Stress-Motivated Drinking in Collegiate and Postcollegiate Young Adulthood: Life Course and Gender Patterns*

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ABSTRACT. *Objective:* This study examines stress-motivated drinking and its potential contribution to alcohol problems for young adults in college and subsequent postcollegiate contexts, specifically focusing on the simultaneous influences of life course stage and gender. *Method:* Data are drawn from a research project on health and well-being among multiple cohorts of college students and graduates from an undergraduate institution of higher education. Representative samples of students were surveyed in 1982 (n = 1,514), 1987 (n = 659) and 1991 (n = 926). Surveys were administered to graduates in 1987 (graduating classes of '79, '82 and '85; n = 860) and again in 1991 (graduating classes of '79, '82, '85 and '89; n = 1,151). Using this cross-sectional and longitudinal database, developmental aging effects are tested while checking for historical cohort and period effects. *Results:* Stress-motivated drinking is somewhat more prevalent in the undergraduate years as are other drinking motivations, but stress-related reasons for drinking are relatively more prominent among motivations and relatively more problematic in terms of consumption levels and consequences in succeeding years after college. The prominence of stress-related drinking and its increased negative effects begin sooner for women than for men. *Conclusion:* Moving from college to stages of postcollegiate young adulthood is associated with substantial decreases in alcohol consumption and related problems. Drinking for stress-reduction, however, becomes increasingly prominent as the primary motivation for the drinking that does occur in postcollegiate life and this drinking motivation also becomes increasingly problematic in terms of negative consequences of alcohol use as each cohort ages. The problematic prominence of stress-motivated drinking is notable at earlier developmental points in this trajectory for women. (*J. Stud. Alcohol* **60:** 219-227, 1999)

REASONS FOR DRINKING alcohol can vary considerably among and within social groups. These motivations for alcohol consumption can also vary for the individual over time, personal circumstances and cultural contexts. Reasons have commonly included alcohol use as a disinhibitor in social gatherings and interpersonal settings, as a beverage to enhance festive celebrations, as part of symbolic acts in religious ceremonies, as a drug to temporarily anesthetize the pain of tragic unexpected events, as an extended (albeit often dysfunctional) coping mechanism dulling the ongoing pain of a meaningless existence, or as a relaxant to reduce the stresses, tensions and anxieties generated in many aspects of people's daily lives. Any of these motives may be a concern if it is the basis for abusive alcohol consumption (i.e., drinking that threatens the health and well-being of oneself or others). This study gives special attention to the potential problems and unique patterns of one type of alcohol consumption—drinking motivated by the desire to relieve or reduce stress—in the developmental context of late adolescent and young adult collegiate and postcollegiate life.

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Extensive drinking in the undergraduate context has a long tradition in U.S. society (Engs, 1977; Maddox, 1970; Straus and Bacon, 1953), and substantial alcohol use and abuse among contemporary college students is routinely documented (Berkowitz and Perkins, 1986; Wechsler et al., 1994, 1995). Research has indicated that stress and coping responses may play a significant part in student alcohol use and abuse (Fromme and Rivet, 1994; Koch-Hatten and Denman, 1987; Pinch et al., 1986; Schill and Harsch, 1989; Snell et al., 1987; Tucker et al., 1980; Williams, 1966; Wright, 1985). College students who hold greater tension-reduction expectancies about the effects of alcohol have been found to drink more frequently than other students (Hittner, 1995). In competitive academic environments where demands for achievements are significant, students may turn to alcohol in an attempt to reduce their anxieties and sense of pressure to perform. This stress-related drinking may be accentuated for the young collegian who is simultaneously adapting to the transition toward adult autonomy in campus settings where drinking is a substantial part of the social scene and where perceived peer norms encouraging drinking can be highly influential in one's drinking (Perkins, 1985; Perkins and Berkowitz, 1986; Perkins and Wechsler, 1996).

Little attention has been devoted specifically to postcollege transitions and the use of alcohol, although research clearly suggests that there are substantial declines in alcohol use across the adult life course with the highest rates occurring among 18-24 year olds (Gallup Organization, 1987, p. 11). The occupational demands of full-time work

schedules along with growing family commitments may provide less time and opportunity to attend social drinking events as compared with full-time college life. Indeed, life course changes associated with adult role responsibilities such as marriage and becoming a parent, which typically occur during the twenties, have been associated with lower incidences of alcohol abuse (Bachman et al., 1984; Chilcoat and Breslau, 1996; Miller-Tutzauer et al., 1991). This does not mean, however, that stress-motivated drinking, in particular, will significantly decline in postcollegiate life. Certainly it can be argued that the postcollege transition is equally stressful or more stressful than life as a full-time undergraduate student. As young adults seek employment or pursue further education in even more competitive occupational and academic contexts, and as they experience more familial transitions (e.g., marriages, divorces, children, and later care of aging parents), new stresses and demands may accumulate. Thus, stress-related drinking may become an even more prominent part of one's drinking habits when the college social scene that may have previously determined much of one's drinking is no longer a salient factor. There is a need for research on the postcollege experience, as noted by Fromme and Rivet (1994) in their stress-related research on a college sample.

In either the undergraduate or postcollegiate context, stress-related drinking may be a cause of frequent and abusive alcohol use as people attempt to cope (Peirce et al., 1994). This alcohol abuse may be reflected in poor academic or job performance, strained relationships, injuries, fighting or property damage—all of which may simply add to the sense of stress one was initially trying to alleviate.

The influence of gender socialization and gender roles is also an important consideration here. The existence of substantial gender differences in collegiate alcohol use has been well documented in the research literature of recent years (Berkowitz and Perkins, 1987; Engs and Hanson, 1990). College men are consistently found to drink more frequently and in greater quantities on average than college women and to experience more alcohol-related problems reflecting gender differences in alcohol use in society at large (Ferrence, 1980; Robbins and Martin, 1993). Some explanations of this difference point to norms in U.S. society that associate drinking with the male sex role and that tolerate—even expect as normal—a considerably higher degree of alcohol abuse for males. This difference is primarily associated with peer and public expectations in social settings, however, and not necessarily to the use of alcohol in more private contexts or for the alleviation of personal anxieties where females may experience equal or higher levels of alcohol problems (Lo, 1996; Perkins, 1992). Research on college students has suggested that the examination of stress and alcohol abuse must consider gender identities as an important and interactive determinant of stress-motivated drinking (cf., Koch-Hattem and Denman, 1987; Snell et al., 1987).

The purpose of this article is to present data on patterns of stress-motivated drinking among youthful college students and graduates in young adulthood. The analysis compares reasons for drinking among collegians with that of postcollegians using data collected from multiple cohorts of students and graduates, and explores the empirical association between stress-related drinking and problematic alcohol consumption. This research also examines the influence of gender in these patterns.

Method

Undergraduate samples

The undergraduate student data are drawn from three surveys conducted in 1982, 1987 and 1991 at a liberal arts institution of higher education in New York State with a predominantly northeastern and upper-middle-class student body. Almost all of the approximately 1,800 students who attend this institution are single and between the ages of 17 and 24 during their undergraduate years. (The few respondents who were older than 24 were excluded in the data presented here.) Although some topics and questions varied among survey years, each survey concentrated heavily on questions about alcohol use, drinking attitudes and motivations, and consequences of consumption. Specific sample characteristics are as follows: (1) 1982 survey of all students (n responding = 1,516; 86% response); (2) 1987 survey of a random sample of one-half of all students stratified by gender and class year (n responding = 659; 70% response); (3) 1991 survey of all students (n responding = 926; 50% response).

All questionnaires were completed and returned anonymously for each survey. The lower response rates in 1987 and 1991 are essentially the result of less time and resources that could be devoted to follow-up procedures for contacting initial nonresponders in these later years. Nevertheless, large samples were obtained in each of these surveys and the sample characteristics were very similar to the entire student body in terms of the distributions by housing locations and class years. A higher proportion of women was obtained in the most recent sample due to the recent admission of a higher proportion of women at this institution and a tendency for women to respond more often than men to the survey with less follow-up. Gender is a control variable in all of the analyses that follow, however, so that time comparisons of data are not distorted by this gender difference in the representation of cohorts. Finally, in a detailed analysis of data from 1982 (the year when resources permitted the greatest amount of follow-up and thus the highest response rate), no significant differences were found when alcohol responses for students who initially responded were compared with the responses of those who only returned the survey after being prompted by repeated follow-up requests. Thus, it appears unlikely that nonresponders reflect a significantly distinct

group of students with regard to the interests of this study or that differences in response rates will distort the comparisons presented here.

Postcollegiate samples

The data on college graduates are drawn from two surveys of postcollegiate life conducted among graduates of the same undergraduate institution. In 1987 an extensive questionnaire on postcollege experiences including health-related behaviors and alcohol consumption was first mailed to all graduates of the classes of 1979, 1982 and 1985 (n responding = 860; 76% response). Respondents were instructed to complete and return the survey anonymously. Several follow-up notices were sent out to make sure that virtually all graduates had been contacted and to minimize the number of nonresponders. In 1991 a survey containing the same questions about alcohol use was again mailed to all graduates of the classes of 1979, 1982 and 1985 and also mailed to the class of 1989 with follow-up notices (n responding = 1,151; 70% response).

Measures

Alcohol consumption. The frequency of alcohol consumption was measured in each undergraduate and postcollegiate survey by asking respondents to report how many days during the past 2 weeks beer, wine or distilled spirits were consumed. A quantity measure included in all surveys asked respondents to provide a specific estimate of the total number of drinks consumed during the past 2 weeks (a "drink" was defined in the survey as a beer, a glass of wine, a shot of liquor or a mixed drink). The few responses over 100 on this measure were recoded to 100. Respondents were classified as drinkers if they had consumed any alcohol in the past 2 weeks or if they indicated in another set of questions that they usually drank at least once during a typical week or would have at least one drink when attending a party.

Negative consequences of alcohol use. Respondents were asked to indicate which of the following had occurred once or multiple times within the current academic year (students) or within the last 9 months (graduates) as a consequence of their own drinking: (1) physical injury to oneself; (2) physical injury to others; (3) fighting; (4) behavior that resulted in negative reactions from others; (5) damage to property; (6) missing class (absence from work); (7) inefficiency in homework, classroom or lab performance (inefficiency in job performance); (8) late papers, missed exams or failure to study for exams (late for work or lack of preparation for work); (9) damaged friendships or relationships; and (10) impaired driving. Respondents noting negative consequence in more than one category or multiple occurrences of a specific negative consequence were classified as having experienced multiple negative consequences.

Reasons for drinking. Respondents were also asked to indicate their own reasons for consuming alcohol from a list of possibilities ranging from using alcohol as a way to celebrate occasions, as a disinhibitor in various social contexts, to improve one's abilities, and to simply experience intoxication as well as to cope with or reduce anxieties and stress. In each survey the following 15 items were included in the order presented here: (1) to facilitate study; (2) to feel more relaxed with friends and acquaintances; (3) to feel more relaxed with the opposite sex; (4) to relieve academic/work (students/graduates) pressures; (5) for a sense of well-being; (6) to reduce inhibitions; (7) as an aid in forgetting disappointments; (8) to improve sexual performance; (9) to get high; (10) to get drunk; (11) to gain attention; (12) to "break the ice" in certain social situations; (13) to relieve anxieties; (14) nothing better to do; and (15) to celebrate.

Items 4, 5, 7 and 13 were coded as stress-related drinking responses. Thus, anyone who indicated any of these items was classified nominally as reporting a stress-motivated reason for drinking. Furthermore, the number of stress items affirmed and the total number of reasons affirmed were tallied for each respondent. Finally, the proportion of the respondent's drinking reasons that were stress-related was computed by dividing the number of stress-related indications by the total number of reasons noted by the respondent. This last measure provided an indicator distinguishing respondents who drank alcohol primarily for stress and coping reasons (respondents who noted at least half of their reasons for drinking as being stress-related) from others.

Results

The initial analytic approach here was to examine the developmental stages of young adults by cross-sectionally comparing the undergraduates in a specific survey year with their graduate counterparts. It was presumed that these graduates, with incremental amounts of time since graduation, have had time to develop careers and families and move beyond drinking patterns highly associated with college social life. Of course, any cross-sectional differences between the undergraduates and their postcollegian counterparts in one survey year may reflect historical cohort differences as well as aging or developmental differences. (Younger cohorts today may have been socialized into different drinking patterns than were the older cohorts in their youth, thus producing cross-sectional differences, while the particular cohort characteristics may remain stable as each group grows older.) This dilemma of developmental investigations is never entirely resolvable in actual research, but these data with multiple survey years allow for a more thorough assessment of possible developmental changes. (Cohort shifts that might confound cross-sectional interpretations can be noted by examining data on the same age/status group for different survey years.)

Data on drinking are presented in Table 1 for each survey year and each cohort within the survey controlling for gender. Each graduating class of postcollegians is identified in the table in terms of years since graduation. The vast majority of respondents, both male and female, in each survey cohort were drinkers (88.0% to 98.4%). Although statistically

TABLE 1. Measures of drinking among undergraduates and postcollegians by gender and survey year

Gender/ survey year	Undergraduates	Postcollegians				p^a
		2-3 Years	5-7 Years	8-10 Years	12-13 Years	
		% Drinkers				
Male						
1982	97.3					
1987	98.3*	98.4	94.8	90.9		<.001
1991	94.8	95.5	91.8	95.7	88.0	<.05
Female						
1982	95.8					
1987	95.2	98.5	95.7	92.6		NS
1991	94.1	92.7	88.4	93.9	88.4	NS
		Mean Drinking Days in Last 2 Weeks				
Male						
1982	6.5‡					
1987	6.7‡	5.5*	5.4†	5.3*		<.001
1991	5.5‡	4.9‡	4.5†	5.1‡	5.2*	NS
Female						
1982	5.3					
1987	5.1	4.4	4.2	4.2		<.05
1991	3.8	3.6	3.2	3.1	3.7	NS
		Mean Drinks Consumed in Last 2 Weeks				
Male						
1982	34.7‡					
1987	37.3‡	19.8‡	17.4‡	13.0†		<.001
1991	33.2‡	21.4‡	14.5†	14.1‡	13.3‡	<.001
Female						
1982	21.3					
1987	21.4	10.5	9.8	8.7		<.001
1991	15.1	9.6	8.6	6.4	6.9	<.001
		Percent Reporting at Least One Negative Consequence of Drinking				
Male						
1982	71.7‡					
1987	75.9†	57.1‡	40.1	29.6*		<.001
1991	65.2*	58.0‡	43.0†	40.5‡	22.5†	<.001
Female						
1982	62.5					
1987	66.1	30.9	30.5	17.6		<.001
1991	57.6	38.7	23.3	15.9	8.1	<.001
		Percent Reporting Multiple Negative Consequences of Drinking				
Male						
1982	57.3‡					
1987	64.4‡	34.9*	27.3*	19.7†		<.001
1991	55.7‡	37.9‡	26.7†	25.8‡	12.7*	<.001
Female						
1982	47.6					
1987	50.3	18.4	17.7	8.8		<.001
1991	42.0	22.7	12.4	7.6	4.5	<.001
		Percent Reporting Stress-Motivated Reasons for Drinking				
Male						
1982	62.3					
1987	65.7†	56.3	51.2	49.3		<.01
1991	57.0	55.1	39.6	49.1	39.4	<.001
Female						
1982	57.4					
1987	55.2	45.6	51.8	43.4		NS
1991	54.2	50.7	34.1	41.7	40.2	<.001

Continued

TABLE 1. *(continued)*

Gender/ survey year	Undergraduates	Postcollegians				p^a
		2-3 Years	5-7 Years	8-10 Years	12-13 Years	
		Mean Number of Reasons for Drinking				
Male						
1982	4.6‡					
1987	4.5	3.4†	2.6	2.1		<.001
1991	4.2‡	2.9	2.2	1.9	1.5	<.001
Female						
1982	4.0					
1987	4.2	2.6	2.6	2.2		<.001
1991	3.5	2.5	2.1	1.9	1.6	<.001
		Percent of Drinkers Reporting Predominantly Stress-Motivated Reasons				
Male						
1982	12.7					
1987	15.0	22.4	31.8	38.1		<.001
1991	16.3	28.1	29.1	41.5	45.6	<.001
Female						
1982	16.6					
1987	15.8	23.1	31.7	30.0		<.001
1991	19.3	28.1	21.6	30.6	42.5	<.001
		N of Cases				
Male						
1982	750					
1987	345	126	172	143		
1991	381	176	134	163	142	
Female						
1982	594					
1987	310	136	141	136		
1991	522	150	129	132	112	

[a] Significance level of *F* test for overall differences across undergraduate and postcollegiate categories within survey year.

Note: Men are significantly different from women (*t* test) in the same year and undergraduate/postcollegiate category at *$p < .05$; †$p < .01$; ‡$p < .001$.

significant differences were found across life stage categories for men, these differences were small and do not suggest a consistent developmental pattern. The cross-sectional comparisons on the frequency of drinking (days in last 2 weeks) do not provide a consistent developmental pattern either. The most recent cohort of undergraduates drank notably less often than did previous cohorts (due perhaps, in part, to increasing campus and community restrictions on consumption). The frequency of drinking among graduates was clearly below the level of undergraduates in earlier surveys, however, so there may be a developmental decline that is partially masked by historical changes.

Quantity of alcohol consumed as well as reports of negative consequences provide much clearer evidence of a decline in drinking and related problems in postcollegiate life. Cross-sectional differences by collegiate/postcollegiate status show a continuous decline and are significant in both 1987 and 1991 for men and women. Furthermore, the relatively low mean number of drinks and low percentages of negative consequences found among the older postcollegians cannot be attributed simply to cohort differences because these postcollegians of 1991 were not reporting less drinking as undergraduates in 1982 and 1987 than were the undergraduates of 1991.

There were no meaningful gender differences in the proportion that drank alcohol (only one significant difference of 3.1% for the 10 comparison categories). However, men clearly drank more frequently and in greater quantities and were more likely to have experienced at least one negative consequence as well as multiple consequences in comparison with women in all 40 subgroup comparisons on these measures, with only one failing to reach statistical significance. Thus, in general, substantial gender differences appear to persist at each developmental stage of collegiate/postcollegiate life.

Concerning motivations for drinking, Table 1 provides some evidence of a decline in the identification of stress as a reason for drinking in postcollegiate life, though the pattern is not entirely consistent. This possible trend is overshadowed, however, or is simply a small part of the larger and very clear pattern of decline in reasons for drinking in general that occurs throughout the postcollegiate categories. It is not surprising that the number of motivations is fewer in older groups, having already noted that actual drinking overall declines over life stage.

Finally, in looking at predominantly stress-motivated drinking among those who do drink, we find a clear and consistent opposing pattern. As students enter and then continue

TABLE 2. Drinking patterns of predominantly stress-motivated versus other-motivated drinkers across undergraduate and postcollegiate stages (1991 survey data by gender)

	Undergraduates		Postcollegians			
			2-7 Years		8-13 Years	
	Primary stress motive	Other reasons	Primary stress motive	Other reasons	Primary stress motive	Other reasons
Male (*n*)	56	287	73	183	95	125
Mean drinking days for last 2 weeks	4.4‡	6.2	5.3	5.1	7.1‡	5.1
Mean drinks consumed in last 2 weeks	22.1‡	38.7	19.1	21.1	19.1*	14.6
% Reporting at least one negative consequence	58.9*	73.8	58.9	59.3	40.0	40.0
% Reporting multiple negative consequences	39.3‡	65.0	38.4	37.9	27.4	25.6
Female (*n*)	90	377	57	168	70	125
Mean drinking days for last 2 weeks	4.4	4.1	4.8*	3.5	4.6*	3.4
Mean drinks consumed in last 2 weeks	15.7	16.9	13.6*	9.8	9.5†	6.3
% Reporting at least one negative consequence	62.2	63.0	33.3	38.7	15.7	13.7
% Reporting multiple negative consequences	44.4	46.5	15.8	23.8	12.9*	4.8

Note: Significant difference between respondents who drink primarily to reduce stress and those who drink mostly for other reasons (*t* test for difference of means/proportions) at $*p < .05$; $†p < .01$; $‡p < .001$.

in postcollegiate life, more of them are likely to acknowledge stress-related motivations as among their most frequent reasons for drinking. Importantly, no gender differences in the proportions of predominantly stress-motivated drinkers were found at any developmental level in these data.

On the surface the fact that stress-related drinking motivations were found to increasingly take precedence over other motivations in the postcollegiate life course might give little concern, knowing that drinking levels and drinking problems substantially decline in older cohorts. The deleterious effect of the use of alcohol as a coping mechanism for stress relative to other motivations may vary for individuals at different life stages, however. Thus, the question arises, to what extent is the relative prominence of stress-drinking for individuals more or less influential in the consumption patterns and consequences of alcohol use across the developmental span under consideration.

Table 2 presents the data on consumption levels and consequences comparing respondents for whom stress reduction was relatively prominent (at least half of the reasons the respondent cited for his or her drinking) with drinkers who noted a predominance of reasons other than stress reduction. The 1991 data are used here providing the widest developmental span. Postcollegians were dichotomized into groups roughly equal in size—those graduated more recently (2-7 years) and those graduated longer ago (8-13 years). Here we see that for undergraduate men, being largely motivated to drink to reduce stress is actually associated with significantly less consumption and less frequent consequences. Moving to the early postcollegiate years for men, greater stress-related drinking is equally problematic for alcohol consumption when compared with drinking for mostly other reasons (no significant differences). In the later postcollegiate stage, men who are motivated to drink to deal with stress drink more heavily in terms of frequency and quantity of alcohol consumed. Thus, while a prominent stress motivation for drinking is less problematic than other reasons in undergraduate life, a reversal occurs in the later postcollegiate stage for men.

Among female undergraduates there are no significant differences in the drinking patterns and problems of drinkers with predominant stress motivations as compared with those who drink more for other reasons. Early postcollegiate women in Table 2 who drank largely to cope with stress and anxiety reported a significantly greater frequency and quantity of alcohol consumption in comparison with women who drank for other reasons. This pattern persisted in the older

postcollegiate group of women where multiple negative consequences were also more prevalent among women whose drinking was predominantly stress-motivated.

Discussion

These data indicate that in this student and graduate population, drinking motivated occasionally by stress and the attempt to cope with or reduce it is fairly pervasive. Stress-related drinking appears to be slightly more common among undergraduates than postcollegians, but so are other reasons for drinking. More reasons for drinking—stress related or other—among undergraduates might be expected assuming that high levels of consumption (which are typical of college students) are likely to coincide with more reasons for imbibing.

These data suggest that the relative prevalence of stress-related reasons for drinking substantially increases, however, in postcollegiate life. While drinking among graduates is generally lighter and with fewer consequences compared to undergraduates, using alcohol to cope with anxiety and stress becomes a much more prominent feature of the drinking that does take place after college. This pattern may largely reflect developmental changes where graduates depend less on alcohol to reduce inhibitions surrounding new social interactions outside the home, but use alcohol more to cope with increased stresses from greater responsibilities and role demands associated with families and careers that are being established. This increasing relative prevalence of stress-related reasons for drinking may also be reflecting the change from the college environment where alcohol use is frequently encouraged in the context of parties and social life and tied relatively less often to personal anxieties. Certainly alcohol use is also prominent in social occasions for many young adults after college, but it does not pervade the social rituals of interaction on such a regular basis. Thus, one's drinking in postcollegiate life is likely to be due less to peer induced social activity and proportionately more in response to individual stresses.

Men in these data were much more likely than women to consume alcohol more often, in greater quantities, and with more immediate consequences, a finding common in previous research. The prevalence rates of stress-related reasons for drinking were very similar for women and men, however, both as undergraduates and as postcollegians. Thus, drinking perceived as a form of tension reduction seems to be an important aspect of drinking for both genders.

Finally, drinking for stress reduction is not without potential hazards, but this research suggests that life stage and gender were important interacting factors. Among male undergraduates, those whose drinking was prominently focused on coping with anxieties and stress were actually less problematic in their consumption than others. This finding may be interpreted as reflecting the substantial role of alcohol consumption in the normative social life of undergraduate men. That is, if the college male primarily uses alcohol to celebrate, maintain social networks and reduce inhibitions in social settings, those settings are likely to be frequent with much alcohol available for consumption (Burda and Vaux, 1988). The male "party animal" is likely to be more problematic on average than the male undergraduate who primarily seeks out situations to drink at specific moments when he is particularly anxious or feeling overburdened.

By the time men reach the postcollegiate stage it appears that this difference disappears. Those who use alcohol primarily to facilitate social interaction are less likely to find themselves in heavy drinking social contexts after college, and those who drink primarily for stress reasons may be finding the demands of postcollegiate life to be more stressful. Thus, drinking for well-being and to cope may become more intense after college and the effect of stress-related drinking may become equally problematic, and ultimately more problematic, in comparison with other primary reasons for drinking.

Comparing female undergraduates who drink largely for stress reasons with other female undergraduates showed no differences in alcohol consumption and consequences. In this regard, female undergraduates in these data were similar to males in the early postcollege stage in that neither emphasis was more reflective of problem drinking. For the female undergraduates whose motivations for drinking are primarily for social interaction, their drinking may be problematic somewhat like male social drinkers in the undergraduate setting as alcohol is encouraged in the peer intensive environment. The alcohol consumption of female social drinkers is likely to be more constrained than that of males, however, as gender norms and social contexts do not permit females to engage in the most heavy social drinking as found among male undergraduates. For many females heavy drinking may occur more often in private contexts for personal reasons. In terms of adolescent and young adult pathologies, studies often demonstrate higher rates of psychological distress among females in contrast with higher levels of social violations (e.g., delinquency and public intoxication) among males (cf., Horwitz and White, 1987). Thus, overall, prominent stress drinking among female undergraduates may be equally problematic when compared with the drinking of females that is primarily socially motivated. Reiskin and Wechsler (1981) found that heavy drinking among female students occurred more frequently for those women who visited the university's mental health clinic with emotional difficulties in comparison with the general college population of females (no such differences were found for male students).

Finally, among females we see that prominent stress-related drinking in contrast with other prominent motivations is associated with more frequent alcohol use beginning in

early postcollegiate life and later with more frequent consequences. It appears that in postcollege adulthood women who drink primarily for the purpose of reducing inhibitions and facilitating social interactions have fewer occasions to exercise this type of drinking over the course of most weeks. In contrast with younger female students and males in general, the role conflicts, overloads and strains of postcollegiate life may be more intense for these recent female graduates who are attempting to negotiate nontraditional career trajectories with increasing family expectations and social role conflicts (Aneshensel and Pearlin, 1987; DeMeis and Perkins, 1996; Perkins and DeMeis, 1996). Thus, for the postcollegiate women who drink primarily to reduce tensions and to cope with anxieties, there may be many precipitating situations contributing to their alcohol consumption. The negative effects of this increased consumption to cope with stress may not be immediate, however, in the form of overt or public consequences often observed among males who are frequent drinkers. Rather, the negative effect may be more long term as frequent drinking to relieve stress takes its toll on the woman's physical health and it develops into a psychological or physical dependency.

In short, it appears that for both men and women, drinking primarily for stress-reduction becomes relatively more problematic in moving from college to stages of postcollegiate young adulthood. This conclusion presents an especially important basis of concern given the prior conclusion from this research that stress as a prominent reason for drinking increases dramatically after college. The question remains for future research whether these developmental progressions continue through the mid-life behaviors and experiences of these adults.

Any generalizations from this research must be made with caution, of course, given several limitations of the study. First, the developmental patterns suggested here are not based on the observation of individual changes longitudinally because anonymity was maintained in the survey process in order to get a high response from graduates about personal problems with alcohol. Nevertheless, the aggregate longitudinal shifts for specific cohorts over time and the aggregate cross-sectional differences among cohorts at different developmental points, all based on large samples, are strong evidence suggesting these patterns of individual change. Second, the range of motivations for drinking included in the surveys is not comprehensive and, originating as it did from undergraduate survey research, is not likely to have captured all of the reasons young adults have for drinking. Thus, this study should not be viewed as a comprehensive psychological mapping of drinking motivations in young adulthood. Third, in examining stress-related motivations for drinking, this study focuses on perceived stress. The extent to which actual stress as environmentally or biologically measured can be identified and distinguished from perceived stress by the individual and which type is a more important influence on drinking remains an open question. Also, the more general problem of whether and to what extent an individual can adequately identify the actual causes and underlying motivations of one's actions (Nisbett and Wilson, 1977) must be acknowledged. Fourth, this study is based on data from only one undergraduate institution and its graduates. Future research will also need to explore whether the stress-related patterns found here can be replicated in other collegiate and postcollegiate populations and extended to other, noncollegiate, populations moving from adolescence into young adulthood.

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