxiety ($\alpha = .39$; 'Are you considered a nervous person?'); Sensitivity ($\alpha =$

.70; 'Are your feelings easily hurt?'); Tension (α = .52; 'Are you constantly keyed up and jittery?'); and Anger (α = .58; 'Do people often annoy and irritate you?'). Some items from the Sensitivity and Anxiety subscales were omitted because they referred to family history, rather than the respondent's history (Aldwin et al., 1989). Based on Costa & McCrae's (1985) definition of the 'Big Five' factors of personality, the subscales of Inadequacy, Anxiety, Sensitivity and Tension are relevant to Neuroticism. The Anger subscale has conceptual overlap with both the hostility component of Neuroticism and with Disagreeableness. Anger is expected to predict the timing of divorce due to its relevance to Disagreeableness.

Cumulative education was measured as follows: 1 = less than high school graduate (n = 97), 2 = high school graduate (n = 292), 3 = some college or post-high school education (n = 192), 4 = college graduate (n = 110), 5 = some post-graduate education (n = 82). The age at marriage ranged from 17–42 years (n = 773, M = 24.23, SD = 3.83).

TLCS. Between 1927–1928, when participants were on average 15.36 years old (range = 5–27 years), each participant's parent and/or teacher independently rated the participant on several personality traits. The following four personality traits are included in the present analyses, each rated on a 13-point scale (1 = extreme lack of the trait, 13 = having the trait to an extraordinary degree): Conscientiousness, Perseverance, Freedom from Vanity/Egotism, and Sympathy/Tenderness. The trait ratings of Conscientiousness and Perseverance are consistent with Costa & McCrae's (1985) definition of Conscientiousness, and the ratings of Sympathy/Tenderness and Freedom from Vanity/Egotism are consistent with their definition of Disagreeableness. Since fewer than half of the participants had both parent and teacher ratings, and the correlations between these ratings for participants who had both types were not strong (mean r = .25), results are presented separately for the parent and teacher ratings. Only five participants included in the analyses are known to have been married the same year or before the collection of the trait ratings.

Education was assessed in terms of years of education (1 = 1 year high school, to 16 = 8 years postgraduate). For those individuals with any personality information, the average level of education was 4 years of college (n = 677, M = 8.25, SD = 2.36) and age at first marriage ranged from 17–42 years (n = 677, M = 25.52, SD = 4.68).

Results

NAS. Associations of the two control variables (age at marriage, years of education) with the psychological adjustment scales and marital history were investigated. Age at marriage was not significantly associated with any of the psychological adjustment subscales or marital history (all p's > .05). Analyses of variance were conducted to assess differences between the five educational categories on the psychological adjustment scales. Results indicated overall differences between the educational groups on Anxiety, F (4,765) = 2.79, p < .05, and Sensitivity, F (4,761) = 2.50, p < .05. Results from Fisher's LSD test indicated that the group with less than a high school education scored significantly higher on Anxiety than all others except the group with a post-college education, and scored significantly higher on Sensitivity compared with high school and college graduates. In addition, a chi-square test indicated

an association of educational attainment with the occurrence of divorce, $\chi^2(4, n = 773) = 11.78, p < .05$, but not with the timing of divorce.

Two sets of logistic regression analyses were conducted to predict the occurrence of divorce (no vs yes) and the timing of divorce (later vs earlier) from each of the five psychological adjustment subscales of the CMI. All analyses were run with and without adjustment for age at marriage and education. The CMI scales were dichotomized (0 = no symptoms, 1 = some symptoms) due to their skewed distributions. As shown in Table 1, individuals who reported symptoms on the scales of Inadequacy, Anxiety, Sensitivity and Anger were more likely to divorce. However, the Tension subscale was

TABLE 1

Logistic regression analyses predicting the occurrence of divorce and the timing of divorce from CMI scales (NAS sample)

Variable	Occurrence of divorce						Timing of divorce					
	n	χ^2	B	SE	OR	(95% CI)	n	χ^2	B	SE	OR	(95% CI)
Inadequacy	773	9.01**	0.89	.30	2.43	(1.36,4.35)	71	0.11	−0.19	.55	0.83	(0.28, 2.47)
Anxiety	770	11.60***	1.04	.31	2.83	(1.55,5.15)	71	4.34*	1.25	.60	3.49	(2.01, 6.06)
Sensitivity	766	10.34**	1.03	.32	2.80	(1.50,5.25)	68	0.18	0.25	.59	1.28	(0.40, 4.11)
Anger	757	12.11***	0.99	.28	2.69	(1.54,4.71)	67	4.22*	1.13	.55	3.11	(1.04, 9.35)
Tension	769	00.35	0.21	.36	1.24	(0.61,2.51)	70	2.02	1.05	.74	2.85	(0.66,12.40)
Total CMI	773	09.12**	0.58	.19	1.78	(1.22,2.59)	71	0.96	0.39	.40	1.48	(0.67, 3.26)

Note: Wald's chi-square was used to test significance; OR = odds ratio; CI = confidence interval.
* $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE 2

Logistic regression analyses predicting the occurrence of divorce from parent and teacher ratings (TLCS sample)

Variable	Adjusting for sex						Adjusting for sex, education, and age at marriage				
	n	χ^2	B	SE	OR	(95% CI)	χ^2	B	SE	OR	(95% CI)
Conscientiousness											
Parent rating	581	6.38*	−.11	.04	0.89	(0.82,0.98)	3.11+	−.08	.05	0.92	(0.84,1.01)
Teacher rating	393	6.42*	−.12	.05	0.89	(0.81,0.97)	3.30+	−.09	.05	0.92	(0.83,1.01)
Perseverance											
Parent rating	578	0.12	−.02	.05	0.99	(0.90,1.08)	0.02	.01	.05	1.01	(0.92,1.11)
Teacher rating	390	3.16+	−.09	.05	0.92	(0.83,1.01)	1.05	−.05	.05	0.95	(0.86,1.05)
Sympathy/tenderness											
Parent rating	582	2.07	−.06	.05	0.94	(0.86,1.02)	2.12	−.07	.05	0.94	(0.85,1.02)
Teacher rating	364	1.04	−.06	.06	0.94	(0.84,1.06)	0.84	−.06	.06	0.95	(0.84,1.07)
Freedom from vanity/egotism											
Parent rating	580	4.38*	−.09	.04	0.91	(0.84,0.99)	1.60	−.06	.04	0.95	(0.87,1.03)
Teacher rating	391	1.43	−.06	.05	0.95	(0.86,1.04)	0.93	−.05	.05	0.96	(0.87,1.05)

Note: Wald's chi-square was used to test significance; OR = odds ratio; CI = confidence interval.
+ $p < .10$; * $p < .05$.

unrelated to likelihood of divorce. Timing of divorce was significantly associated with the Anxiety and Anger subscales, but was unrelated to the Inadequacy, Sensitivity and Tension subscales. Those who reported symptoms on the Anxiety and Anger subscales had a greater likelihood of earlier divorce. All statistically significant associations remained significant after controlling for age at marriage and education.

Given the moderate correlations among the CMI subscales ($r = .32$ to $r = .50$, mean $r = .40$, $p < .001$), they were averaged to form a Total-CMI measure ($\alpha = .77$). As shown in Table 1, this aggregate measure was significantly associated with the occurrence of divorce, but not the timing of divorce.

TLCS. Associations of the three control variables (sex, age at marriage, years of education) with the personality traits and marital history were investigated. Females were rated significantly higher than males on Sympathy/Tenderness (parent rating only), $t(580) = -2.97$, $p < .01$. Females were also more likely than males to divorce, $\chi^2(1, n = 677) = 4.48$, $p < .05$. Those who married at an older age were rated significantly higher on Perseverance (teacher rating), Freedom from Vanity/Egotism (parent rating), and Conscientiousness (teacher rating) (r's ranged from .10 to .13, all p's $< .05$). An older age at marriage was also associated with less likelihood of divorce, $\chi^2(1, n = 677) = 21.94$, $p < .001$. Those with more education were rated significantly higher on Perseverance, Freedom from Vanity/Egotism and Conscientiousness (r's ranged from .12 to .25, all p's $< .05$). More education was also associated with less likelihood of divorce, $\chi^2(1$ $n = 677) = 11.47$, $p < .001$, and among those who did divorce, a greater likelihood of later divorce, $\chi^2(1, n = 148) = 5.31$, $p < .05$.

Two sets of logistic regression analyses were conducted to predict the occurrence of divorce (no vs yes) and the timing of divorce (later vs earlier)

TABLE 3

Logistic regression analyses predicting the timing of divorce from parent and teacher ratings (TLCS sample)

Variable	n	χ^2	B	SE	OR	(95% CI)	χ^2	B	SE	OR	(95% CI)
		Adjusting for sex					**Adjusting for sex, education, and age at marriage**				
Conscientiousness											
Parent rating	128	3.08+	−.19	.11	0.83	(0.67,1.02)	1.16	−.13	.12	0.88	(0.69,1.11)
Teacher rating	83	4.04*	−.25	.13	0.78	(0.60,1.00)	3.37+	−.24	.13	0.78	(0.60,1.02)
Perseverance											
Parent rating	126	0.06	.03	.10	1.03	(0.84,1.25)	0.52	.08	.11	1.08	(0.88,1.33)
Teacher rating	82	3.89*	−.28	.14	0.75	(0.57,1.00)	2.99+	−.26	.15	0.77	(0.57,1.04)
Sympathy/tenderness											
Parent rating	128	2.83+	−.20	.12	0.82	(0.65,1.04)	2.20	−.17	.12	0.84	(0.66,1.06)
Teacher rating	80	1.64	−.18	.14	0.70	(0.63,1.10)	2.26	−.22	.15	0.64	(0.59,1.08)
Freedom from vanity/egotism											
Parent rating	127	5.83*	−.27	.11	0.76	(0.61,0.95)	3.44+	−.22	.12	0.80	(0.63,1.02)
Teacher rating	83	0.00	.00	.10	1.00	(0.81,1.22)	0.01	.01	.10	1.01	(0.82,1.24)

Note: Wald's chi-square was used to test significance; OR = odds ratio; CI = confidence interval.

$+ p < .10$; $* p < .05$.

from each of the four parent and teacher trait ratings. These analyses were run adjusting for sex only, as well as adjusting for all three control variables. Table 2 shows the results predicting the occurrence of divorce. After controlling for sex, individuals who were rated lower on Conscientiousness and Freedom from Vanity/Egotism (parent rating only) were at significantly higher risk of divorce, and those who were rated lower on Perseverance (teacher only) were at a marginally higher risk of divorce. Only in the case of Conscientiousness did the association remain at least marginally significant after also controlling for age at marriage and education. As shown in Table 3, after adjusting for sex, the timing of divorce was significantly associated with Conscientiousness (marginally for parent rating), Freedom from Vanity/Egotism (parent only), and Perseverance (teacher only), as well as marginally associated with Sympathy/Tenderness (parent only). Those who were rated lower on Conscientiousness, Freedom from Vanity/Egotism, Sympathy/Tenderness and Perseverance were at higher risk for earlier divorce than later divorce. The associations involving Conscientiousness (teacher rating), Perseverance and Freedom from Vanity/Egotism remained marginally significant after also adjusting for age at marriage and education.

Discussion

Results from the present study are consistent with previous research showing that intrapersonal characteristics associated with neuroticism, disagreeableness and impulsivity/lack of conscientiousness predict future divorce. However, the present study significantly extends this research by showing that characteristics which are associated with earlier divorces (those occurring within the first 19 years of marriage) are not necessarily associated with divorces occurring in marriages of longer duration.

It was expected that intrapersonal characteristics associated with impulsivity and disagreeableness would be more strongly associated with earlier than later divorce. Consistent with this expectation, individuals who were rated before marital dissolution as significantly less conscientious, less persevering, less free from vanity/egotism and more angry were at greater risk for divorce. Further, they were also at greater risk for earlier than later divorce. It should be noted that individuals who were rated as less conscientious, less persevering and less free from vanity/egotism tended to get married at a younger age and obtain less education. Both age at marriage and education, in turn, were associated with marital history. Although some of the association between these intrapersonal characteristics and divorce could be explained by age at marriage and education, several of these intrapersonal characteristics remained at least marginally significant predictors of the occurrence and timing of divorce after adjusting for these variables.

Results involving the intrapersonal characteristics relevant to neuroticism, which were expected to be associated with both earlier and later divorce, were mixed. Individuals who reported feeling more inadequate, anxious and sensitive (e.g. feelings were easily hurt, criticism upset them, considered a touchy person) were more likely to divorce, although tension

was not associated with divorce. Inadequacy and sensitivity were not significantly associated with the timing of divorce, indicating that these individuals are at similar risk for earlier and later divorce. Contrary to expectations, those who reported a greater feeling of anxiety were at marginally higher risk for earlier than later divorce, after controlling for age at marriage and education. A closer inspection of the items composing this subscale suggests a possible explanation for this finding. Most of the items assessing anxiety are worded in such a way that endorsing them would indicate rather extreme anxiety (e.g. worrying continually, having a nervous breakdown). One would expect this extreme anxiety to be more strongly associated with divorces occurring relatively early in the marriage. Tension was the only characteristic that did not differentiate between the marital history groups. These results did not change after adjustments for age at marriage and education.

The present study raises the important question of *why* characteristics associated with disagreeableness and impulsivity/lack of conscientiousness are risk factors for divorce only in marriages of less than 20 years duration, whereas characteristics associated with neuroticism are associated with divorce after two or more decades of marriage. Although the present study was not intended to address this question, several explanations seem plausible and could be explored in future research. These explanations point to the potential usefulness of both the *adjustment model* and *perpetual problem model* proposed by Heaton et al. (1985) for understanding the association between risk factors for divorce and the timing of divorce.

For example, it is possible that different types of characteristics create or contribute to different types of problems within the marriage, which affect the timing of divorce. Marriages involving spouses who are undependable and lack a sense of duty, are often angry and unsympathetic, or are primarily interested in their own welfare may experience more immediate, severe and seemingly unresolvable problems compared with marriages involving spouses who are overly sensitive to criticism, feel inadequate, or have their feelings easily hurt. Thus, it is possible that the most disagreeable and impulsive individuals divorce relatively early, leaving less disagreeable and impulsive individuals in the longer-term marriages. Although some of the marriages involving neurotic spouses may dissolve within a few years, many others may be sustainable, despite their problems, for many years before marital breakup finally occurs. Thus, a differential rate of selection into early divorce may result in disagreeableness and impulsivity, but not necessarily neuroticism, being stronger predictors of earlier than later divorce.

It might also be the case that couples tend to adjust to certain risk factors over time, whereas other risk factors continue to pose problems within the marriage. In other words, perhaps spouses in longer-term marriages learn to ignore, accommodate, or otherwise cope with their partner's disagreeableness or impulsivity, whereas spouses continue to experience problems associated with their partner's neuroticism. The extent to which couples

may be able to adjust to these interpersonal risk factors may be due to the selection differences mentioned previously, or may result from differences in the type or frequency of marital problems associated with the risk factors.

Several advantages and disadvantages of this study should be noted. A disadvantage is that the results are based on two samples that are composed of mostly White and middle-class Americans. Further, given the longitudinal nature of these samples, many of the divorces that were studied occurred several decades ago. As a result, the extent to which these results are generalizable to groups with different backgrounds or to more contemporary samples is unclear. Although it is notable that other studies have found similar associations between marital instability and the intrapersonal characteristics investigated in the present study, it would not be prudent to generalize these results directly to the general population, especially in terms of effect size. It should also be noted that the data sets used in this study were not designed to test the hypotheses that were proposed, and the psychometric quality of the measures was not optimal. Given the limitations of these measures, a replication of this study is necessary before firm conclusions can be drawn regarding the strength of associations between intrapersonal characteristics and the timing of divorce.

Some notable advantages of this study arise from its use of two large-scale longitudinal studies, each spanning several decades. The use of these data sets allowed for the prediction of divorce from intrapersonal characteristics that were assessed before divorce. In the case of the TLCS, divorce was predicted from personality traits that were assessed, in the vast majority of cases, before marriage. As a result, the possibility that differences in psychological adjustment between the marital history groups was due to the experience of divorce or to retrospective reporting biases can be ruled out. Further, the use of these data sets allowed for the investigation of predictors of divorce over a significantly longer time-span than what has been typically employed in previous studies, providing an understanding of some of the intrapersonal risk factors for divorce among those who have remained married for at least 20 years.

As Heaton et al. (1985) concluded in their study of demographic predictors of divorce, 'Once the issue of timing is raised, most of our empirical knowledge needs to be re-examined' (p. 638). This conclusion is equally applicable to the literature investigating intrapersonal risk factors for divorce. Results of the present study indicate that certain intrapersonal characteristics, which are associated with earlier divorce, are not associated with later divorce, whereas other characteristics remain as risk factors, or emerge as risk factors relatively late in the marriage. Thus, the extent to which most previous studies provide accurate information about predictors of divorce in longer-term marriages is questionable. Future research needs to focus more attention on longer-term marriages and explicitly investigate differences in the predictors of earlier vs later divorce. Although practical considerations may have previously dissuaded researchers from pursuing

this line of research, the present study points to the fruitfulness of using existing longitudinal data sets in such investigations. In order to more fully understand the determinants of divorce, it is also necessary to understand why and how these intrapersonal risk factors are relevant to the timing of divorce. As noted above, plausible explanations can be generated to account for the present study's findings. Future research will need to explore these and other possibilities.

As the world's population continues to age, and the sociocultural barriers to divorce continue to erode, we can expect not only a high percentage of marriages to end in divorce, but also a significant number of these divorces to occur in long-term marriages. As the results of this study indicate, it cannot be assumed that what is currently known about intrapersonal predictors of divorce in short-term marriages accurately and adequately informs us about the risk factors for divorce in marriages of longer duration. In order to more fully understand the determinants of divorce, increased attention needs to be paid to the timing of divorce.

REFERENCES

Aldwin, C.M., Spiro, A., Levenson, M.R. & Bossé, R. (1989) 'Longitudinal Findings from the Normative Aging Study: I. Does Mental Health Change with Age?' *Psychology and Aging* 4: 295–306.

Becker, G.S. (1991) *A Treatise on the Family.* Cambridge, MA: Harvard University Press.

Bentler, P.M., & Newcomb, M.D. (1978) 'Longitudinal Study of Marital Success and Failure', *Journal of Consulting and Clinical Psychology* 46: 1053–70.

Bossé, R., Ekerdt, D.J. & Silbert, J.E. (1984) 'The Veterans Administration Normative Aging Study', in S.A. Mednick, M. Harway & K.M. Finello (eds) *Handbook of Longitudinal Research: Vol. 2. Teenage and Adult Cohorts*, pp. 273–95. New York: Praeger.

Bradbury, T.N., Campbell, S.M. & Fincham, F.D. (1995) 'Longitudinal and Behavioral Analysis of Masculinity and Femininity in Marriage', *Journal of Personality and Social Psychology* 68: 328–41.

Brodman, K., Erdmann, A.J. & Wolff, H.G. (1949) *Manual for the Cornell Medical Index Health Questionnaire.* New York: Cornell University Medical College.

Bumpass, L.L., Castro Martin, T. & Sweet, J.A. (1991) 'The Impact of Family Background and Early Marital Factors on Marital Disruption', *Journal of Family Issues* 12: 22–42.

Caspi, A., Elder, G.H. Jr & Bem, D.J. (1987) 'Moving Against the World: Life-course Patterns of Explosive Children', *Developmental Psychology* 23: 308–13.

Castro Martin, T. & Bumpass, L.L. (1989) 'Recent Trends in Marital Disruption', *Demography* 26: 37–51.

Costa, P.T. Jr & McCrae, R.R. (1985) *The NEO Personality Inventory Manual.* Odessa, FL: Psychological Assessment Resources.

Franz, C.E., McClelland, D.C. & Weinberger, J. (1991) 'Childhood Antecedents of Conventional Social Accomplishment in Midlife Adults: A 36-year Prospective Study', *Journal of Personality and Social Psychology* 60: 586–95.

Heaton, T.B. (1991) 'Time-related Determinants of Marital Dissolution', *Journal of Marriage and the Family* 53: 285–95.

Heaton, T.B., Albrecht, S.L. & Martin, T.K. (1985) 'The Timing of Divorce', *Journal of Marriage and the Family* 47: 631–9.

Karney, B.R. & Bradbury, T.N. (1995) 'The Longitudinal Course of Marital Quality and Stability: A Review of Theory, Method, and Research', *Psychological Bulletin* 118: 3–34.

Kelly, E.L. (1939) 'Concerning the Validity of Terman's Weights for Predicting Marital Happiness', *Psychological Bulletin* 36: 202–3.

Kelly, E.L. & Conley, J.J. (1987) 'Personality and Compatibility: A Prospective Analysis of Marital Stability and Marital Satisfaction', *Journal of Personality and Social Psychology* 52: 27–40.

Kiernan, K.E. (1986) 'Teenage Marriage and Marital Breakdown: A Longitudinal Study', *Population Studies* 40: 35–54.

Kurdek, L.A. (1993) 'Predicting Marital Dissolution: A 5-year Prospective Longitudinal Study of Newlywed Couples', *Journal of Personality and Social Psychology* 64: 221–42.

Musante, L., Treiber, F.A., Davis, H., Strong, W.B. & Levy, M. (1992) 'Hostility: Relationship to Lifestyle Behaviors and Physical Risk Factors', *Behavioral Medicine* 18: 21–6.

National Center for Health Statistics (1984) 'Advance Report of Final Divorce Statistics, 1981', *Monthly Vital Statistics Report* 32(9): Suppl. (2), DHHS, Publication No. (PHS) 84–1120. Hyattsville, MD: Public Health Service.

Rockwell, R.C., Elder, G.H. Jr & Ross, D.J. (1979) 'Psychological Patterns in Marital Timing and Divorce', *Social Psychology Quarterly* 42: 399–404.

Sears, R.R. (1977) 'Sources of Life Satisfactions of the Terman Gifted Men', *American Psychologist* 32: 119–28.

Sears, R.R. (1984) 'The Terman Gifted Children Study', in S. Mednick, M. Harway & K. Finello (eds) *Handbook of Longitudinal Research*, Vol. 1, pp. 398–414. New York: Praeger.

Terman, L.M. (1938) *Psychological Factors in Marital Happiness*. New York: McGraw-Hill.

Terman, L.M. & Oden, M.H. (1947) *The Gifted Child Grows Up: Twenty-five Year Followup of a Superior Group*. Stanford, CA: Stanford University Press.

Tucker, J.S. & Friedman, H.S. (1996) 'Emotion, Personality, and Health', in C. Malatesta-Magai & S. McFadden (eds) *Handbook of Emotion, Adult Development and Aging*. London: Academic Press.

Tucker, J.S., Friedman, H.S., Wingard, D.L. & Schwartz, J.E. (1996) 'Marital History at Midlife as a Predictor of Longevity: Alternative Explanations to the Protective Effect of Marriage', *Health Psychology* 15: 94–101.