

Retirement, Risky Alcohol Consumption and Drinking Problems among Blue-Collar Workers*

SAMUEL B. BACHARACH, PH.D.,[†] PETER A. BAMBERGER, PH.D.,[†] WILLIAM J. SONNENSTUHL, PH.D.,
AND DANA VASHDI, M.SC.[†]

Smithers Institute, School of Industrial and Labor Relations, Cornell University, Ithaca, New York

ABSTRACT. Objective: In this study, we assess the initial effects of employment status (not yet retired/continued employment, retirement with bridge employment and full retirement) on the alcohol consumption and drinking problems of retirement-eligible blue-collar workers. **Method:** Data were collected at two points from a random sample of members of nine unions within 6 months of retirement eligibility. Alcohol consumption and drinking problem data were collected from 1,279 members 6 months prior to retirement-eligibility (T1) and from 1,083 retained respondents 1 year later (T2). At T2 respondents were categorized as (1) not yet retired, (2) retired but engaging in bridge employment or (3) fully retired. **Results:** Across all of the models tested, alcohol consumption and drinking behaviors at T1 were significant predictors of those same patterns of consumption or behavior at T2 and explained the greatest proportion of the variance in those same patterns at T2, sug-

gesting that alcohol consumption and drinking behaviors remain largely stable over the period of time in which individuals become eligible to retire. Nevertheless, taking into account the effects of periodic heavy drinking prior to retirement and a variety of other factors, individuals opting to retire fully were twice as likely to engage in periodic heavy drinking (odds ratio = 2.01, $p < .05$) as those continuing to work. Bridge employment (as compared with continued employment) was also associated with significantly higher quantities of alcohol consumed on average drinking occasions (Beta = 0.14, $p < .05$). **Conclusions:** Retirement, at least in its early stages, is not associated with major shifts in alcohol consumption or problem drinking status. However, the particular retirement trajectory taken may have significant implications for individuals. (*J. Stud. Alcohol* 65: 537-545, 2004)

WHETHER RETIREMENT increases or decreases older people's alcohol consumption and exacerbates or precipitates drinking problems is debated. Some researchers argue that retirement is likely for several reasons to play a central role in the onset and/or exacerbation of heavy alcohol consumption and drinking problems (e.g., Alexander and Duff, 1988; Ekerdt et al., 1989; Perreira and Sloan, 2001). First, retirement may be accompanied by the loss of status, a sense of "rolelessness" and feelings of social marginalization—psychological stressors with which retirees cope by drinking. Second, retirement may provide drinkers, particularly those who already drink heavily and have drinking problems, with greater opportunities for alcohol consumption because they are subject to fewer role restrictions and thus experience fewer adverse social consequences when they drink. Third, retirees may become involved in subcultures, such as retirement communities, in which highly

permissive drinking norms encourage the development of a pattern of increased consumption.

A number of studies support the belief that retirement increases the likelihood of increased alcohol consumption and the incidence of drinking problems. Using 6 years of panel data, Perreira and Sloan (2001) found retirement to be associated with increased drinking, particularly among those with a preretirement history of problem drinking. Using 2 years of panel data (T1 and T2), Ekerdt et al. (1989) found that, although retirement was not a significant predictor of average consumption, retirees were more than twice as likely as workers to report the onset of problem drinking by T2, and more than three times as likely as workers to report some problem with drinking at T2 when none had been reported at T1.

Other researchers, however, argue that workplace risk factors, such as work stress and permissive job-based drinking cultures, represent a greater risk to workers' drinking behavior than retirement does. If this is the case, retirement may be "beneficial" because it eliminates these risk factors from workers' lives (Barnes, 1979; Gomberg, 1980). According to these researchers, workers after retirement consume less alcohol and have fewer drinking problems because they have fewer stresses with which to cope and because they tend to be involved with subcultures that do not encourage heavy drinking (Adams, 1996; Gurnack and Thomas, 1989). Barnes (1979), for example, studied adults over

Received: October 15, 2003. Revision: April 1, 2004.

*Research for this article was supported by National Institute on Alcohol Abuse and Alcoholism grant 2 R01 AA011976.

[†]Correspondence may be sent to Samuel B. Bacharach at the Institute for Workplace Studies, ILR School, Cornell University, 16 East 34th Street, 4th Floor, New York 10016, or via email at: sb22@cornell.edu. Peter A. Bamberger and Dana Vashdi are with the Davidson Faculty of Industrial Engineering and Management, Technion: Israel Institute of Technology, Haifa, Israel.

age 60 and found those who remained employed were twice as likely to be heavy drinkers as those who retired. Roman and Johnson (1996) replicated her findings. Using 2-year panel data from a sample of workers enrolled in a Health Maintenance Organization (HMO), Midanik et al. (1995) found, moreover, that retirement did not precipitate changes in alcohol consumption or drinking problems. Other studies have found that even forced retirement does not increase consumption (Gallo et al., 2001) and that retirees spend significantly less time drinking alcohol after retirement (Rosenkoetter et al., 2001). Neve et al. (2000) conducted a secondary analysis of a 9-year longitudinal study in the Netherlands and found retirement to be similarly associated with a decrease in alcohol consumption and alcohol-related problems.

A number of factors may underlie the inconsistency in these research findings. First, inconsistencies may stem from the way in which researchers conceptualize retirement and, in particular, from the way they handle the increasing proportion of workers who fail to completely disengage from the labor force while officially retiring and taking retirement benefits. Indeed, most of the drinking and retirement research conducted to date is based on the operationalization of retirement as a dichotomous phenomenon (i.e., one either is or is not retired) rather than as a process. However, as Herzog et al. (1991) note, this binary operationalization does not reflect workers' actual disengagement experiences. Instead of completely retiring from the labor force, an increasing number of "retirees" engage in "bridge employment," continuing to work either full- or part-time after formally retiring (Doeringer, 1990). According to Doeringer (1990), although 50% of U.S. workers officially retire by age 60, only 11% have fully withdrawn from the workforce by that age. Moreover, a recent survey of workers ages 45 and older conducted by the American Association of Retired Persons (AARP; 2003) found that 69% were, or planned to be, working during retirement—perhaps by changing careers, laboring part time or starting a business. Fewer than half of those surveyed included labor force withdrawal in their definition of retirement, and the vast majority stated that their definition of retirement includes "working for enjoyment, not money" or working to help pay the bills that retirement benefits may not sufficiently cover. The AARP study found, in fact, that over 80% of working "retirees" were employed for either strictly or mostly noneconomic reasons (e.g., to remain active or stay useful or only to supplement passive retirement income; AARP, 2003). On the basis of such findings, AARP suggests that receiving retirement benefits or living off of retirement savings, rather than complete labor-force disengagement, should be viewed as the defining characteristic of retirement.

Although studies of retirees remaining in the labor force or engaging in bridge employment are limited, at least one

study indicates that such postretirement employment is associated with enhanced retirement and life satisfaction (Kim and Feldman, 2000). Considering the beneficial effects of bridge employment on other retirement outcomes, it is possible that the lack of consensus in research findings regarding the impact of retirement on drinking stems from inconsistencies in the way in which "bridge employees" are coded "retired" or "nonretired." Recognizing that a significant portion of "retirees" continue to work while receiving retirement benefits, the current study compares the impact of retirement on drinking behavior across three categories of retirement-eligible workers: (1) those opting to continue their regular employment and to postpone the receipt of retirement benefits (i.e., not yet retired); (2) those retiring and receiving retirement benefits but, by either working full- or part-time, opting not to withdraw from the labor force (i.e., bridge employment); and (3) those taking benefits and withdrawing from the labor force (i.e., fully retired).

A second factor that might account for the inconsistency is occupational differences across retiree samples (LaGreca et al., 1988). For at least two reasons, studies including a greater number of blue-collar workers might uncover alcohol-related retirement effects that studies including a higher proportion of white-collar workers did not find. First, workers in blue-collar occupations are more likely than workers in white-collar occupations to be heavy drinkers and/or to develop drinking problems (Parker and Harford, 1992), and these occupational differences are likely to carry over into retirement because consumption patterns among older individuals are relatively stable (Liberto et al., 1992; Perreira and Sloan, 2001). Second, the potentially stress-inducing effects of retirement that are associated with heavy alcohol consumption and problem drinking may be more predominant among blue-collar workers than among their white-collar peers because the financial situations of blue-collar workers in retirement tend to be less adequate than those of white-collar workers (Kim and Feldman, 2000). Given the permissive nature of many blue-collar occupational drinking cultures (Bacharach et al., 2002), blue-collar retirees may be more likely than white-collar workers to use alcohol as a means of self-medicating the strain induced by retirement-related financial stress (Ruben, 1992). On these assumptions, the current study focuses on the impact of retirement on drinking behaviors among blue-collar workers.

In the interest of comparing our results with earlier longitudinal studies of the effects of retirement on drinking, we used a design similar to that adopted by Ekerdt et al. (1989) and Midanik et al. (1995). Both studies collected preretirement and postretirement data on workers and focused on the short-term effects of retirement on drinking (i.e., approximately 1 year after retirement). We also assessed preretirement to postretirement change in drinking behavior and consequences among a cohort of workers, comparing those who continued to work full time over the study

period with those opting to retire. In contrast to earlier researchers, we collected preretirement and postretirement data on retirees engaged in bridge employment.

Method

Subjects

The subjects for this study come from nine national and local unions representing workers employed in three blue-collar sectors in the United States: transportation, manufacturing and construction. Workers in all three sectors have been identified as being at high risk of being heavy drinkers and developing alcohol problems because of their permissive drinking cultures (Parker and Harford, 1992). Each of the nine unions included in this study has implemented either an employee or member assistance program to help its members with alcohol problems.

Survey data were collected from a sample of retirement-eligible workers in each of the nine unions at two times (T1 and T2). Retirement-eligible workers were defined as those individuals who met their union's criteria for full retirement benefits. Because these criteria vary from union to union, some retirement-eligible members in the sample are relatively young. The mean age of workers was 57, with a range of 43 to 70 years of age. Each union gave us the names, phone numbers and retirement eligibility dates of all of its members eligible for retirement between May of 2001 and February of 2002. T1 data were collected through computer-assisted telephone interviewing, beginning in November of 2000, with all participants interviewed approximately 6 months (+/- 2 weeks) prior to their retirement eligibility date. While we used the entire list of names given to us by the local unions, in the case of the national unions we drew a random sample of names provided. Overall, the total number of respondents in T1 was 1,279 (out of a target sample of 2,812, an overall response rate of 46%). The number of respondents from each employment sector are as follows: 933 respondents were members of three unions in the transportation employment sector (railroad workers, flight attendants and urban transport workers), 178 respondents were members of two unions in the manufacturing employment sector (unskilled assembly-line operators, semiskilled machine operators and skilled-trades workers), and 168 respondents were members of four unions in the building trades or construction employment sector (electricians, plumbers and painters).

All T1 respondents were interviewed 1 year after the first interview (+/- 2 weeks). Of the 1,279 T1 respondents, 1,122 participated in the T2 survey (dropout rate: 12%). With 39 of the respondents in T2 on medical leave, we were left with an effective T2 sample of 1,083 respondents. T1 and T2 respondents were quite similar. At T1, 882 (69%) were men, 397 (31%) were women and 76%

were married. At T2, 748 (69%) respondents were men, 335 (31%) were women and 77% were married.

Measures

At both T1 and T2, respondents were asked questions regarding the quantity and frequency of alcohol they consumed in the last month. Drawing from the measures used by Martin et al. (1992) in their research on employee drinking behavior, we asked respondents: (1) whether or not they currently consume alcoholic beverages (drink) and (2), if they do, on how many days in the last month they consumed an alcoholic beverage such as beer, wine or liquor (i.e., distilled spirits) (frequency) and (3) on those days when they do drink alcoholic beverages, about how many drinks (defined as 12 oz of beer, 4 oz of wine or 1 oz of liquor) do they have (quantity). Because the quantity/frequency method of measuring consumption is likely to miss unusually high drinking days that are likely to pose a significant risk for retirees (Dawson, 2003), we evaluated periodic heavy drinking, as did Ekerdt et al. (1989), by asking respondents approximately how many days in the last month they drank six or more drinks in a given day. Individuals who reported consuming six or more drinks on at least a single day in the past month were coded as periodic heavy drinkers. Dawson (2003, p. 20) notes that this three-part approach (i.e., usual quantity with average serving amounts specified, frequency and frequency of risk drinking) offers a high degree of parsimony and adequacy in assessing alcohol intake.

We also assessed problem drinking behaviors on the basis of the Drinking Problems Index (DPI; Finney et al., 1991), a unifactorial instrument specially designed to assess drinking problems among older adults. The Drinking Problems Index consists of 17 items. Respondents were read the following statement: "People often report that a variety of things happen as a result of their drinking." They were then asked to respond to the 17 DPI items. Sample questions are (1) In the last 12 months, how often have you had a family member worry or complain about your drinking? (2) In the last 12 months, how often have you felt you were spending too much money on drinking? (3) In the last 12 months, how often have you lost friends because of your drinking? Scores range from 0 to 17, with a score of 3 or more indicating a moderate to severe drinking problem. The Drinking Problem Index has excellent reliability and validity estimates (internal consistency reliability estimate of 0.94, cross-temporal correlation over a 1-year period of 0.66, and cross sectional correlations with alcohol consumption at two points a year apart of 0.37 and 0.42). In the current study, Cronbach alpha for the Drinking Problem Index was 0.83 at T1 and 0.79 at T2. Among the drinking problems identified most frequently were: (1) "became intoxicated/drank" (19% of drinkers at T1 and 20% at T2

reported this as a problem), (2) "family member worry/complain" (9% of drinkers at both T1 and T2 reported this as a problem) and (3) "spending too much money" (9% of drinkers at both T1 and T2 reported this as a problem).

At T2, we assessed respondents' employment status to assign them to one of the three categories noted earlier: (1) eligible for retirement benefits but did not retire (i.e., not yet retired), (2) retired with benefits but engaged in part-time or full-time bridge employment (i.e., engaged in bridge employment) and (3) took retirement benefits and withdrew from the workforce entirely (i.e., fully retired). Respondents were read a number of alternative possible employment statuses (e.g., deferred retirement benefits and still working for the same employer, took retirement receiving benefits but employed part-time by a new employer, retired on full benefits and not currently working) and asked to choose the condition that best described their current employment status. Respondents who indicated that they deferred their retirement benefits and were still working for the same employer with no change in their employment status were coded as *not yet retired*. Respondents who indicated that they had taken retirement (i.e., were receiving benefits) but were nevertheless employed on either a full- or part-time basis by their old employer, a new employer or self-employed were coded as *engaged in bridge employment*. Respondents who indicated they had retired on full benefits and were not currently working were coded as *fully retired*. At T2, the vast majority of respondents ($n = 790$, 73%), despite their retirement eligibility, were not yet retired; 263 (24%) were fully retired; and only a small number, 30 (3%), were engaged in bridge employment.

We also collected data on a number of control variables: age (T1 only), marital status (T1 and T2) and health status. Retirees fully retired were significantly older (mean [SD] age = 59.23 [4.45] years) than those individuals not yet retired (mean age = 55.15 [4.25] years) and those engaged in bridge employment (mean age = 55.55 [6.36] years) ($p < .01$). Marital status is a dichotomous variable, with married coded as 1 (78%), and all other statuses coded as 0. In order to assess a change (i.e., deterioration) in the respondent's health status, participants were asked whether they had been hospitalized in the past year. Positive responses were coded as 1 and negative responses as 0. This hospitalization measure correlated at a level of 0.25 ($p < .01$) with an additional binary health measure included in our interview protocol, namely deterioration of health status (Colsher and Wallace, 1990). As noted above, all employees were assigned to one of three employment sectors—transportation, manufacturing or construction—depending on their union affiliation.

Analysis

We used multiple regression and logistic regression techniques to examine the effects of full retirement and

postretirement bridge employment on alcohol consumption and drinking behaviors. Specifically, we regressed T2 consumption and drinking behavior variables on fully retired and engaged in bridge employment (using the other category, not yet retired, as the reference group) in the context of a model in which we controlled for the same consumption/drinking behavior variable at T1, gender, age, employment sector and hospitalization.

Results

Descriptive data for and correlations among the independent and dependent variables for the sample as a whole at T1 (below the diagonal) and T2 (above the diagonal) are presented in Table 1. For the sample as a whole, we observed no significant shift between T1 and T2 in the overall proportion of respondents who reported drinking (34.4% of subjects coded themselves as abstainers at T1 vs 35.7% at T2). Mean (SD) frequency of consumption at T1 was 10.9 (9.4) days in the past month, significantly less than the mean of 11.3 (9.4) days in the past month at T2 ($t = 1.61$; $p = .05$). Mean average quantity of consumption was not significantly different at T1 (mean [SD] = 2.3 [1.6] drinks) than at T2 (mean = 2.2 [1.3] drinks). For the full sample, there was no significant change in the percentage of periodic heavy drinkers between T1 (16.8% of the full sample) and T2 (14.9%). On average, participants in both time periods reported relatively few drinking problems, and there was no significant difference found between the mean level of drinking problems for the sample as a whole at T1 (mean = 1.12 [0.18]) and at T2 (mean = 1.13 [0.21]).

The stability in alcohol consumption from T1 to T2 was also apparent across the three employment status groups (not shown in Table 1, but data are available from the authors). For example, frequency of consumption (in days per month) increased insignificantly from 10.5 to 10.9, 9.5 to 9.8 and 9.8 to 10.1, respectively, among those not yet retired, those fully retired and those engaged in bridge employment. In addition, although the proportion of drinkers among those not yet retired remained constant (i.e., 66%) and rose among those opting for bridge employment (from 53% to 57%), it actually dropped (from 64% to 60%) among those opting for full retirement. These changes were also not statistically significant, again suggesting that over the 1-year period in which the cohort became eligible for retirement, regardless of whether workers were fully retired, engaged in bridge employment or stayed on the job, consumption patterns were remarkably stable.

Our multivariate examination of the effects of retirement and postretirement bridge employment on drinking behavior was based on a series of regression analyses, the results of which are presented in Tables 2-4. The results generated in these analyses are largely consistent with the picture suggested above—namely that patterns of alcohol

TABLE 1. Descriptive statistics and correlations at T1 (below the diagonal in bold) and T2 (above the diagonal in bold)

Variable	Freq.	Quant.	Prob.	Drink	Heavy	Gender	Age	Mfg.	Trans.	Hosp.	Married	T1		T2	
												Mean	(SD)	Mean	(SD)
Freq.	1.00	0.28[†]	0.32[†]		0.23[†]	-0.1[†]	-0.009	-0.04	0.02	0.004	-0.04	2.04 (n = 705)	(0.92)	2.08 (n = 693)	(0.92)
Quant.	0.19 [†]	1.00	0.43[†]		0.21[†]	0.22[†]	0.03	0.007	-0.05	-0.02	0.0007	1.12 (n = 704)	(0.35)	1.09 (n = 693)	(0.35)
Prob.	0.33 [†]	0.41 [†]	1.00		0.29[†]	0.03	-0.06	0	-0.03	-0.003	-0.04	0.39 (n = 695)	(0.66)	0.38 (n = 693)	(0.67)
Drink				1.00		-0.15[†]	-0.13[†]	0.01	-0.08*	-0.03	-0.06	0.65 (n = 1,079)	(0.48)	0.64 (n = 1,080)	(.048)
Heavy	0.27 [†]	0.22 [†]	0.40 [†]		1.00	0.20[†]	0.05	-0.006	-0.08[§]	-0.08[§]	0.08[§]	0.13 (n = 686)	(0.34)	0.11 (n = 695)	(0.31)
Gender	-0.07 [§]	0.25 [†]	0.042	-0.16 [†]	0.19 [†]	1.00	0.32[†]	0.09*	-0.25[†]	-0.03	0.30[†]	0.69 (n = 1,082)	(0.46)		
Age	-0.015	0.02	-0.06	-0.14 [†]	0.04	0.32 [†]	1.00	-0.29[†]	0.27[†]	0	-0.11*	4.00 (n = 1,082)	(0.94)		
Mfg. vs others	-0.014	0.03	0.04	0.01	0.12*	0.09*	-0.29 [†]	1.00	-0.68[†]	0.01	-0.005	0.15 (n = 1,082)	(0.36)		
Trans. vs others	-0.03	-0.13 [†]	-0.09 [§]	-0.08 [§]	-0.12*	-0.25 [†]	0.27 [†]	-0.68 [†]	1.00	-0.006	-0.007[§]	0.73 (n = 1,082)	(0.44)		
Hosp.	-0.03	-0.03	0	-0.02	-0.03	-0.03	0	0.01	-0.006	1.00	-0.02	0.12 (n = 1,082)	(0.32)		
Married	-0.06	-0.01	-0.04	-0.07 [§]	0.10*	0.30 [†]	0.11 [†]	-0.005	-0.07 [§]	-0.02	1.00	0.77 (n = 1,082)	(0.42)		

Notes: Freq. = frequency; quant. = quantity; prob. = problem drinking; heavy = heavy drinking; mfg. = employment in manufacturing; trans. = employment in transportation; hosp. = hospitalization in past year; SD = standard deviation.

§p < .10; *p < .05; †p < .01.

consumption and drinking behavior are largely uninfluenced by changes in employment status, at least in the period during which employees initially become eligible for retirement.

Controlling for the effects of the particular behavior at T1, gender, age, employment sector, hospitalization and marital status, the only drinking behavior for which being fully retired (compared with not yet being retired) had a statistically significant effect was periodic heavy drinking (Beta = 0.70, *p* < .05) (see Table 2). That is, even when taking into account the effects of periodic heavy drinking at T1, relative to those individuals remaining fully employed in their old jobs, those who were fully retired were twice as likely (odds ratio = 2.01) to engage in periodic heavy drinking at T2. Indeed, 22 (5%) of the 465 workers who did not engage in periodic heavy drinking at T1 and were not yet retired at T2 reported engaging in periodic heavy drinking at T2. In contrast, 13 (10%) of the 130 workers who did not engage in heavy periodic drinking at T1 and who were fully retired at T2 reported engaging in periodic heavy drinking at T2 (*Z* = 2.27, *p* < .05).

Table 3 compares the drinking behaviors of those retirees engaged in bridge employment with those individuals not yet retired. When the specific drinking behavior at T1, age, gender, employment sector, hospitalization and marital status were controlled for and using those not yet retired as the reference group, retirement with bridge employment was associated with significantly higher

amounts of alcohol per average drinking occasion (Beta = 0.14, *p* < .05). Indeed, although the quantity of alcohol consumed per occasion actually declined from T1 to T2 for those not yet retired (from 2.24 to 2.12 drinks), during this same period it rose for those engaged in bridge employment (from 2.00 to 2.59 drinks).

Table 4 compares the drinking behaviors of retirees engaged in bridge employment and retirees who were fully retired, while controlling for the specific drinking behavior at T1, age, gender, employment sector, hospitalization and marital status. When these factors were controlled for, there were no significant differences in drinking behaviors between those retirees engaged in bridge employment and those retirees who were fully retired.

A number of control variables were found to have a significant association with a variety of drinking outcomes at T2. For example, hospitalization, as expected, was associated with lower odds of periodic heavy drinking and reduced consumption at T2 (see Tables 2 and 4, respectively), whereas employment in construction (relative to manufacturing and transportation) was associated with higher odds of periodic heavy drinking and increased consumption (see Tables 2 and 3), as well as with higher odds of drinking at T2 (see Table 4). Such sector-specific effects suggest that differences in occupational drinking cultures (Sonnenstuhl, 1996) may continue to appear as individuals approach retirement and actually do retire.

In light of these significant effects for the control variables, we decided to expand the models examined above to

TABLE 2. Effect of full retirement (compared with not yet retired) on drinking behaviors at T2

	Frequency at T2 Regression		Quantity at T2 Regression		Problem drinking at T2 Regression		Currently drinking at T2 Logistic regression		Periodic heavy drinking at T2 Logistic regression	
	Par. est.	(SE)	Par. est.	(SE)	Par. est.	(SE)	Par. est.	(SE)	Par. est.	(SE)
Intercept	0.57 [†]	(0.14)	0.42 [†]	(0.07)	0.15	(0.12)	-0.75	(0.58)	-2.53 [†]	(0.84)
Frequency (T1)	0.76 [†]	(0.03)								
Quantity (T1)			0.58 [†]	(0.03)						
Problem drinking (T1)					0.68 [†]	(0.03)				
Drink (T1)							3.88 [†]	(0.20)		
Heavy drinking (T1)									2.57 [†]	(0.32)
Gender	-0.03	(0.06)	0.10 [†]	(0.03)	0.07	(0.05)	-0.20	(0.25)	1.29 [†]	(0.49)
Age	-0.008	(0.03)	-0.02	(0.01)	-0.009	(0.028)	-0.10	(0.12)	-0.19	(0.19)
Mfg. vs others	-0.10	(0.09)	-0.004	(0.04)	-0.03	(0.08)	-0.40	(0.40)	-1.42 [†]	(0.52)
Trans. vs others	0.05	(0.07)	0.08*	(0.03)	0.03	(0.07)	-0.36	(0.33)	-0.57	(0.39)
Hospitalization	-0.08	(0.07)	-0.01	(0.03)	-0.07	(0.06)	-0.28	(0.29)	-1.23 [§]	(0.66)
Married	0.05	(0.06)	-0.01	(0.03)	-0.04	(0.05)	0.07	(0.24)	0.04	(0.40)
Full retirement	0.003	(0.06)	0.03	(0.03)	0.005	(0.06)	-0.24	(0.24)	0.70*	(0.35)
R ²		(0.58)		(0.40)		(0.44)				
Likelihood ratio							617.88 [†]		112.75 [†]	

Notes: Par. est. = parameter estimate; mfg. = employment in manufacturing; trans. = employment in transportation; SE = standard error.
[§]p < .10; *p < .05; [†]p < .01.

test for the possible moderating effects of these same factors on the relationship between retirement status (i.e., not yet retired, engaged in bridge employment and fully retired) and drinking (i.e., abstention/consumption, quantity, frequency, problem drinking and periodic heavy drinking). The five moderating factors tested consisted of hospitalization during past year, marital status (i.e., married or other), employment sector (i.e., manufacturing, transportation or construction), age and gender. In none of the 75 models tested, however, were we able to identify any significant moderating effect. Although relatively small cell sizes for

particular interactions (e.g., n = 1 for hospitalized bridge employees) may account for the lack of significant findings in certain cases, the results of these moderator analyses suggest that the relatively limited impact of retirement status on drinking behavior during the initial retirement period appears to be generally robust.

Discussion

The findings presented above are largely consistent with those of Ekerdt et al. (1989), in that they suggest retire-

TABLE 3. Effect of bridge employment (compared with not yet retired) on drinking behaviors at T2

	Frequency at T2 Regression		Quantity at T2 Regression		Problem drinking at T2 Regression		Currently drinking at T2 Logistic regression		Periodic heavy drinking at T2 Logistic regression	
	Par. est.	(SE)	Par. est.	(SE)	Par. est.	(SE)	Par. est.	(SE)	Par. est.	(SE)
Intercept	0.51*	(0.16)	0.34 [†]	(0.08)	0.18	(0.12)	-1.06	(0.66)	-2.18 [§]	(0.97)
Frequency (T1)	0.76 [†]	(0.03)								
Quantity (T1)			0.62 [†]	(0.03)						
Problem drinking (T1)					0.71 [†]	(0.03)				
Drink (T1)							4.08 [†]	(0.23)		
Heavy drinking (T1)									2.54 [†]	(0.38)
Gender	-0.10	(0.07)	0.90 [†]	(0.03)	0.05	(0.06)	-0.28	(0.28)	1.31*	(0.55)
Age	0.02	(0.03)	-0.009	(0.01)	-0.01	(0.03)	-0.01	(0.17)	-0.27	(0.22)
Mfg. vs others	-0.90	(0.10)	0.02	(0.04)	0.03	(0.08)	-0.26	(0.44)	-1.34*	(0.57)
Trans. vs others	-0.01	(0.08)	0.10 [†]	(0.04)	0.02	(0.07)	-0.44	(0.36)	-0.61	(0.44)
Hospitalization	-0.05	(0.08)	0.01	(0.04)	-0.03	(0.07)	-0.07	(0.37)	-0.70	(0.69)
Married	0.02	(0.06)	-0.03	(0.03)	-0.07	(0.05)	-0.03	(0.28)	-0.06	(0.46)
Bridge employment	0.14	(0.16)	0.14*	(0.07)	-0.02	(0.13)	0.08	(0.60)	-0.22	(0.09)
R ²		(0.59)		(0.43)		(0.47)				
Likelihood ratio							510		72.95 [†]	

Notes: Par. est. = parameter estimate; mfg. = employment in manufacturing; trans. = employment in transportation; SE = standard error.
[§]p < .10; *p < .05; [†]p < .01.

TABLE 4. Effect of bridge employment (compared with those fully retired) on drinking behaviors at T2

	Frequency at T2 Regression		Quantity at T2 Regression		Problem drinking at T2 Regression		Currently drinking at T2 Logistic regression		Periodic heavy drinking at T2 Logistic regression	
	Par. est.	(SE)	Par. est.	(SE)	Par. est.	(SE)	Par. est.	(SE)	Par. est.	(SE)
Intercept	0.22	(0.36)	0.62 [†]	(0.18)	0.29	(0.37)	1.62	(1.72)	-2.89	(2.05)
Frequency (T1)	0.72 [†]	(0.05)								
Quantity (T1)			0.51 [†]	(0.07)						
Problem drinking (T1)					0.65 [†]	(0.068)				
Drink (T1)							3.51 [†]	(0.35)		
Heavy drinking (T1)									2.31 [†]	(0.51)
Gender	0.14	(0.16)	0.17*	(0.08)	0.10	(0.17)	-0.72	(0.67)	1.54	(1.21)
Age	0.01	(0.06)	-0.04	(0.03)	-0.06	(0.07)	-0.06	(0.23)	-0.25	(0.32)
Mfg. vs others	0.15	(0.21)	-0.07	(0.10)	-0.25	(0.23)	-2.54 [§]	(1.34)	-0.67	(1.07)
Trans. vs others	0.12	(0.17)	0.04	(0.08)	0.15	(0.20)	-2.42 [§]	(1.28)	-0.03	(0.82)
Hospitalization	-0.27 [§]	(0.15)	-0.08	(0.07)	-0.11	(0.16)	-0.73	(0.48)	-13.35	(349.50)
Married	0.17	(0.13)	-0.005	(0.06)	0.02	(0.14)	0.09	(0.49)	0.89	(0.87)
Bridge employment	0.06	(0.17)	0.06	(0.08)	0.04	(0.18)	0.06	(0.60)	-0.99	(0.97)
R ²		(0.58)		(0.31)		(0.41)				
Likelihood ratio							158.95 [†]		36.11 [†]	

Notes: Par. est. = parameter estimate; mfg. = employment in manufacturing; trans. = employment in transportation; SE = standard error.

§ $p < .10$; * $p < .05$; [†] $p < .01$.

ment is not associated with any major shifts in alcohol consumption or problem drinking. Neither of the two retirement trajectories examined (i.e., fully retired or bridge employment) was found to be associated with a change from abstinence to consumption, with increased frequency of consumption or with the emergence or exacerbation of a drinking problem in the initial period of retirement eligibility. Retirement was identified as having a significant impact on two particular drinking outcomes, however.

First, relative to those not yet retired, being fully retired was found to be associated with a twofold increase in the risk of periodic heavy drinking, even after controlling for the effects of periodic heavy drinking prior to retirement. This effect is significant, given that periodic heavy drinking among adults has been increasing, and is associated with adverse outcomes in retirement (Naimi et al., 2003; Perreira and Sloan, 2002). Periodic heavy drinking, for example, has been identified as a risk factor for a variety of health and social problems (Naimi et al., 2003), and when older people drink heavily, they put themselves at particularly high risk because their bodies react to alcohol in a different way than the bodies of younger people (Dufour and Fuller, 1995; Kalant, 1998). In a national sample of men 50 years and older, Perreira and Sloan (2002) found that heavy periodic drinking quadrupled individuals' risk of developing functional impairments in their ability to perform such daily activities as crossing a room, dressing and getting out of bed, and that a history of problem drinking increased the onset of depression, psychiatric problems and memory problems.

Second, relative to continued employment, bridge retirement was found to be associated with a significant in-

crease in the average quantity of alcohol consumed per drinking occasion. It may be that such individuals specifically seek employment with organizations exercising more limited or lax controls on employee drinking (e.g., those characterized by more permissive drinking cultures). Alternatively, although organizational drinking cultures may be no more permissive than they were at the previous employing organization, consumption may rise as a function of retirement-related stress, particularly if those retirees engaging in bridge employment have more limited retirement benefits and experience financial strains that force them to take bridge employment as a way to make ends meet.

Our data suggest only a limited effect of retirement on drinking behavior; however, it must be remembered that older people are at increased risk of becoming intoxicated and developing alcohol-related problems, even when their drinking behavior remains unchanged (Dufour and Fuller, 1995; Kalant, 1998). It must also be stressed that this study sought to identify only those shifts in alcohol consumption and drinking behavior occurring at the very earliest stages of retirement. Given that our postretirement data were collected no more than 6 months after the workers' actual date of retirement, we may conclude only that the *initial* effects of retirement on drinking are highly bounded. The possibility remains that broader and more substantial effects may emerge over time if retirees replace work-based support networks with retirement-based support networks structured around drinking (Alexander and Duff, 1988), or if retirees learn to use alcohol as a means by which to cope with the strains increasingly imposed by retirement-related rolelessness and social marginalization (Ekerdt, 1989). Another possibility, consistent with Atchley's (1989) continuity

theory of aging, is that even the limited effects identified in the current study may be temporary—a function of the stresses associated with the discontinuation of daily routines and the construction of and adjustment to new daily routines. As we collect additional waves of data, we hope to explore this question in greater detail.

One additional question raised by our findings concerns the degree to which retirement may actually be more a consequence of preretirement drinking problems than a “cause” of such problematic drinking behaviors as periodic heavy drinking. It may be that those most likely to retire immediately on becoming eligible are precisely those most likely to exhibit problematic drinking behaviors on retirement—namely those reporting a greater number of drinking problems prior to retirement. These individuals may seek to lower the risk of being dismissed without benefits before retirement by opting to retire at the first opportunity. Indeed, we found that those who were fully retired reported a significantly greater number of drinking problems (mean [SD] = 1.40 [2.92] problems) prior to becoming eligible for retirement (i.e., at T1) than did those continuing to work (mean = 0.87 [2.02] problems). As noted above, Perreira and Sloan (2001) also found retirement to be associated with increased drinking most frequently among those having a preretirement history of problem drinking. Although these findings suggest that for some problematic drinking may be causally prior to retirement, it goes beyond the realm of the current study to examine the extent to which problem drinking increases the odds of fully retiring (as opposed to continuing to work) immediately upon becoming eligible. Nevertheless, taken together with the findings of Perreira and Sloan (2001), our data suggest that the assumed causal link of retirement serving as an antecedent to problem drinking cannot always be taken for granted.

Regardless of whether retirement serves as an antecedent or consequence of problematic drinking behaviors, our findings have important implications for employee/member assistance programs. At present, many workplace alcohol programs do not focus on retirees or even on retirement eligible workers. In fact, although our data were collected at worksites offering extensive employee/member assistance programs, 9% of retirement-eligible workers in this sample were categorized as having moderate to severe drinking problems, and a sizeable proportion of those categorized as having drinking problems actually took full retirement immediately on becoming eligible. As Trice and Roman (1978) noted long ago, the workplace is a potent arena for the prevention of and intervention for alcohol problems, and once workers retire with drinking problems, there are relatively few opportunities for intervention. Within this context, our findings suggest that employee/member assistance programs need to pay greater attention to drinking problems among older workers, particularly as they become retirement eligible.

Limitations

This study is marked by four limitations that should be addressed in future studies.

First, our observations regarding the effects of retirement followed by bridge employment must be taken with the greatest caution because, with a subsample size of 30, we cannot be completely confident there was sufficient variance in our retirement status variable to provide the statistical power necessary to test such models. Although limited significant effects were found, we cannot ignore the possibility that our findings regarding the effects of retiring and engaging in bridge employment are a function of Type II error.

Second, limited cell sizes of construction and manufacturing workers in each of the three retirement-eligible categories precluded our testing the possible moderating effects of occupation on the association between different retirement trajectories and drinking behavior. As more of these workers retire over time, we expect to be able to reach the recommended 5:1 to 10:1 ratio of sample size to number of estimated parameters (Tabachnick and Fidell, 1996) that is necessary to test for such interaction effects.

Third, the brief time interval between retirement eligibility and follow-up used in this analysis may be problematic because the stress-related effects of full retirement may not be felt within the first 6 months. Nevertheless, as noted above, given the interest in tracking the emergence and stability of retirement-related effects on drinking behavior over time, the intent of the current study was to focus specifically on the earliest stages of the retirement process.

Fourth, studies examining the effects of retirement on drinking should ideally control for the simple effect of time. Unfortunately, in the current study, data were collected at only two points, with time perfectly confounded with the change in employment status (e.g., from employed to fully retired). Future researchers with additional waves of data may want to take the fixed effects of time into account by using more appropriate analytical approaches, such as growth-curve modeling.

References

- ADAMS, W.L. Alcohol use in retirement communities. *J. Amer. Geriatr. Soc.* **44**: 1082-1085, 1996.
- ALEXANDER, F. AND DUFF, R.W. Social interaction and alcohol use in retirement communities. *Gerontologist* **5**: 632-636, 1988.
- AMERICAN ASSOCIATION OF RETIRED PERSONS (AARP). *Staying Ahead of the Curve 2003: The AARP Working in Retirement Study*, Washington, DC: AARP, 2003.
- ATCHLEY, R.C. A continuity theory of normal aging. *Gerontologist* **29**: 183-190, 1989.
- BACHARACH, S.B., BAMBERGER, P.A. AND SONNENSTUHL, W.J. Driven to drink: Managerial control, work-related risk factors, and employee problem drinking. *Acad. Manag. J.* **45**: 637-658, 2002.

- BARNES, G.M. Alcohol use among older persons: Findings from a western New York State general population survey. *J. Amer. Geriatr. Soc.* **27**: 244-250, 1979.
- COLSHER, P.L. AND WALLACE, R.B. Elderly men with histories of heavy drinking. *J. Stud. Alcohol* **51**: 528-535, 1990.
- DAWSON, D.A. Methodological issues in measuring alcohol use. *Alcohol Res. Hlth* **27**: 18-29, 2003.
- DOERINGER, P.B. Economic security, labor market flexibility, and bridges to retirement. In: DOERINGER, P.B. (Ed.) *Bridges to Retirement: Older Workers in a Changing Labor Market*, Ithaca, NY: ILR Press, 1990, pp. 3-19.
- DUFOUR, M. AND FULLER, R.K. Alcohol in the elderly. *Ann. Rev. Med.* **46**: 123-132, 1995.
- EKERDT, D.J., DE LABRY, L.O., GLYNN, R.J. AND DAVIS, R.W. Change in drinking behaviors with retirement: Findings from the normative aging study. *J. Stud. Alcohol* **50**: 347-353, 1989.
- FINNEY, J.W., MOOS, R.H. AND BRENNAN, P.L. The Drinking Problems Index: A measure to assess alcohol-related problems among older adults. *J. Subst. Abuse* **3**: 395-404, 1991.
- GALLO, W.T., BRADLEY, E.H., SIEGEL, M. AND KASL, S.V. The impact of involuntary job loss on subsequent alcohol consumption by older workers: Findings from the health and retirement survey. *J. Gerontol. Series B: Psychol. Sci. Social Sci.* **56B**: S3-S9, 2001.
- GOMBERG, E.L. *Drinking and Problem Drinking among the Elderly*. Alcohol, Drugs and Aging: Usage and Problems Series, No. 1, Ann Arbor, MI: Institute of Gerontology, University of Michigan, 1980.
- GURNACK, A.M. AND THOMAS, J.L. Behavioral factors related to elderly alcohol abuse: Research and policy issues. *Int. J. Addict.* **27**: 641-654, 1989.
- HERZOG, A.R., HOUSE, J.S. AND MORGAN, J.N. Relation of work and retirement to health and well-being in older age. *Psychol. Aging* **6**: 202-211, 1991.
- KALANT, H. Pharmacological interactions of aging and alcohol. In: GOMBERG, E.S.L., HEGEDUS, A.M. AND ZUCKER, R.A. (Eds.) *Alcohol Problems and Aging*. NIAAA Research Monograph No. 33, NIH Publication No. 98-4163, Bethesda, MD: Department of Health and Human Services, 1998, pp. 99-116.
- KIM, S. AND FELDMAN, D.C. Working in retirement: The antecedents of bridge employment and its consequences for quality of life in retirement. *Acad. Manag. J.* **43**: 1195-1210, 2000.
- LA GRECA, A.J., AKERS, R.L. AND DWYER, J.W. Life events and alcohol behavior among older adults. *Gerontologist* **28**: 552-558, 1988.
- LIBERTO, J.G., OSLIN, D.W. AND RUSKIN, P.E. Alcoholism in older persons: A review of the literature. *Hosp. Commun. Psychiat.* **43**: 975-984, 1992.
- MARTIN, J.K., BLUM, T.C. AND ROMAN, P.M. Drinking to cope and self-medication: Characteristics of jobs in relation to workers' drinking behavior. *J. Organ. Behav.* **13**: 55-71, 1992.
- MIDANIK, L.T., SOGHKIAN, K., RANSOM, L.J. AND TEKAWA, I.S. The effect of retirement on mental health and health behaviors: The Kaiser Permanente Retirement Study. *J. Gerontol. Series B: Psychol. Sci. Social Sci.* **50B**: S59-S61, 1995.
- NAIMI, T.S., BREWER, R.D., MOKDAD, A., DENNY, C., SERDULA, M.K. AND MARKS, J.S. Binge drinking among US adults. *JAMA* **289**: 70-75, 2003.
- NEVE, R.J.M., LEMMENS, P.H. AND DROP, M.J. Changes in alcohol use and drinking problems in relation to role transitions in different stages of the life course. *Subst. Abuse* **21**: 163-178, 2000.
- PARKER, D.A. AND HARFORD, T.C. The epidemiology of alcohol consumption and dependence across occupations in the United States. *Alcohol Hlth Res. World* **16**: 97-105, 1992.
- PERREIRA, K.M. AND SLOAN, F.A. Life events and alcohol consumption among mature adults: A longitudinal analysis. *J. Stud. Alcohol* **62**: 501-508, 2001.
- PERREIRA, K.M. AND SLOAN, F.A. Excess alcohol consumption and health outcomes: A 6-year follow-up of men over age 50 from the health and retirement study. *Addiction* **97**: 301-310, 2002.
- ROMAN, P.M. AND JOHNSON, J.A. Alcohol's role in work-force entry and retirement. *Alcohol Hlth Res. World* **20**: 162-169, 1996.
- ROSENKOETTER, M.M., GARRIS, J.M. AND ENGDahl, R.A. Postretirement use of time: Implications for preretirement planning and postretirement management. *Activ. Adapt. Aging* **25** (3-4): 1-18, 2001.
- RUBEN, D.H. The elderly and alcohol and medication abuse. In: STOUT, C.E., LEVITT, J.L. AND RUBEN, D.H. (Eds.) *Handbook for Assessing and Treating Addictive Disorders*, Westport, CT: Greenwood Press, 1992, pp. 215-235.
- SONNENSTUHL, W.J. *Working Sober: The Transformation of an Occupational Drinking Culture*, Ithaca, NY: ILR Press, 1996.
- TABACHNICK, B.G. AND FIDELL, L.S. *Using Multivariate Statistics*, 3rd Edition, New York: Harper Collins, 1996.
- TRICE, H.M. AND ROMAN, P.M. *Spirits and Demons at Work: Alcohol and Other Drugs on the Job*, 2nd Edition, Ithaca, NY: ILR Press, 1978.