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Patterns and Predictors of Growth in Divorced Fathers' Health Status and Substance Use

David S. DeGarmo, PhD, John B. Reid, PhD, Leslie D. Leve, PhD, Patricia Chamberlain, PhD, and John F. Knutson, PhD

Oregon Social Learning Center, Eugene, Oregon (DSD, JBR, LDL, PC); Department of Psychology, University of Iowa, Iowa City, Iowa (JFK)

Abstract

Health status and substance use trajectories are described over 18 months for a county sample of 230 divorced fathers of young children aged 4 to 11. One third of the sample was clinically depressed. Health problems, drinking, and hard drug use were stable over time for the sample, whereas depression, smoking, and marijuana use exhibited overall mean reductions. Variance components revealed significant individual differences in average levels and trajectories for health and substance use outcomes. Controlling for fathers' antisociality, negative life events, and social support, fathering identity predicted reductions in health-related problems and marijuana use. Father involvement reduced drinking and marijuana use. Antisociality was the strongest risk factor for health and substance use outcomes. Implications for application of a generative fathering perspective in practice and preventive interventions are discussed.

Keywords

general health and wellness; depression; alcohol use; drug use; divorced fathers

Epidemiological evidence shows that divorce is linked to greater mental and physical health problems, including depression and anxiety (Bruce, 1998), and disproportionately high rates of vehicle accidents, alcoholism, suicide, and homicide (Blazer, Kessler, McGonagle, & Swartz, 1994; Bruce, 1998; Kitson & Morgan, 1990). Furthermore, recent evidence from the National Health Interview Survey indicates that health differentials between divorced and married adults have increased over the past three decades (Liu & Umberson, 2008). Many of these health disparities can be more severe for men. Divorced men are more likely than males of any other marital status to engage in health-compromising behaviors such as substance use and drinking and driving (Umberson & Williams, 1993), and the mortality rate differential between divorced and married men is greatest for causes of death involving behavioral components such as suicide and accidents (Koskinen & Martelin, 1994).

Despite the growing evidence for health disparities in divorced men, little is known about factors associated with the health status of divorced fathers. Regarding substance use and abuse, research on alcohol and drug use with men has largely neglected the role of fathering and parenting roles (Parke, 2002; Phares, 2002), resulting in experts calling for a better understanding of how drug and alcohol abuse contributes to compromised fathering and in turn how father characteristics and stressors are associated with maintenance and growth in substance abuse over time (McMahon & Rounsaville, 2002). Given that men's health is

inexorably linked to the health and well-being of women and children in families (Bonhomme, 2007), divorced fathers are an important population to address because they are an understudied population that may be residential or nonresidential fathers to their children.

Furthermore, studies have shown that involvement of nonresidential fathers has direct benefits for mothers and children in divorced families (Aquilino, 2006; Simons, Whitbeck, Beaman, & Conger, 1994). Conversely, involvement of nonresidential fathers with antisocial characteristics and substance use have been shown to increase the risk of children's psychopathology, substance use, and later divorce (Collins, Ellickson, & Klein, 2007; Jaffee, Moffitt, Caspi, & Taylor, 2003; Wolfe & Mash, 2006). We, therefore, argue that it is important to understand specific risk and protective factors associated with postdivorce health outcomes and substance use for residential and nonresidential divorced fathers. In this study, we describe longitudinal health and substance use patterns for a county sample of 230 divorced fathers with 4- to 11-year-old children and test hypothesized risk and protective factors.

Theoretical Models of Divorced Fathers' Health and Substance Use

The theoretical framework employed in this report incorporates theories of divorce and health status. Social drift and selection models suggest that individuals with better health are more likely to get married and stay married (Kitson, 1992). Conversely, individuals with psychopathology and antisocial characteristics are more likely to engage in health-compromising behaviors and substance use and are more likely to experience marital instability (Amato, 2000; Dohrenwend et al., 1998; Reid, Patterson, & Snyder, 2002). Beyond selection models, however, the majority of researchers explain health consequences of divorce as either a *marital resource model* or as a *stress crisis model* (Aseltine & Kessler, 1993; Liu & Umberson, 2008). A marital resource model suggests that marital status provides social, psychological, and socioeconomic resources that directly promote mental and physical health. Similarly, parenting models propose that psychological, interpersonal, and socioeconomic resources directly benefit a father's well-being and, in turn, his parenting quality (Belsky, 1984; Pleck, 1997; Simons & Johnson, 1996). We hypothesize that fathers with higher socioeconomic resources and who are married or repartnered by entry into the study will exhibit better health outcomes.

A divorce crisis model suggests that stressors such as changing roles, sole parenting, loss of social support, and other divorce-related stressful events explain observed declines in mental and physical health (Braver, Shapiro, & Goodman, 2006). One national study, for example, found that the reported strains associated with changing parenting roles for divorced men accounted for the relationship between divorce and fathers' depression (Umberson & Williams, 1993) and that these strains partially mediate the effect of divorce on fathers' alcohol consumption. Similarly, substance use research has shown that stress from parenting high-demand children is associated with increased alcohol consumption (Pelham & Lang, 1999).

On the other hand, divorced fathers who are able to manage changing parenting demands and maintain contact with their children may benefit from better mental health. A meta-analysis and a review have reported that custodial fathers exhibit higher psychological well-being when compared with noncustodial fathers (Bauserman, 2002; Madden-Derdich & Leonard, 2000). These studies propose that shared- and full-custody fathers may have better adjustment because of increased contact with their children. Better health, in turn, is likely to contribute to more involved parenting. In the present study, controlling for custody status, we will test the hypothesis that father involvement and higher levels of contact with children promotes health outcomes.

A key factor related to father involvement is the fathers' commitment and identity with the parenting role. We will test whether identity salience of the father, a relevant factor for

postdivorce involvement, also has beneficial impact on fathers' health outcomes. Identity salience is the priority the fathering role holds for a father when compared with other possible role identities. Data have shown that identity salience predicted growth in father–child contact over a year and a half and a greater number of father–child activities, replicating effects of identity salience in a prior cross-sectional study (Fox & Bruce, 2001).

Finally, along with coping strategies, social support is the most extensively studied interpersonal resource for understanding health and psychological well-being (Schwarzer & Leppin, 1991; Thoits, 1995). Social support is often specified as an additive main-effects buffer to stress or as a moderating buffer that tempers the negative impact of stress on health. Social support is particularly relevant for divorced fathers because fathers have a higher dependence on romantic partners, friends, and extended kin networks following divorce (Eggebeen, Snyder, & Manning, 1996; Stone, 2002), and men seek and access support differently than women. A recent study found that social support for specific parenting needs buffered detrimental effects changes in stress, coparenting conflict, and role overload in predicting change in fathers' parenting behaviors (DeGarmo, Patras, & Eap, 2008).

Present Study Goals and Hypotheses

We extend earlier fathering studies that have primarily focused on predictors of father involvement to specify models of fathers' mental and physical health and substance use. The extant literature has focused more on fathers' mental health and less on physical health status. We will employ a self-reported construct on several dimensions of morbidity. For substance use, the majority of divorce research for men has focused on alcohol consumption. We extend those studies by including smoking cigarettes, marijuana use, and illicit drug use. Based on the literature outlined above, we hypothesized that risk factors including fathers' antisociality and negative life event stress will be associated with increased levels of poor health and substance use outcomes. Conversely, we expected that structural resources of marital status and socioeconomic status will be associated with better health and that interpersonal resources of social support, father involvement, and identity salience will be associated with better health over time.

Method

Participants were 230 divorced fathers from the Oregon Divorced Father Study (ODFS). Fathers were recruited from a large metropolitan county in Pacific Northwest via public court records. Fathers with children between the ages of 4 and 11 years and a divorce decree date occurring within 24 months from the time of recruitment were eligible. Fathers were asked to participate in the study through letters describing the nature of the project and full explanation of study activities. Court records were screened for children within the targeted age range. Seventy-eight percent of the fathers chose to and were able to enroll the focal child. The mean age of the participating focal child was 7.65 years ($SD = 1.98$); 47% were girls.

Father's age ranged from 22.9 to 63.4 years ($M = 37.8$; $SD = 7.7$), education ranged from 1 (less than eighth grade) to 13 (advanced doctorate; $M = 7.2$; $SD = 2.9$), and annual income ranged from 1 (<\$5,000) to 10 (>\$100,000; $M = 5.4$; $SD = 2.2$). Thirteen percent of the fathers self-identified as racial minorities and 17% identified their children as racial minorities, reflective of the county demographics.

For analyses of fathering determinants or fathering impact in the original study design, custody status was defined as a father's *legal* and *physical custody* to better understand the developmental impact of father–child interactions. The ODFS consisted of “full custody,” defined as sole legal or sole physical custody ($n = 46$, 20%); “shared custody,” defined as joint

legal or joint physical custody ($n = 114$, 50%); and “no custody,” defined as no legal or physical custody rights to children ($n = 70$, 30%).

We found that 92% of full-custody fathers and 95% of shared-custody fathers enrolled the targeted focal child, whereas 41% of no-custody fathers enrolled the focal child. Therefore, not all full- and shared-custody fathers had their children participate in the center assessments. However, all fathers, including those with no custody, completed questionnaire and interview data on indicators of their own and their children's adjustment. A large majority (96%) of all fathers in the study reported having some regular contact with the focal child.

To assess generalizability, data were also collected on nonparticipants in the county sampling frame; for those comparisons, custody status was restricted to legal custody reported in the court records. Compared with the county demographics, the final sample slightly overrepresented full-custody fathers and slightly underrepresented no-custody fathers. Therefore, sample weights were applied in the ODFS using procedures to correct for oversampling or undersampling based on custody status and to correct for differential response rates by custody (Braver & Bay, 1992). Weighting details, response rates, and location rates are provided elsewhere (DeGarmo et al., 2008).

Data were collected over three waves: baseline (Time 1), a 9-month follow-up (Time 2), and an 18-month follow-up (Time 3). The retention rate for Time 3 was 82% of the original sample. Data in this report were obtained from paper-and-pencil questionnaires, face-to-face interviews, and self-administered computer questionnaires. Data were collected during a father-child or father-support person visit at each wave. Each center visit took approximately 2.5 hr. All participants were provided childcare, transportation, and a meal if requested (delivered local take out). Participants were paid approximately \$25 an hour for their time. All research reported on here was conducted in accordance with the ethical standards of the American Psychological Association for the treatment of human participants. All recruitment, informed consent, and assessment procedures were approved by the host institution's internal review board.

Measures

Health Outcomes

Father Morbidity was a composite score measured with four indicators collected from a health questionnaire. Scores included (a) a scale scored from 5 items in response to “How much do physical health problems interfere with job, ... parenting, ... significant relationships, ... other relationships” rated from 1 (*not at all*) to 5 (*a great deal*); (b) a checklist of 13 common health problems (e.g., severe arthritis, severe asthma, chronic stomach or gall bladder problems, ulcers, etc.); (c) a rating of overall health from 1 (*excellent*) to 5 (*very poor*); and (d) a rating of experience with pain as a result of health problems from 1 (*constant*) to 5 (*not at all*). The morbidity composite was the average of all scores rescaled 0 to 1 ($\alpha = .81$).

Depression was measured with the Center for Epidemiological Studies Depression Scale (Radloff, 1977), a 20-item symptom-oriented index. Summed items are on a 4-point scale (0-3) indicating frequency of events during previous week, ranging from *Rarely or none* (0-1 day) to *Most or all of the time* (5-7 days). Sample items were felt depressed, fearful, lonely, and hopeful about the future ($\alpha = .88$). Clinical depression was estimated with the 18 or higher cut score on the Center for Epidemiological Studies Depression Scale.

Substance Use Outcomes

Fathers' substance use scores were obtained from a self-administered computerized questionnaire. Alcohol Use was a composite computed from three separate scores assessing

frequency, quantity, and risk. (a) Frequency was a single item, "How often do you have any drink containing alcohol, whether it is wine, beer, hard liquor, or any other alcoholic beverage?" Items were rated from 0 (*never use*) to 12 (*three or more times a day*). (b) Quantity was computed from three items, "When drinking, how often do you have as many as 5 or 6 drinks? ... 3 or 4 drinks? ... 1 or 2 drinks?" Items were rated from 1 (*never*) to 5 (*nearly every time*). The quantity score was the average of 5.5, 3.5, and 1.5, respectively, times the response scale. (c) Drinking Risk was a summative score of 4 dichotomous items, "Do you become argumentative or irritable when drinking?" (scored 1 for responding very often, else, 0); "Which best describes with whom you usually drink" (scored 1 for drink alone only, else 0), "... when you drink" (scored 1 for everyday, else 0, e.g., special occasions), and "... where you drink" (scored 1 for endorsing all: home, restaurants, cocktail lounges, bars). The frequency, quantity, and risk scores were each rescaled 0 to 1 and then averaged. Interscore correlations ranged from .47 to .56 ($p < .001$) across all waves.

Smoking frequency was an open-ended question, "On average how many cigarettes or cigars do you smoke a day?" Fathers reported a range of 0 to 35 cigarettes a day across all waves.

Marijuana frequency was a single item, "In general, how often do you smoke marijuana or hashish?" Fathers rated from 0 (*never tried*) to 12 (*three or more times a day*).

Hard drug use was the average of 8 items rated from 0 (*never tried*) to 12 (*three or more times a day*), including cocaine, speed, LSD, heroin, angel dust, morphine, and other drugs.

Hypothesized Interpersonal Risk and Resource Variables

Marital Status/Repartnering was measured as stably cohabiting with a new marital or an intimate partner for 3 or more months. Thirty-one percent of the fathers were repartnered by Time 1.

Socioeconomic Status (SES) was measured as the average of three standardized measures: income, education, and occupational prestige. Education was measured with years of schooling completed, ranging from 1 (*less than eighth grade*) to 13 (*postgraduate training*). Income was measured by annual categories ranging from 1 ($< \$5,000$) to 10 ($> \$100,000$). Occupational Prestige was measured using the Hollingshead Four Factor Index of Social Status (Hollingshead, 1975). Occupation categories ranged from 1 (*menial unskilled laborer*) to 9 (*major professional, executive, large business owner*). The SES scores were intercorrelated, ranging from .36, .40, and .51 ($p < .001$).

Fathers' Antisociality was measured with two self-report instruments: the 20-item Acting Out sub-scale of the Minnesota Multiphasic Personality Inventory–TRI (MMPI-TRI; Swanson, Templer, Streiner, Reynolds, & Miller, 1995) and the 12-item Agreeableness subscale from the NEO–Five Factor Inventory (NEO-FFI; Costa & McCrae, 1995). The MMPI-TRI is a shortened version of the MMPI/MMPI-2 self-report personality inventories. Acting-out items evidencing content validity and the highest point-biserial item-total correlations were retained for the shortened MMPI. Examples of the summed *true* or *false* items were the following: suspended from school one or more times; when I was young I stole things; at times I feel like picking a fist fight with someone; I can easily make people afraid of me and sometimes do it for fun ($\alpha = .82$). The NEO is a standard personality inventory with alphas ranging from .89 to .92 for extroversion, openness, and agreeableness in validation studies of adults (Costa & McCrae, 1995). Agreeableness items were rated from 5 (*disagree*) to 1 (*strongly agree*) including the following: I often get into arguments with my family and coworkers; if I do not like people I let them know it; if necessary I am willing to manipulate people to get what I want; I try to be courteous of everyone I meet, and so on ($\alpha = .82$). The MMPI and NEO indicators were standardized and averaged ($r = .51$; $p < .001$).

Perceived Social Support was measured with the Interpersonal Support Evaluation List (Cohen & Hoberman, 1983), evaluating the perceived amount of support available if needed. The measure included 16 Likert-type items ranging from 1 (*definitely true*) to 4 (*definitely false*). For example, other than my partner or children, there are several people that I trust to help solve my problems ($\alpha = .84$).

Negative Life Events were measured with the Sarason Stress and Life Experiences Survey (Sarason, Johnson, & Siegel, 1978), a 46-item summative index of life events.

Fathering Identity Salience was measured from the Parental Identity Questionnaire (DeGarmo & Forgatch, 2002), which obtains an index ranking score from two sections of paired comparisons of role identities (e.g., parent, employee, friend, partner). The first section reads, "Thinking about social roles that you are involved in, compare each pair below. Shade the circle that best answers the statement 'I define myself as more a ____ than I define myself as a ____.'" Each role identity was then totaled for the number of times it was answered first in a comparison. In the second section, respondents were asked to "think about meeting people for the first time ... if you were to think about meeting a new roommate, what would you tell them about yourself first? ... second? and so on." Fathers ranked their roles from first to last for (a) telling a news reporter about yourself, (b) meeting someone new at work, (c) meeting a friend of a close friend, and (d) meeting someone at a party. Both sums were rescaled 0 to 1 and totaled ($\alpha = .69$).

Father–Child Contact per Month was measured from a computerized interview with the father, adapted from Braver et al. (1993). Contact was computed from the mean of the number of weekday and weekend days per month for contacts with the child and the number of overnight stays and visits during the school year.

Analytic Strategy

The basic analytic approach specified hierarchical linear growth models to test predictors of individual health trajectories over time (HLM; Raudenbush & Bryk, 2002). Several basic steps were taken. First, missing data were evaluated to assess randomness and attrition. Second, the observed longitudinal data were used to describe and estimate 18-month average levels and growth rates for father health outcomes. Finally, hypothesized predictors of growth in health were tested using multivariate prediction models.

HLM is a multilevel regression framework. Models are hierarchical because Level 1 outcomes are time-varying repeated measures nested within individuals at Level 2. To understand the patterns of postdivorce health, outcomes were modeled as average levels and growth rates over the 18-month study period. In short, individual differences and variance in trajectories (either increases or decreases) are estimated for each father at the Level 1 model. These estimated intercepts and linear slopes then become the focus as dependent variables in the Level 2 model. At Level 2, the aggregate sample means and variances for intercepts and growth rates are regressed as dependent variables on Level 2 predictors.

HLM provides several advantages for this study. In the present study, three repeated measures were used: baseline, 9-month follow-up (0.75 years), and 18-month follow-up (1.50 years). Ideally, all fathers would be assessed at 0.75-year follow-up and at 1.5-year follow-up. In reality, however, fathers were more or less sporadic in follow-up visits, resulting in assessments that were at .84 ($SD = .13$) and 1.44 years ($SD = .38$). Therefore, the sample was assessed on the average as planned but varied in fathers' individual timelines. HLM provides the ability to estimate growth trajectories based on each individual's timeline, a relevant feature for the study adjustment following acute stressors such as divorce. A growth rate for a more difficult to assess father, for example, could be modeled across data collected at 10- and 11-month

intervals as opposed to the designed 9-month intervals, thus accounting for more accurate and more reliable estimates in health trajectories. Other key advantages are the ability to estimate nonlinear estimates for Bernoulli distributed binary outcomes and Poisson distributed count data. For the present analyses, for example, we specified fathers' clinical cut scores for depression as a binary growth outcome and reported number of cigarettes/cigars a day as a nonlinear count probability. The general growth model specified was

$$\text{Level 1 Father Health}_i = \pi_{0i} + \pi_{1i}(\text{Time}) + e_{ti},$$

where the dependent variable for father i was repeated over three waves to estimate π_{0i} as the time-centered average level intercept and $\pi_{1i}(\text{Time})$ as the linear growth rate from baseline to 18 months. The intercept and growth rate parameters then become the focal outcomes in the Level 2 model regressed on predictors,

$$\begin{aligned} \text{Level 2 Intercept } \pi_{0i} &= \beta_{00} + \beta_{01}(\text{risk factors}) + \beta_{02} \\ &(\text{Interpersonal resources}) + \dots + \beta_{0n} + \dots + r_{0i}, \\ \text{Level 2 Growth } \pi_{1i} &= \beta_{10} + \beta_{11}(\text{risk factors}) + \beta_{12} \\ &(\text{Interpersonal resources}) + \dots + \beta_{1n} + \dots + r_{1i}, \end{aligned}$$

where β_{00} is the mean intercept for the sample aggregated from individual estimates and β_{10} is the mean growth rate for the sample. The subsequent beta coefficients are effects of the predictors plus a random error term.

Results

Missing Data

We first conducted attrition analyses comparing those fathers retained at Time 3 (82%) with those lost to follow-up on the baseline-dependent variables and predictors in the present analyses. Results revealed no significant differences between fathers remaining in the study at Time 3 compared with attriters on the dependent variables or predictors. The data indicated that fathers lost to follow-up were marginally more antisocial on the antisociality construct ($M = .36$, $SD = 1.09$ and $M = -.03$, $SD = .85$, respectively; $t = 1.81$, $p < .09$) and scored higher on the alcohol construct ($M = .38$, $SD = .18$ and $M = .31$, $SD = .18$, respectively; $t = 1.86$, $p < .08$).

Next we tested patterns of missing data for variables in the Level 1 data file of repeated outcome measures and in the Level 2 baseline father predictors. Little's test of missing data revealed that the data were missing completely at random (MCAR) for the Level 1 health trajectory data (Little's MCAR chi-square [121] = 140.07; $p = .11$) and the Level 2 predictors (MCAR chi-square [66] = 71.71; $p = .29$). HLM incorporates missing data at Level 1 and estimates linear trajectories based on available data, appropriate for data missing at random. HLM does not incorporate missing data at Level 2. For Level 2, we used Bayesian-estimated imputed values for missing data as recommended (Brown et al., 2008; Schafer & Graham, 2002).

Health and Substance Use Patterns Over Time

We next focused on health and substance use trajectories. The observed means and standard deviations by time are provided in the top part of Table 1 for the continuous or count data as well as the proportion of fathers above the clinical cut score for depression. Because of the distributional properties for the frequency of marijuana, we modeled marijuana as the log transformed frequency. Possible score ranges are provided in headings for interpretation. The

bottom of the table presents the estimated average levels and linear growth rate means for the sample as well as their variances. Results for average levels indicated that each of the sample means (β_{00}) for father health outcomes were significantly different from zero and each of the outcomes obtained significant variance components (r_{0i}), meaning there were significant individual differences in fathers' poor health outcomes and substance use patterns.

Starting with the morbidity construct score in the first column for measures of health problems, rated pain, and interference with social relationships, the observed means were relatively stable over time as indicated by the nonsignificant mean growth rate for the sample. The estimate average level was .16, which was significantly different from zero, and the variance component indicated that there were significant individual differences in fathers' health levels. In addition, the significant variance component for growth in health meant that although sample mean was zero, there were individual differences in growth rates. Some fathers improved in health and others declined.

For depression, the observed data indicated one third of the sample was clinically depressed at baseline, but the sample showed a 13% reduction in clinical depression by Time 3. The estimated probabilities also indicated there was significant decline in rates of clinical depression for the whole sample as indicated by the mean growth rate parameter ($-.45, p < .001$). In fact, the variance component for the growth rate probabilities indicated that there were no significant individual differences, meaning that for depressed fathers, the majority showed similar decreases in clinical depression over time. The probability estimates for average levels translated to an odds ratio of .38, with an estimated 30% reduction over time.

Alcohol consumption exhibited stability over time but there were significant individual differences in which some fathers increased their drinking and other fathers decreased their drinking. Although drinking remained stable, fathers decreased in the number of reported cigarettes/cigars smoked daily; however, the variance components were significant for average levels and growth rates over time, meaning some fathers increased in smoking whereas the sample on the average declined over time. The estimated odds ratios for the sample as an average translated to a .28 probability of smoking, with a 31% reduction in smoking risk over time.

Like depression, marijuana use was the only other dependent variable to exhibit improvements in the sample as a whole, with an estimated .04 reduction in the log frequency of marijuana. Illicit hard drug use was stable over time with no mean change, but there were significant individual differences among fathers using drugs over time.

Predictors of Health and Substance Use

In the final step, we entered the hypothesized predictors of average levels and growth rates over time. Predictors for growth in depression and marijuana are estimated as fixed effects rather than random effects coefficients because the random error terms for growth were nonsignificant in the unconditional models in Table 1. Results of the multivariate prediction models are presented in Table 2 with average-level outcomes at the top and growth rates at the bottom.

For fathers' morbidity, as expected, significant protective factors for levels of health problems included SES ($\beta = -.016; p < .05$) and social support ($\beta = -.001; p < .01$). Significant risk factors were antisociality ($\beta = .038; p < .001$) and negative life events ($\beta = .003; p < .001$). However, marital status, identity salience, and contact were not protective factors for average levels of health problems over the study period. In terms of explaining which fathers changed in health status over time, no-custody fathers improved in health at a faster rate than full-custody fathers ($\beta = -.023; p < .05$), and fathers with higher levels of fathering identity salience

reported significant reductions in health problems from baseline to Time 3 ($\beta = -.062$; $p < .05$).

For depression, consistent with health, antisociality and negative life events were significant risk factors for levels of depression, and social support served as a protective factor. The coefficients translated to odds ratios of .58 for SES or a 42% reduction in likelihood, only 8% reduction for social support. Antisocial fathers were 2.60 times more likely to be clinically depressed, and a unit increase in negative life events was associated with 9% increased risk. Although marital status was not associated with health problems, cohabiting with a new marital or intimate partner predicted lower levels of clinical depression in the sample ($\beta = -.545$; $p < .05$), a 37% reduced risk. None of the variables accounted for change variance in depression.

Focusing on the substance use outcomes, the data indicated that the strongest risk factor was fathers' antisociality, which predicted higher levels of drinking ($\beta = .042$; $p < .01$), smoking ($\beta = .957$; $p < .001$, an odds ratio of 2.63 times more risk), marijuana ($\beta = .125$; $p < .01$), and illicit drug use ($\beta = .113$; $p < .001$). For average levels, SES was the only other significant predictor, with higher levels of SES associated with lower levels of smoking ($\beta = -.986$; $p < .05$), an odds ratio of .37 or 63% reduced risk.

For growth, like health, no-custody fathers reduced their drinking and marijuana use at faster rates than full-custody fathers. Father-child contact was associated with reductions in drinking growth rates ($\beta = -.003$; $p < .01$) and frequency of marijuana use ($\beta = -.008$; $p < .05$). Identity salience was also significantly associated with change in marijuana use ($\beta = -.162$; $p < .05$). Contrary to expectations, negative life events were significantly associated with greater reductions in rates of marijuana use over time.

Discussion

The purpose of this report was to describe health and substance use patterns for divorced fathers of young children in a county-representative sample. Multivariate models tested hypothesized predictors of health outcomes. Overall, the hypothesized risk and protective factors explained the most variance in 18-month levels of morbidity (36%), depression (28%), and marijuana use (19%), as well as 22% of the variance of growth in health problems. The data showed that fathers' health problems, drinking, and hard drug use were stable over time for the sample, whereas depression, smoking, and marijuana use exhibited overall mean reductions.

Given the time frame, the data suggested that health problems, alcoholism, and hard drug use were more chronic and depressive symptoms were more dynamic over time for these fathers, consistent with other studies of divorced mothers demonstrating negative slopes for depressed mood (Simons & Associates, 1996). At the same time, fathers' depression showed a pattern of adjustment following a prior acute stressor, one third of the sample was clinically depressed at baseline assessment, more than one and a half times higher than expected in the general population (Frerichs, Aneshensel, & Clark, 1981; Radloff, 1977). Furthermore, fathers were still elevated compared with the general population after a year and half, underscoring a need to address mental health outcomes for fathers experiencing marital transitions.

Another social need identified in the data was the levels of stability observed for health problems and drinking. Examining variance components in these outcomes also revealed that there were significant individual differences in average levels for all outcomes over the year and a half study period as well as significant differences in trajectories for all outcomes except depression and marijuana use. Among the predictors, fathers' antisociality was the strongest risk factor in predicting average levels of health problems and substance use; in fact, it was associated with all individual outcome measures. Among the protective factors, identity

salience was the only independent predictor of health trajectory growth rates, and father involvement with his child independently predicted reductions in drinking and marijuana use.

In summary, the present findings suggested that individual practice or larger group-supported interventions with divorced fathers would benefit from dealing with the risk of antisocial personality and fathers' identity with the fathering role. The protective benefits of SES and social support on health outcomes are well documented (Adler et al., 1994; Thoits, 1995). Unique to present findings were evaluations of fathering identity and father involvement as potential protective factors. Furthermore, a father's identity could likely be a more malleable target component of intervention.

Implications for Preventive Intervention and Future Directions

There are currently very few evidence-based programs for divorced fathers that focus on reducing risk for adjustment problems (cf., Cookston, Braver, Griffin, De Lusé, & Miles, 2007). Strengthening a father's identity and commitment to his relationship with his child could buffer the stress that accompanies the marked potential changes in parenting routines, social roles, and residence. DeGarmo et al. (2008) reported higher levels of stress for full-custody fathers relative to shared- and no-custody fathers. In the present analysis, no-custody fathers improved in health status compared with full-custody fathers. Shared-custody fathers did not improve relative to full-custody fathers. This may indicate that levels of custodial responsibility increases parenting demands and stress levels for divorced fathers, underscoring a need to deal with consequences of this stress, such as health and substance use, known to predict child adjustment (Biglan, Mrazek, Carnine, & Flay, 2003).

A generative fathering perspective (Brotherson, Dollahite, & Hawkins, 2005) could be a promising cognitive behavioral approach to restructuring fathering identities to strengthen his connections with his children and to help manage stress. A generative perspective focuses on commitment and the child's needs, moral development, and viewing fathering as responsible work with rewards, and not viewing fathering as a supplemental help to the mothers. Although historically fathers are becoming more involved in their children's lives, fathers still identify with being the breadwinner-provider (Mauer & Pleck, 2006) and caregiving is still primarily defined as woman's work. Successful clinical work may need to cognitively redefine tasks that are nontraditional for men as still somehow being masculine (Doucet, 2004). Men need to think of being partners and not as helpers to mothers, and couple's interventions need to give parenting the same weight as other domestic chores (Parke & Brott, 1999).

Generative fathering perspectives may also be helpful in working with antisocial and substance using fathers, a more challenging and difficult population to treat. Clinical work with maltreating and abusive fathers have shown that fathers are more responsive to interventions pointing out the welfare and needs of the children as a focal point for addressing harmful interactions with spouses and children (Rosenberg & Wilcox, 2006; Scott & Crooks, 2004).

Some advantages of the present study included the use of longitudinal data controlling for months since divorce decree in a county population of divorced fathers. The analyses employed techniques flexible enough to model variance in levels and trajectories of health and substance use. Typically, studies have focused on shared custody families or nonresidential fathers only. We examined a range of health characteristics for a sample of fathers with a range of contact with their children and a range of custodial responsibilities. It will be important to follow longer term consequences of father characteristics and their direct impact on children's well-being. More specificity on the mutual influences across time need to be addressed as it is likely that improved health in turn promotes maintained father-child contact and fathering skills.

Future efforts should be aimed at delineating developmental pathways of fathering effects on child adjustment. The present article employed multiple indicators of problems with alcohol and substance use. The majority of studies for divorced men have focused mainly on drinking. It is also well known that children exposed to parental drug and alcohol use are at risk for maladjustment and later drug use (Biglan et al., 2003). Recent evidence suggests that subclinical drinking problems are more prevalent than clinical drinking problems and might have a more pervasive impact on child adjustment than alcohol dependence (Keller, Cummings, & Davies, 2005). Similar to health outcomes, it will be important to understand factors associated with drug use and potential intervention and treatment impacts, an area of research that has generally been ignored in fathering research, and vice versa, assessing fathering domains has been ignored in treatment research (McMahon & Rounsaville, 2002).

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Figure 1.
Significant random effects slopes of identity salience predicting growth in father health.

Means and Standard Deviations for Health Outcomes and Estimated Sample Means and Variances for Unconditional Growth Model (Variable Ranges in Parentheses)

Table 1

	Morbidity Construct (0-1)	Clinical Depression (Percentage)	Alcohol Construct (0-1)	Smoking Count (0-35)	Log <i>f</i> Marijuana (0-2.5)	Illicit Drugs (0-1)
Time 1						
<i>M</i>	.16	.33	.32	3.38	.76	.25
<i>SD</i>	.09		.18	6.92	.57	.31
Time 2						
<i>M</i>	.17	.27	.33	2.86	.70	.24
<i>SD</i>	.10		.19	6.38	.58	.31
Time 3						
<i>M</i>	.16	.20	.32	2.91	.67	.23
<i>SD</i>	.09		.18	6.45	.53	.29
Estimates for 18-month unconditional growth model						
Average levels						
<i>M</i> β_{00}	.16***	-1.12***	.32***	-1.27***	.72***	.25***
<i>VAR</i> r_{0i}	.01***	1.75***	.02***	6.73***	.24***	.08***
Growth rates						
<i>M</i> β_{01}	-.01	-.45**	-.00	-.37***	-.04*	.01
<i>VAR</i> r_{1i}	.001**	.003	.004***	.66***	.01	.01***

* $p < .05$.

** $p < .001$.

*** $p < .001$.

Table 2
Unstandardized Coefficients for 18-Month Average Levels and Growth in Father Health Outcomes

	Morbidity Construct	Depression Probability	Alcohol Construct	Smoking Probability	Log f Marijuana	Illicit Drugs
Eighteen-month average levels β_{0i}						
Shared custody	.006	.499	-.009	-.266	.036	.056
No custody	.020	.697	-.039	-.234	-.096	.015
Repartnered	.001	-.545*	.005	-.029	.051	-.012
SES	-.016*	-.461*	-.017	-.986**	-.032	-.038
Antisociality	.038***	.970***	.042**	.957***	.125**	.113***
Perceived support	-.001**	-.077***	.000	.014	-.004	.002
Negative life events	.003***	.092***	-.001	-.064	.001	.004
Identity salience	-.001	-.427	-.003	2.205	.132	.144
Contact per month	-.000	.007	-.000	.006	-.001	-.001
PVE	36%	28%	3%	2%	19%	9%
Eighteen-month growth rates β_{1i}						
Shared custody	-.010	-.709	-.026	-.013	-.051	.035
No custody	-.023*	-.850	-.068*	.283	-.137*	-.002
Repartnered	-.002	.432	.001	-.103	.075	-.013
SES	-.002	-.270	.008	-.153	.022	-.023
Antisociality	-.005	-.075	-.008	.121	.015	-.008
Perceived support	-.000	-.021	-.001	-.003	-.003	.002
Negative life events	-.001	-.023	-.000	.000	-.009*	-.004
Identity salience	-.062*	-.108	-.056	-.231	-.162*	-.146
Contact per month	-.001	-.039	-.003**	-.008	-.008*	-.001
PVE	22%	0%	6%	0%	23%	0%

Note: Models control father age, child age, sex of child, and months since divorce decree. SES = socioeconomic status; PVE = proportion of variance explained.

* $p < .05$.

** $p < .001$.

*** $p < .001$.