HOW SOCIAL ROLE TRANSITIONS FROM ADOLESCENCE TO ADULTHOOD RELATE TO TRAJECTORIES OF WELL-BEING AND SUBSTANCE USE

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INTRODUCTION

In recent decades, the period between adolescence and adulthood has extended for many segments of the population, making this period more than simply a staging ground for adulthood (Arnett, 2000). At the same time, traditional sequences of events that mark adulthood status (e.g., completing school, obtaining full-time employment and gaining financial independence, getting married and starting a family) appear to have become less central to the definition of adulthood (if not less common). Nevertheless, embedded within this period of life are multiple and specific developmental tasks and transitions in the domains of achievement, affiliation, and identity (Oerter, 1986; Schulenberg & Maggs, 2002). Although there is not a single normative or prescribed pathway through these various tasks and transitions (Cohen, Kasen, Chen, Hartmark, & Gordon, 2003; Shanahan, 2000; Settersten, 2003), successfully negotiating at least some of them (and particularly those the young person views as central) is likely to be associated with more salutary trajectories of health and well-being and to provide a foundation for optimal development during adulthood (Ryff, Singer, & Seltzer, 2002; Masten & Curtis, 2000; Schulenberg, Bryant, & O'Malley, 2003; Wiese, Freund, & Baltes, 2000).

Well-being has been found to increase during the period between late adolescence and early adulthood (Gore, Aseltine, Colten, & Lin, 1997; Schulenberg, O'Malley, Bachman, & Johnston, 2000), but questions remain about how widespread this increase may be and why it occurs, and more generally how the course of well-being relates to the diverse pathways out of high school. Substance use also tends to increase during this period, reaching its lifetime peak during the early twenties, depending on the given cohort and substance (Chen & Kandel, 1995; Jackson, Sher, Cooper, & Wood, 2002; Johnston, O'Malley, & Bachman, 2003). While changes in substance use are found to relate to various social role transitions during emerging adulthood (e.g., Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997; Brook, Richter, Whiteman, & Cohen, 1999; Jessor, Donovan, & Costa, 1991), questions remain about how various transitions work together in contributing to increases and decreases in substance use during this time. Well-being and substance use, while not necessarily sharing a common etiology or developmental course across the life span, may increase during the transition to adulthood in part because of the new roles and contexts that provide more freedom and selection of opportunities (Bachman et al., 1997; Schulenberg & Maggs, 2002). Furthermore, while substance use has clear negative and often dangerous correlates and consequences (e.g., Hawkins, Catalano, & Miller, 1992), experimental substance use during late adolescence may also serve constructive purposes in regard to developmental tasks related to, for example, peer bonding, independence striving, and identity experimentation (Chassin, Presson, & Sherman, 1989; Maggs, 1997; Schulenberg, Maggs, & O'Malley, 2003).

In this paper, we analyze data from four waves of U.S. nationally representative panel data spanning ages 18 to 24, and we offer a "big picture" about the timing, sequencing, and covariation of social role transitions related to school and work, romantic involvement (specifically marriage), parenthood, and independence in the form of leaving the parental home. At wave 1 in our study, young people were nearing the end of their senior year of high school (modal age of 18), allowing us to follow their "launching" into post-high school transitions. During this important launching period, initial plans first combine with new experiences to place individuals on paths that will lead them into adulthood (Clausen, 1991; Gore et al., 1997). In

aggregating across these specific transitions at wave 2 (modal ages of 19-20) to construct mutually exclusive transition groups, we focus on both the number of transitions and the distinct patterning of various transitions, defining and offering prevalence estimates of the multiple pathways through emerging adulthood. Building on some of our previous research (Schulenberg et al., 2000), we consider associations between the wave 2 transition groups (i.e., aggregated by number and by unique patterns) and trajectories of well-being and substance use across the four waves (spanning ages 18 to 24). And in the last phase of the analyses, we examine diversity within transition groups, focusing specifically on how the differential transitional experiences that occur between waves 2 and 4 relate to trajectories of well-being and substance use.

In conceptualizing how the different transition groups might relate to trajectories of well-being and substance use, we draw from Coleman's Focal Theory (1989) regarding transition effects during early adolescence. According to Focal Theory, the number of transitions a young person makes relates to the amount of difficulty the young person experiences; that is, numerous and simultaneous transitions can overwhelm one's coping capacity, and well-being can suffer (Schulenberg & Maggs, 2002). Thus, it might be expected that the number of transitions in the year or two immediately following high school is negatively related to well-being and positively related to substance use. But it is also possible that those most willing to take on more transitions at once might have more psychological resources to begin with, suggesting an opposite direction of relations. More broadly, we draw from Elder's (1998) conceptualizations concerning social life course and Rutter's (1996) conceptualizations regarding transitions as potential turning points with regard to ongoing functioning and adjustment (for additional details on our conceptual approach, see Schulenberg, Maggs et al., 2003).

Our approach is largely descriptive, which is appropriate given that our purpose is to map the milestones of the broader critical developmental transition from adolescence to adulthood. But we also seek to provide some preliminary explanations of our findings. The different pathways and their relations to trajectories of well-being and substance use may vary by gender, cohort membership, and race/ethnicity (Schulenberg et al., 2000), and we investigate these possibilities in our analyses. We take a pattern-centered (rather than single variable-centered) approach to considering the different transitions. Such an interaction-based approach to change (see Cairns & Cairns, 1994; Magnusson, 1995; Singer, Ryff, Carr, & Magee, 1998) seeks to extend previous main-effects findings, such as the effects of marriage and living away from parents, that we and others have demonstrated in previous analyses (Bachman et al., 1997; Graber & Dubas, 1996; Leonard & Rothbard, 1999; Schulenberg et al., 2000). This pattern-centered approach is more complex than typical variable-centered (main effects) approaches, but the additional complexity is warranted given that certain transitions tend to co-occur during emerging adulthood.

METHOD

We examine national panel data spanning ages 18 to 24 from the Monitoring the Future (MTF) project (Johnston et al., 2003). MTF is an ongoing cohort-sequential longitudinal project funded by the National Institute on Drug Abuse. It is designed to understand the epidemiology and etiology of substance use and, more broadly, behavior and psychosocial development during adolescence and young adulthood. The project has surveyed nationally representative samples of approximately 17,000 high school seniors in the United States each year since 1975, using

questionnaires administered in classrooms. Approximately 2,400 individuals are randomly selected from each senior year cohort for follow-up. Follow-up surveys are conducted by mail every two years.

Sample

The panel sample used in the present study consisted of 19 consecutive cohorts of respondents who were surveyed as high school seniors (wave 1, age 18) from 1977 through 1995 and who participated in follow-up surveys one or two years after high school (wave 2, ages 19-20), three or four years after high school (wave 3, ages 21-22), and five or six years after high school (wave 4, ages 23-24). Differences in year of follow-up occur because the biennial follow-up surveys begin one year after high school for one random half of the panel drawn from each cohort, and two years post-high school for the other. For these analyses, the two random halves were combined.

To increase the breadth of areas covered by the surveys, MTF uses six different questionnaire forms (questionnaires are distributed randomly within schools at senior year, and a given individual's questionnaire form is consistent across waves). Because the items that constitute the well-being measure are located on only one of the forms, only one-sixth of the sample was available for the present study. This included 3,912 weighted cases (1,666 males and 2,243 females). Drug users are oversampled for follow-up, and corrective weighting is used to reflect population estimates.

Measures

We focus primarily on transitions that occur during the first year or two immediately following high school (by wave 2, ages 19-20), an appropriate time frame given our emphasis on the launching into emerging adulthood. We examine longitudinal trajectories of well-being and substance use in order to try to capture the course of these constructs prior to, during, and after the wave 2 transitions. This makes it possible to consider selection effects, as well as to examine whether the transitions serve to alter the ongoing trajectories of substance use and well-being. We selected the age 23-24 survey as the final (fourth) wave because this age is beyond the normative ending time for full-time college attendance (age 22 for most of the cohorts included here), allowing us to consider post-college experiences.

Transitions at wave 2. We consider a variety of transitions that occur between wave 1 (age 18, senior year in high school) and wave 2 (ages 19-20), including entering college, entering the work force, leaving the parental home, getting married, and entering parenthood. Seven transitions were examined based on items concerning full- or part-time college attendance during the past year, full- or part-time employment during the past year, current living arrangements (specifically, living in parental home), current marital status, and parenthood. This is not a list of mutually exclusive transitions, of course, nor is it a comprehensive list of all of the important milestones during this period. But it is a reasonable group of normative social-role transitions that reflects the diversity of life paths during this launching period. We aggregated across the various transitions, in terms of their number and patterning, to form mutually exclusive transition groups (details provided below).

Gender, cohort, and race/ethnicity. We considered gender, cohort, and race/ethnicity effects, particularly how they impinged on relationships between transition groups and trajectories of well-being and substance use. Senior year classes were grouped into three cohorts (1977-1982, 1983-1989, 1990-1995). Given our emphasis on multiple transition groups, our available sample, and the national political and substance use cycles over the two-decade period (Johnston et al., 2003; Schulenberg et al., 2000), these cohort groups reflect logical and meaningful categories. Race/ethnicity was considered in terms of White (83% of the sample), African American (8%), and other racial/ethnic groups (9%, the majority of whom were Hispanic American). This three-way grouping is less than satisfying in some ways, but given the sample size and focus on multiple transition groups, it was our best option.

Overall well-being. Based on previous analyses (Schulenberg et al., 2000) and the work of Ryff and colleagues on well-being during adulthood (e.g., Ryff & Keyes, 1995), overall well-being was considered in terms of a composite of three interrelated constructs: self-esteem (based on Rosenberg, 1965), self-efficacy (similar to Nowicki and Strickland's 1973 internal locus of control subscale), and social support (similar to Newcomb & Harlow, 1986). Each item was a statement about oneself (e.g., I feel I am a person of worth); for all items, possible responses were 1 (disagree), 2 (mostly disagree), 3 (neither agree nor disagree), 4 (mostly agree), and 5 (agree), with responses reversed if necessary so that high scores reflect high well-being. The same measures were used at all four waves, and cross-sectional exploratory factor analyses of the three scales suggested one underlying dimension at each wave. Alpha coefficients for this overall score exceeded .75 at each of the four waves.

Substance use. Substance use measures for these analyses included binge drinking (frequency of having 5 or more drinks in a row during the past two weeks) and marijuana use (occasions of use in the past 12 months). The Monitoring the Future substance use items have been shown to demonstrate excellent psychometric properties, and their reliability and validity have been reported and discussed extensively (Johnston & O'Malley, 1985; Johnston et al., 2003; O'Malley, Bachman, & Johnston, 1983). Possible responses for occasions of binge drinking in the past two weeks were 1 (none), 2 (once), 3 (twice), 4 (3 to 5 times), 5 (6 to 9 times), and 6 (10 or more times); for occasions of marijuana use in the past twelve months possible responses were 1 (0 occasions), 2 (1 to 2 occasions), 3 (3 to 5 occasions), 4 (6 to 9 occasions), 5 (10 to 19 occasions), 6 (20 to 39 occasions), and 7 (40 or more occasions). The same measures were used at all four waves.

Analysis Plan

To address the aims of this paper, we used five phases of analysis, addressing (1) average trajectories of well-being and substance use (binge drinking and marijuana use) across the four waves (ages 18 to 24); (2) description of wave 2 (ages 19-20) transitions; (3) how the number of wave 2 transitions relate to trajectories of well-being and substance use; (4) how the wave 2 transition groups relate to trajectories of well-being and substance use; and (5) within specific wave 2 transition groups, how wave 4 (ages 23-24) transitions relate to trajectories of well-being and substance use.

We relied typically on within-time and repeated-measures ANOVAs, considering transition groups (along with gender, cohort, and race/ethnicity) as the predictors, and substance use and well-being (within-time and across time) as the outcomes. Despite the implied causal

ordering in the analyses, bidirectional influences very likely occur between the transition groups and dependent variables; ANOVAs provide a straightforward way of connecting a categorical variable (transition groups) with longitudinal trajectories of continuous variables (substance use and well-being). In the repeated-measures ANOVAs, time effects (i.e., change across the four waves) were partitioned into orthogonal polynomial contrasts to test for linear, quadratic, and cubic effects in well-being and substance use over time. The time-interaction terms provided tests of whether and how the transition groups (and gender, cohort, and race/ethnicity) were associated with different trajectories of well-being and substance use. For significant time-by-transition-group interactions, we made comparisons among the change coefficients of the various subgroups to determine significant differences.

Clearly, given the wealth of findings yielded by the analyses, not all findings can be presented here. To simplify our presentation, we focus primarily on the patterns of significant findings relevant to the way the transition groups relate to well-being and substance use trajectories.

RESULTS

Findings are presented according to the five analysis phases. We limit our consideration of findings to those differences and changes over time that were significant at least at the $p < .01$ level (a level justified by the size of our sample and the number of analyses conducted).

Average Trajectories of Well-Being and Substance Use

We start by examining average trajectories of well-being and substance use (binge drinking and marijuana use) across four waves from senior year in high school to ages 23-24 for the total sample and by gender, cohort, and race/ethnicity.

Well-being. As shown in Figure 1 and Table 1, well-being increased across the waves, with a faster rate of change between earlier waves than later waves. Men and women started with identical levels of well-being, but the increase over time was significantly greater for men than for women, and the leveling off with age was stronger for men than for women. There were no significant cohort or race/ethnicity main or interaction effects (see Table 2).

Among the between-subjects (i.e., ignoring time) main and interaction effects, the gender main effect was significant ($p < .05$) and race/ethnicity was significant ($p < .01$); the main and interaction effect for cohort was not significant. In the within-subject effects, the overall time effect was significant ($p < .001$; both linear and quadratic trends were significant, $p < .001$); the time-by-gender interaction was significant ($p < .05$; the interaction was significant for both linear and quadratic trends, $p < .05$); and none of the time-by-cohort or race/ethnicity interactions (2-, 3-, and 4-way) was significant.

Substance use. Binge drinking tended to increase immediately following high school (time effect was significant for the quadratic trend) and was consistently higher for men than for women (between-subjects gender effect was significant); this gender difference increased with age (gender-by-time interaction was significant for linear and cubic trends), as shown in Figure 2a and Tables 2-4. Figure 2b (Tables 2 and 4) shows that binge drinking varied as a function of cohort group, with the three groups starting off quite differently in terms of initial level of binge

drinking at age 18 but then converging by ages 21-22 (between-subjects cohort effect was significant). Specifically, binge drinking for the most recent cohort group (1990-1995) increased more rapidly over time than for the other cohort groups (time-by-cohort interaction was significant, with the 1990-1995 group showing a more linear increase over time than the other two groups), and all groups followed a quadratic trend in which binge drinking peaked by wave 3 or 4 and then decreased. Binge drinking varied by race/ethnicity (Table 2); it was higher for Whites than for African Americans and the other racial/ethnic groups (with significant between-subjects effects for race/ethnicity). Although the trajectory for Whites increased then decreased, the trajectories for African American and other racial/ethnic groups remained flat (time-by-race/ethnicity interaction was significant for the quadratic trend).

The findings for marijuana use are very similar to those for binge drinking. As shown in Figure 3a (Tables 2, 5, and 6), marijuana use, on average, increased a bit to wave 2 and then decreased across waves 3 and 4 (negative linear and quadratic trends were significant); use was higher for men than for women, and women decreased their use more rapidly over time than men. Figure 3b and Table 6 indicate that the overall level and trajectory of marijuana use varied by cohort group; the two earlier cohorts differed in level, with the 1977-1982 group having the highest level, but in both cases marijuana use declined linearly across the waves. By comparison, the most recent group (1990-1995) started off lowest, but then increased before dropping off by wave 4. In terms of racial/ethnic differences, marijuana use was highest among Whites and did not change differentially for the groups over time.

Summary. Overall, then, well-being was found to increase during the transition, especially over the first few years out of high school. This was true for both men and women, although the rate of increase was faster for men. These time trends held regardless of cohort or race/ethnicity. Binge drinking and marijuana use were, on average, higher for men than women, and higher for Whites than African American and other racial/ethnic groups. Cohort effects were striking for the trajectories of substance use (see Johnston et al., 2003), with evidence of convergence across cohorts during the mid-twenties when substance use declined for all cohorts (although the oldest cohort group maintained its higher level of marijuana use).

Transitions at Wave 2 (Ages 19-20)

In the second phase of the analyses, we examined the percentages of individuals in our national panels making the various post-high school transitions between waves 1 (age 18) and 2 (ages 19-20). These percentages are shown in Figure 4 (Table 7) by gender. Note that these are not mutually exclusive transitions, with the exception of full- versus part-time work and full- versus part-time college. Entering full-time college was the most common post-high school transition; nearly 60% of the sample did so. Only 8% were attending college part-time. About 33% of the men and 25% of the women made the transition into full-time work (gender difference was significant, $p < .05$), and another 29% of the men and 35% of the women were working part-time (gender difference was significant, $p < .05$). (Part-time work does not necessarily represent a transition, given that most had worked part-time during high school; however, for other purposes considered below, we wanted to include post-high school part-time work as an important activity.) Moving away from one's parents was very common, with about half the sample doing so and the other half living with one or both parents. Only about 10% of the women and 5% of the men were married by wave 2, and 7% of the women and 4% of the

men had children. Significant cohort differences were evident for full-time work (proportions decreased from earlier to more recent cohorts; see also Bachman et al., 1997). In terms of significant racial/ethnic differences, Whites and African Americans were more likely to have moved away from parents than those in the other racial/ethnic groups.

We next considered two ways of aggregating across the individual transitions and then examined how the aggregates related to well-being and substance use. First, the number of transitions was simply summed (presented in the next section). Second, we considered all possible combinations of transitions and focused only on those combinations encompassing sufficient portions of the sample to permit meaningful consideration.

Number of Transitions: Well-Being and Substance Use

A straightforward way of thinking of the transitions in aggregate is to sum the number of transitions a given individual makes at wave 2. As we discussed earlier, this approach draws from Coleman's Focal Theory (1989) in which the number of transitions a young person experiences during early adolescence is negatively related to well-being and positively related to difficulties; conversely, especially during the transition from adolescence into early adulthood, those most willing to take on more transitions at once might have more psychological resources to begin with, suggesting an opposite direction of relations.

Prevalence. The number of transitions any one individual could make ranged from 0 to 5. (Although there are 7 possible transitions, two mutually exclusive pairs—part- and full-time work and part- and full-time school—make 5 the top of the range.) The mode for men and women was two transitions (49% and 48%, respectively), followed by one transition (29% of men and 26% of women), and then three (15% of men and 20% of women). About 5% of the sample experienced no transitions; at wave 2 they were still living with their parents, were not married, had no children, were not enrolled in college full- or part-time, and were not working full- or part-time. Less than 2% experienced four or five transitions. There were no significant gender, cohort, or race/ethnicity differences in the average number of transitions.

Well-being. Figure 5 shows the trajectories of well-being over time by the number of wave 2 transitions (the arrow at wave 2 signifies when transition groups are defined). Well-being increased for all groups between waves 1 and 2. It continued to increase for the groups that experienced one, two, and three transitions across the waves and leveled off (quadratic effect) for the groups with no and four/five transitions. Only the groups with one and two transitions had a significant linear shape ($p < .05$). The groups with four/five and no transitions increased initially and began leveling off at waves 2 and 3, respectively. While the non-significant transition-by-time interaction (see Table 8) indicates that the trajectory of each transition group followed the same linear and quadratic shape described for the total sample in analysis phase 1, the group with one transition did have a significant linear parameter ($p < .05$). With only minor exceptions, the transition groups maintained their relative ordering across the four waves, with well-being scores significantly higher than average overall for those making two and three transitions and significantly lower than average for those making no transitions and one transition. Transition group interactions involving gender, cohort, and race/ethnicity were not significant. The fact that the differences in well-being were in place at wave 1 prior to graduating from high school indicates a selection effect: those who are higher in well-being in high school are more likely to

have the psychological resources and advance plans to take on more transitions following high school. As we shall see, this has a great deal to do with *which* transitions were involved.

Substance use. Figures 6 and 7 show the trajectories of binge drinking and marijuana use, respectively, for the transition groups. In contrast to what was found for the well-being trajectories, the substance use trajectories show a fair amount of differential change as a function of number of transitions. (For both binge drinking and marijuana use, the time-by-transition group interactions were significant for the linear and quadratic trends. See Table 8.) Those in the groups experiencing no, one, and four/five transitions had significantly higher binge drinking and marijuana use at wave 1 than did those in the groups with two and three transitions. As shown in Figure 6, the binge drinking trajectory remained relatively flat for those in the groups with no and one transitions, decreased sharply for those in the group with four/five transitions (with significantly greater linear decline and positive quadratic effect than other groups), and increased then decreased for those in the groups with two and three transitions (with a significantly greater negative quadratic effect than other groups). As shown in Figure 7, very similar results were found with regard to marijuana use trajectories; it is noteworthy that marijuana use did not decline over time for the no-transition group. For both binge drinking and marijuana use, none of the time-by-transition group interactions involving gender, cohort, or race/ethnicity was significant.

Summary. Overall, there was little evidence to suggest that experiencing more transitions immediately following high school contributes to poorer functioning and adjustment. Indeed, well-being tended to be higher for those making more transitions (but these differences were in place during the senior year of high school, indicating selection effects), and the well-being trajectories were not altered by the number of wave 2 transitions. Substance use declined most for the small group experiencing four/five transitions at wave 2, tended to peak at wave 2 and then decline for those in the groups with two and three trajectories, and remained relatively constant over time for those experiencing one or no transitions. Of course, interpretation of these variations depends on which transitions are experienced. Thus, while it is somewhat instructive to consider the number of transitions, considerations of process depend more on knowing which transitions one is experiencing.

Transition Groups: Well-Being and Substance Use

Construction and prevalence of transition groups. In this fourth phase of the analyses, we assembled a limited set of naturally occurring, mutually exclusive configurations of various transitions and then considered the trajectories of well-being and substance use as a function of these constructed transition groups. This was a potentially cumbersome process, for up to 240 unique categories (i.e., 2(5!)) were possible. But as shown in Figure 8 (Table 9), we were able to construct nine mutually exclusive transition groups, with a tenth "unclassified" group.

Making some logical decisions, we began this analysis by isolating the small but important groups of those who were married and not living with their parents or their spouse's parents by wave 2 (most were also working full-time, but this group was too small to further divide: 4% of men and 9% of women); those who were single parents by wave 2 (too small to further divide: 2% of men and 3% of women); and those who experienced *no* transitions by wave 2 (5% of men and 4% of women). The rationale for the first two groupings was that by age 19/20, marriage and single parenthood are sufficiently rare in our sample (which, by definition,

does not include high school dropouts) as to constitute a relatively unique experience, regardless of what else the given individuals are experiencing (Schulenberg et al., 2000).

As shown in Figure 8, the other groups that we found to encompass sufficient numbers of young people included three groups who were similar in terms of not being married, not having children, and living away from parents at wave 2: those who attended college full-time and worked full- or part-time (11% of men and 13% of women), those who attended college full-time and did not work (23% of men and 20% of women), and those who worked full- or part-time and did not attend college (6% of men and 5% of women). These three groups were analogous to another set of three, with the difference being that this second set of three lived home with one or both parents at wave 2: those who attended college full-time and worked full- or part-time (14% of men and women), those who attended college full-time and did not work (8% of men and women), and those who worked full- or part-time and did not attend college (17% of men and 13% of women).

These nine transition groups were mutually exclusive; together, they accounted for 90% of the sample (leaving 10% in the "unclassified" group). Across these nine transition groups, prevalence rates did not vary significantly by gender, cohort, or race/ethnicity.

Well-being. The well-being trajectories of the nine wave 2 transition groups are illustrated in Figure 9 (Table 10). The trajectory for the "unclassified" group is not shown, but this group was included in the analyses. As is clear, well-being increased for each group (the time-by-transition group interaction was not significant), and the transition groups generally maintained their relative ranking in well-being over time, once again indicating selection effects. Compared to the total sample, well-being was significantly higher in the "not married, no children, live away, college and work," "not married, no children, live away, college only," and "not married, no children, live with parent, college and work" groups; and it was significantly lower in the two "work only" groups and the no-transition and single parent groups. Interactions involving gender, cohort, and race/ethnicity were not significant.

Substance use. The trajectories for binge drinking and marijuana use for the nine wave 2 transition groups are illustrated in Figures 10 and 11 (Table 10), respectively. In both analyses, the between-subjects effect for transition group was significant, the time-by-transition interaction was significant for both linear and quadratic trends, and none of the interactions involving gender, cohort, or race/ethnicity was significant.

Overall across the waves, compared to the total sample, binge drinking was significantly higher in the two "work only" groups (who also had the highest level of binge drinking at wave 1) and the "live away, college only" group. It was significantly lower in the "married, live away" group. Compared to the total sample trajectory (see Figure 2a), the binge drinking trajectory decreased linearly for the "not married, no children, live away, work only" group, decreased sharply then leveled off (with significant negative linear trend and positive quadratic trend) for the "married, live away" group, and increased then decreased (with significantly greater negative quadratic trend) for the "not married, no children, live away, college only" and "not married, no children, live away, college and work" groups. The trajectories for the remaining five transition groups did not differ significantly from the total sample trajectory.

Overall across the waves, compared to the total sample, marijuana use was significantly higher in the two "work only" groups and significantly lower in the two remaining groups who were not married, had no children, and lived with parents (the college and work, and work only groups). Compared to the total sample trajectory (see Figure 3a), the trajectories for the "not married, no children, live away, and college only" and "not married, no children, live away, and college and work" groups showed significantly less linear decrease and greater negative quadratic effect; the trajectory for the "not married, no children, live with parent, and work only" group showed a significantly greater linear decrease; and the trajectory for the "married, live away" group showed a positive quadratic effect, reflecting the sharp decrease with marriage at wave 2 with this group.

Summary. While differences were evident in well-being trajectories across the nine transition groups, these differences were in place at wave 1, indicating selection effects. In general, well-being was higher for those who, at wave 2, were not married, did not have children, and were in college. More differential change as a function of the nine transition groups was evident in the trajectories of binge drinking and marijuana use. In particular, for both binge drinking and marijuana use, there were sharper increases then decreases over time for those who at wave 2 were attending full-time college, not living with parents, not married, and had no children; and sharper decreases for those who at wave 2 were married and not living with parents.

Examining Wave 4 Transitions Within Wave 2 Transition Groups

For the final set of analyses, we examined what happened at wave 4 for some of the key wave 2 transition groups. In keeping with our pattern-centered approach, we looked within specific wave 2 groups, or appropriate combinations of "adjacent groups," and examined how wave 4 transitions related to variations in well-being and substance use trajectories. We considered two groups that involved sufficiently large segments of the sample: (a) the wave 2 "live away, not married, no children, full-time college" combined group, which included working and non-working subgroups and contained about 33% of the sample (1,294 individuals); and (b) the wave 2 "not married, no children, no college, work only" combined group, which included both those living away and those living with parents and contained about 20% of the sample (787 individuals). In these analyses, we considered gender-by-transition-by-time interactions, none of which was significant, but we were unable to consider interactions involving cohort and race/ethnicity due to sample size limitations.

Wave 2 "live away, not married, no children, full-time college" group. All individuals in this group were (at wave 2) enrolled full-time in college, lived away from home, were not married, and had no children (n = 1,294). Based on the transitions that had occurred at wave 4 (ages 23-24), we formed six groups and a seventh unclassified group. Three of the groups were similar in that they still lived away from parents, were not married, did not have children, and either worked only (27%), attended college/graduate school only (12%), or worked and attended college/graduate school (14%). The remaining groups were the following: lived away from parents, were married, had no children, were working (13%); moved back with parent(s), were not married, had no children, most had completed college and were working full-time (20%); lived away from parents, with children (5%); and unclassified (9%).

Figures 12-14 (Table 11) show the trajectories of well-being, binge drinking, and marijuana use, respectively, for the six different wave 4 trajectory groups (the arrow at wave 4 signifies when transition groups are defined). As shown in Figure 12, well-being increased for all six groups especially across the earlier waves. The six groups did not differ from each other in their levels or trajectories of well-being, with one exception: the trajectory for those who remained in college full-time, including graduate school, did not level off between waves 3 and 4 (with significant cubic effect).

As shown in Figures 13 and 14, substance use levels were fairly equivalent across the six subgroups at wave 1 and then began to diverge considerably at wave 2 when everyone was still a full-time student living away from home, and was neither married nor had children (the time-by-transition group interaction was significant for both binge drinking and marijuana use). Of particular interest, binge drinking and marijuana use at wave 2 were significantly lower compared to the group total for those who subsequently got married by wave 4, suggesting that that lower substance use at wave 2 foreshadows a quicker subsequent entry into marriage and, for binge drinking only, a quicker subsequent entry into parenthood. This is consistent with our earlier finding that becoming engaged is associated with—and perhaps causal of—declines in substance use (Bachman et al., 1997). More generally, binge drinking increased more rapidly for those groups who at wave 4 still lived away from home, were not married, and had no children (with significant linear effects compared to total); and it decreased more rapidly for the wave 4 "live away, married, no children, working" and "live away, with children" groups (with significant linear effects compared to total). And, whereas marijuana use generally increased then decreased for this subgroup, it remained relatively flat for the wave 4 "live away, married, no children, working" group (with a significantly more positive quadratic trend compared to total).

Wave 2 "not married, no children, no college, work only" group. All individuals in this group were (at wave 2) employed full-time, were not in college full- or part-time, lived away from home, were not married, and had no children (n = 787). Based on consideration of what transitions had occurred by wave 4 (ages 23-24), we formed five groups (plus a sixth unclassified group): lived away, worked full-time, were not married, and had no children (22%); lived away, worked full-time, were married, and had no children (14%); lived away, worked full-time, were married, had children (13%); lived away and neither attended college nor worked (10%); lived with parent(s), worked full-time, were not married, and had no children (22%); and unclassified (18%).

Figures 15-17 (Table 12) show the trajectories of well-being, binge drinking, and marijuana use, respectively, for the five different wave 4 trajectory groups. For well-being, all five groups had similar (non-significant) well-being scores at wave 1; over time, only the well-being trajectory of the "live away, no college, not working" group was different than the trajectories for the other groups. Specifically, well-being declined between waves 3 and 4 to a greater extent for this group than for the total (its quadratic effect is significantly more negative), which very likely relates to this group neither working nor attending college at wave 4.

For both the binge drinking and marijuana use trajectories, the transition groups most different from the others were the wave 4 "live away, working, not married, no children" and "live away, working, married, with children" groups (the between-subjects effect for transition

group was significant): compared to the total, the former group had significantly higher-than-average substance use across waves, and the latter group had significantly lower-than-average substance use across the waves. Of particular interest concerning the "foreshadowing" (and likely engagement effect) mentioned earlier in the other subgroup analysis, the two groups that were the same except for marriage at wave 4 (i.e., lived away, had no children, worked full-time) had similar (non-significant) levels of binge drinking at wave 1; then they quickly diverged (significantly) in binge drinking by wave 2—when both groups were working full-time, were not attending college, were not married, and had no children—and remained significantly different at waves 3 and 4.

Summary. Overall, these two final analyses showed that within homogenous transition groups defined at wave 2, differences in subsequent transitional experiences between waves 2 and 4 were associated with divergences in trajectories of substance use and, to a lesser extent, of well-being. And in the case of substance use, some of these divergences were evident at wave 2 when the groups were homogenous with respect to the various transitions; in particular, in both sets of comparisons, a greater decline in substance use—especially binge drinking—between waves 1 and 2 foreshadowed a greater likelihood of marriage by wave 4. Divergences in well-being trajectories in both sets of comparisons were limited but telling: in the wave 2 "live away, not married, no children, full-time college" group, well-being leveled off between waves 3 and 4 for all subgroups except those who remained at wave 4 in college or graduate school full-time and were not working; in the wave 2 "not married, no children, no college, work only" group, well-being dropped between waves 3 and 4 for only those who at wave 4 were neither working nor attending college and were living away from parents.

DISCUSSION

Before discussing specific findings regarding relations between various transitions and the well-being and substance use trajectories, we should make a note. Although the period between adolescence and adulthood has lengthened (Arnett, 2000) and the pathways have increased in diversity (Shanahan, 2000), our findings suggest that any attempt to understand emerging adulthood would benefit from considering traditional indicators of developmental milestones such as marriage and full-time work. Indeed, given the foreshadowing we found, these milestones represent more than simply external markers. How these developmental milestones work together seems especially important. A deliberate patterning of transitions is suggested by the fact that, out of 240 possible combinations of transitions, we were able to place 89% of our sample in one of nine mutually exclusive transition groups (see Cairns & Cairns, 1994). Furthermore, while there were some significant gender, cohort, and race/ethnicity differences in transitions and in trajectories of well-being and substance use, interactions with transition groups were in large part non-significant. Thus the links between transition experiences and the trajectories appear to be fairly pervasive and do not vary as a function of gender, cohort, and race/ethnicity (at least in the late 20th century in the United States).

Trajectories of Well-Being

On the whole for the sample, well-being increased during the first few years out of high school for both men and women (at a faster rate for men) and then began to level off by the mid-twenties. This was true regardless of race/ethnicity or cohort. Linking well-being to the number of transitions young people make revealed some rather surprising findings. Although, as with the

sample as a whole, well-being increased steadily for each group examined (i.e., those making no, one, two, three, or four or more transitions), those making more transitions had consistently higher well-being. This effect suggests that the mechanisms of stress suggested by Focal Theory (described previously), in which the numerous and simultaneous transitions of early adolescence may overwhelm one's coping capacity, are not likely to be operating here. Perhaps the difference here is that after high school, young people have more choice in their transitions and new social roles, thus increasing the match between what they wish to do and available opportunities. While interesting, a focus exclusively on the number of transitions falls short of offering insight into the underlying processes.

In considering the patterning of the transitions and focusing on nine mutually exclusive transition groups based on the social role changes they experienced by wave 2 (ages 19 to 20), we again found that well-being increased for all groups. The groups with the highest well-being were those who, at wave 2, had not yet married, had no children, lived away from home, and were attending college, with or without combining work. Those with significantly lower well-being were single parents, were working without attending college, and had yet to make any transition by wave 2.

The nine transition groups tended to maintain their relative ranking in well-being over time (see Figure 9). This stability of inter-group differences strongly suggests a selection effect, in which well-being or a correlate of well-being, like academic achievement (Clausen, 1991) during the senior year of high school or before, sets the stage for the type/patterning of transitions one plans to make after high school. Nevertheless, when looking within groups defined at one point in time (our wave 2) to consider how within-group diversity in life paths unfolds over time (our wave 4), we learned that the course of well-being can be somewhat sensitive to the experience of transitions, particularly those related to achievement domains of school and work; such patterns suggest that the course of well-being is not entirely a function of selection effects.

The fact that nearly all transitions groups, including the group that did not experience any transitions by wave 2, showed an increase in well-being over time suggests that there is some "niche picking" going on, with young people selecting the transitions/experiences that match best with their developmental needs and desires (Schulenberg & Maggs, 2002). More broadly, the increase in well-being for all groups suggests the utility of Baltes' (1987) selection, optimization, and compensation life span development model for understanding how young people successfully negotiate the many changes and demands of emerging adulthood (see also Wiese et al., 2000; Schulenberg, Bryant et al., 2003).

Trajectories of Substance Use

For the group as a whole, substance use (marijuana and alcohol use) among men and women tended to peak by the early twenties, although use among men was consistently higher than among women. The level and trajectory of substance use varied by cohort (see Johnston et al., 2003). The earlier cohorts had the highest levels of use, but within cohorts, use declined as the youth aged. Both binge drinking and marijuana use were highest among Whites. The trajectory of binge drinking for Whites increased and then decreased over time, while for African Americans and the other racial/ethnic groups, the trajectories were flat.

Considering the number of transitions, substance use trajectories were a bit more varied than well-being trajectories. Those who, by ages 19-20, had already experienced four or more transitions saw the steepest decline in substance use, suggesting the effect of a combination of transitions, although marriage likely had the strongest effect (Bachman et al., 1997). It is interesting that those who made no transitions by wave 2 (ages 19 to 20) had a relatively high and flat trajectory of marijuana use across the waves, suggesting some effects of avoiding the tasks of early adulthood. But again, while interesting, the focus on the number of transitions is unsatisfying in regard to possible processes that connect transitions to substance use trajectories.

As we found, trajectories of well-being are considerably influenced by the specific patterning of transitions. Certain post-high school contexts/experiences—specifically, living away from home and not being married—contribute to a relative increase and delayed decrease in substance use (see Bachman et al., 1997). This provides additional evidence that the emerging adulthood period is a time of experimentation (Arnett, 2000) and that once typical adulthood roles are assumed, experimentation tends to be left behind. One could also explain this pattern by means of changed willingness to take risk and/or associated changes in constraining social influences (e.g., presence of parents, fiancé/fiancée, and/or spouse). Furthermore, declines in substance use appear to foreshadow upcoming transitional experiences that move the individual more firmly into adulthood status. Overall, the findings that the course of substance use was more influenced by transitions than was the course of well-being suggest that while many transitions do indeed serve as turning points, such turning point influences are not necessarily pervasive with respect to multiple indications of functioning and adjustment (Rutter, 1996; Schulenberg & Maggs, 2002).

Strengths and Limitations

Strengths of this study include the use of U.S. national multi-cohort panel data spanning the transition to young adulthood. Limitations include measure limitations, the restricted set of transitions, and some degree of imprecision in defining transition groups (e.g., we may have missed some important events during the two-year lag between waves). The pattern-centered, interaction-based approach is both a strength and a limitation. Clearly, our "big picture" approach works best in combination with other more fine-grained studies that can provide more of the interesting detail about life's milestones and processes of change during this period of life.

CONCLUSION

The global transition to adulthood can serve as an important proving ground where one's accumulated talents, support, and hopes interact with the new opportunities and challenges of post-high school life. For most young people, the trajectories of functioning and adjustment established throughout childhood and adolescence likely extend into emerging adulthood and work together with (or against) the pervasive changes that may come with this transition, yielding continuity in overall functioning and adjustment into adulthood. But this transition period can also serve as a turning point for many young people, a time when established trajectories of functioning and adjustment change direction (for better or worse), due in part to the experiences of emerging adulthood. In this study, we found extensive mean-level changes in well-being and substance use during emerging adulthood, with considerable differential change in substance use as a function of transition group. We also found considerable continuity in well-being in terms of a general lack of differential change as a function of transition group. The

diverse pathways from adolescence to adulthood are rooted in earlier experiences and plans that set the stage for continuity in well-being, but the experiences of the different pathways contribute to discontinuities in substance use.

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TABLES

Table 1. Mean Well-Being Scores by Gender

	Wave 1 Age 18	Wave 2 Age 19/20	Wave 3 Age 21/22	Wave 4 Age 23/24
Males	3.887	4.021	4.101	4.127
Females	3.889	3.978	4.046	4.085
Total	3.888	3.996	4.070	4.102

Table 2. Summary of Repeated Measures ANOVAs for Well-Being, Binge Drinking, and Marijuana Use by Gender, Ethnicity, and Cohort

Predictors[1]	Measurement Occasions and Factors	F df; error df Well-Being	Binge Drinking	Marijuana Use
Gender	Between subjects	5.25*	263.26***	31.29***
		1	1	1
	Within subjects			
	Time	188.56***	15.99***	20.67***
		3; 3,815	3; 3,541	3; 3,680
	Time x Gender	3.50*	9.322***	4.18**
		3; 3,815	3; 3,541	3; 3,680
Ethnicity	Between subjects	4.75**	43.52***	19.28***
		2	2	2
	Within subjects			
	Time	53.66***	0.270	3.52*
		3; 3,791	3; 3,520	3; 3,657
	Time x Ethnicity	0.49	3.14**	2.03
		6; 7,584	6; 7,042	6; 7,316
Cohort	Between subjects	0.11	12.74***	73.50***
		2	2	2
	Within subjects			
	Time	179.45***	16.05***	21.66***
		3; 3,815	3; 3,543	3; 3,681
	Time x Cohort	1.40	8.49***	5.93***
		6; 7,632	6; 7,088	6; 7,364

*p < .05, **p < .01, ***p < .001.
Note 1: Due to N restrictions each predictor was run in separate ANOVA for each outcome. (Ns for well-being: gender = 3,819, ethnicity = 3,796, cohort = 3,820; Ns for binge drinking: gender = 3,545, ethnicity = 3,525, cohort = 3,548; Ns for marijuana use: gender = 3,684, ethnicity = 3,662, cohort = 3,686)

Table 3. Mean of Binge Drinking by Gender

	Wave 1 Age 18	Wave 2 Age 19/20	Wave 3 Age 21/22	Wave 4 Age 23/24
Males	1.995	2.077	2.192	2.080
Females	1.582	1.649	1.597	1.500
Total	1.756	1.831	1.850	1.747

Table 4. Mean of Binge Drinking by Cohort

	Wave 1 Age 18	Wave 2 Age 19/20	Wave 3 Age 21/22	Wave 4 Age 23/24
1977-982	1.918	1.942	1.860	1.800
1983-1989	1.774	1.839	1.860	1.720
1990-1995	1.512	1.664	1.822	1.718

Table 5. Mean of Marijuana Use by Gender

	Wave 1 Age 18	Wave 2 Age 19/20	Wave 3 Age 21/22	Wave 4 Age 23/24
Total	2.118	2.174	2.118	1.966
Males	2.274	2.3	2.332	2.191
Females	2.002	2.081	1.96	1.8

Table 6. Mean of Marijuana Use by Cohort

	Wave 1 Age 18	Wave 2 Age 19/20	Wave 3 Age 21/22	Wave 4 Age 23/24
1977-1982	2.629	2.601	2.514	2.326
1983-1989	1.974	2.012	1.9	1.766
1990-1995	1.616	1.813	1.878	1.75

Table 7. Prevalence of Transitions by Wave 2 (Ages 19-20)

	Full-Time College	Part-Time College	Full-Time Work	Part-Time Work	Moved Away	Got Married	Had Child(ren)
Males	57.9	7.9	32.8	29.1	48.3	5.0	3.6
Females	58.5	8.0	25.2	35.1	51.1	10.3	6.8

Table 8. Summary of Repeated Measures ANOVAs on Well-Being, Binge Drinking, and Marijuana Use by Number of Wave 2 Transitions

	F df; error df		
Measurement Occasions and Factors	Well-Being	Binge Drinking	Marijuana Use
Between subjects	23.76***	2.82*	0.94
	4	4	4
Within subjects	45.96***	1.4	4.20**
Time	3; 3,811	3; 3,539	3; 3,677
	1.23	3.02***	3.15***
Time x Number of transitions	12; 11,439	12; 10,623	12; 11,037

*p < .05, **p < .01, ***p < .001. Ns: well-being = 3,818; binge drinking = 3,546; marijuana use = 3,684

Table 9. Prevalence of Wave 2 Transition Groups by Gender

Transition Groups		Males	Females
Not married, no children, and…			
Live away	College and work	11.4	12.5
	College only	22.6	20.0
	Work only	6.1	5.1
Live with parent	College and work	14.1	13.9
	College only	8.1	8.6
	Work only	16.8	13.1
Other	Married, live away	3.9	8.6
	Single parent	1.6	3.5
	No transitions	4.7	3.9

Table 10. Summary of Repeated Measures ANOVAs on Well-Being, Binge Drinking, and Marijuana Use by Wave 2 Transition Groups

		F value df; error df	
Measurement Occasions and Factors	Well-Being	Binge Drinking	Marijuana Use
Between subjects	20.59***	8.94***	6.15***
	9	9	9
Within subjects	116.05***	3.61*	13.19***
Time	3; 3,806	3; 3,534	3; 3,672
Time x Transition groups	1.42	5.83	4.67***
	27; 11,424	27; 10,608	27; 11,022

*p < .05, **p < .01, ***p < .001. Ns: well-being = 3,818, binge drinking = 3,546, marijuana use = 3,684

Table 11. Summary of Repeated Measures ANOVAs on Well-Being, Binge Drinking, and Marijuana Use Within Wave 2 "Live Away, Not Married, No Children, Full-Time College" Group by Wave 4 Transition Groups

		F value df; error df	
Measurement Occasions and Factors	Well-Being	Binge Drinking	Marijuana Use
Between subjects	1.02	7.49***	1.90
	6	6	6
Within subjects	61.34***	20.29***	17.55***
Time	3; 1,271	3; 1,221	3; 1,235
Time x Transition groups	1.04	3.22***	1.94**
	18; 3,819	18; 3,669	18; 3,711

*p < .05, **p < .01, ***p < .001. Ns: well-being = 1,280, binge drinking = 1,230, marijuana use = 1,244

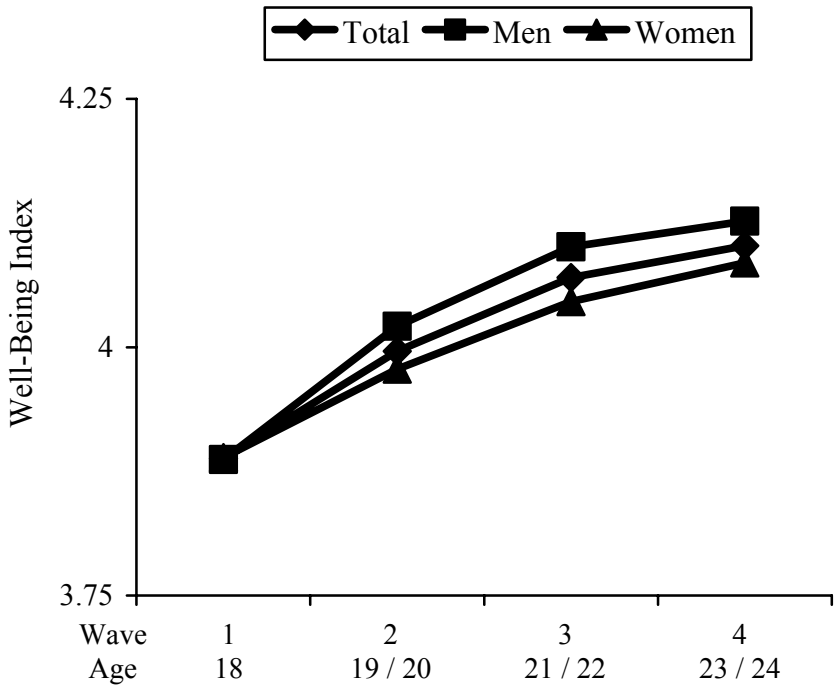
Table 12. Summary of Repeated Measures ANOVAs on Well-Being, Binge Drinking, and Marijuana Use Within Wave 2 "Not Married, No Children, Work Only" Group by Wave 4 Transition Groups

		F value df; error df	
Measurement Occasions and Factors	Well-Being	Binge Drinking	Marijuana Use
Between subjects	1.81	3.99**	2.76*
	5	5	5
Within subjects	46.60***	6.42***	14.24***
Time	3; 752	3; 676	3; 711
Time x Transition groups	1.48	1.50	1.16
	15; 2,262	15; 2,034	15; 2,139

*p < .05, **p < .01, ***p < .001. Ns: well-being = 760, binge drinking = 684, marijuana use = 719

FIGURES

Figure 1. Average Well-Being During the Transition to Adulthood



The index is the sum of responses for 19 well-being questions, with subcategories of loneliness/social support, self-efficacy/fatalism, and self-esteem/self-derogation (e.g., I feel I am a person of worth), each with the following scale: 1 = disagree, 2 = mostly disagree, 3 = neither agree nor disagree, 4 = mostly agree, 5 = agree.

Figure 2a. Average Binge Drinking (5+ Drinks in a Row Last Two Weeks) by Gender

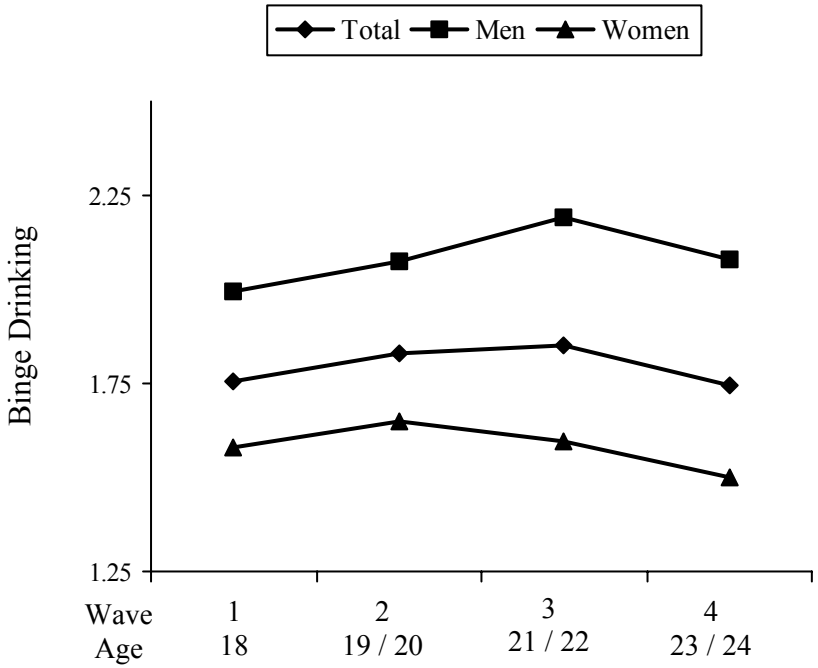
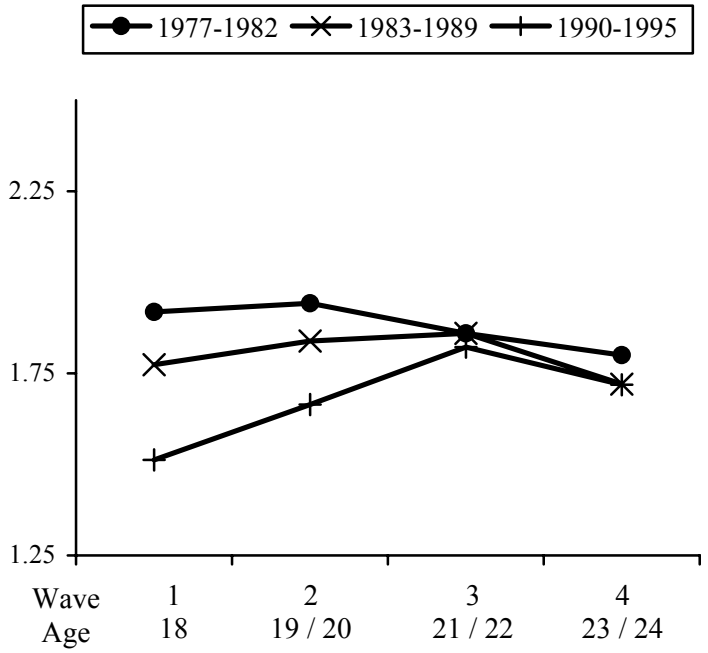


Figure 2b. Average Binge Drinking (5+ Drinks in a Row Last Two Weeks) by Cohort



1 = none, 2 = once, 3 = twice, 4 = 3-5 times, 5 = 6-9 times, 6 = 10 or more times

Figure 3a. Average Marijuana Use (Last 12 Months) by Gender

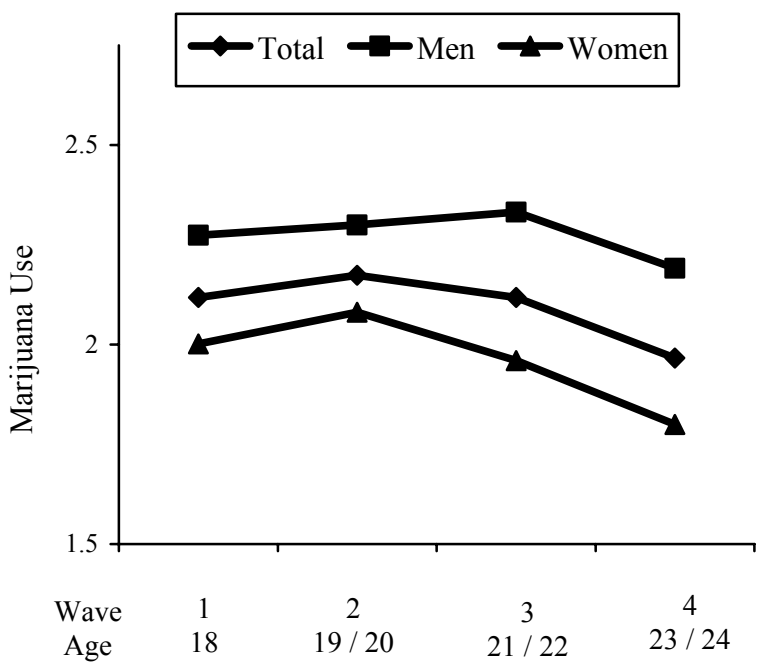
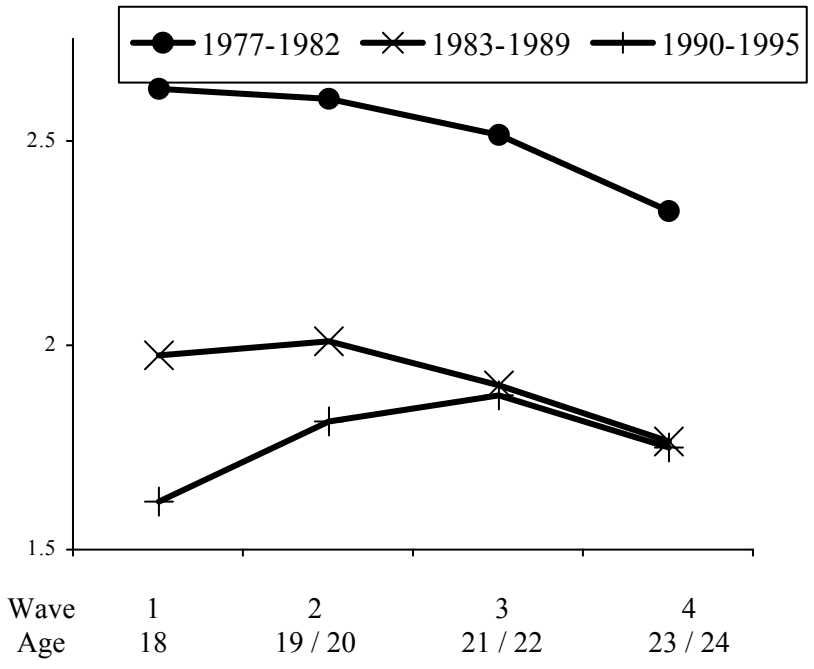


Figure 3b. Average Marijuana Use (Last 12 Months) by Cohort



1 = 0 occasions, 2 = 1-2 occasions, 3 = 3-5 occasions, 4 = 6-9 occasions, 5 = 10-19 occasions, 6 = 20-39 occasions, 7 = 40 or more occasions

Figure 4. Prevalence of Transitions by Wave 2 (Ages 19-20)

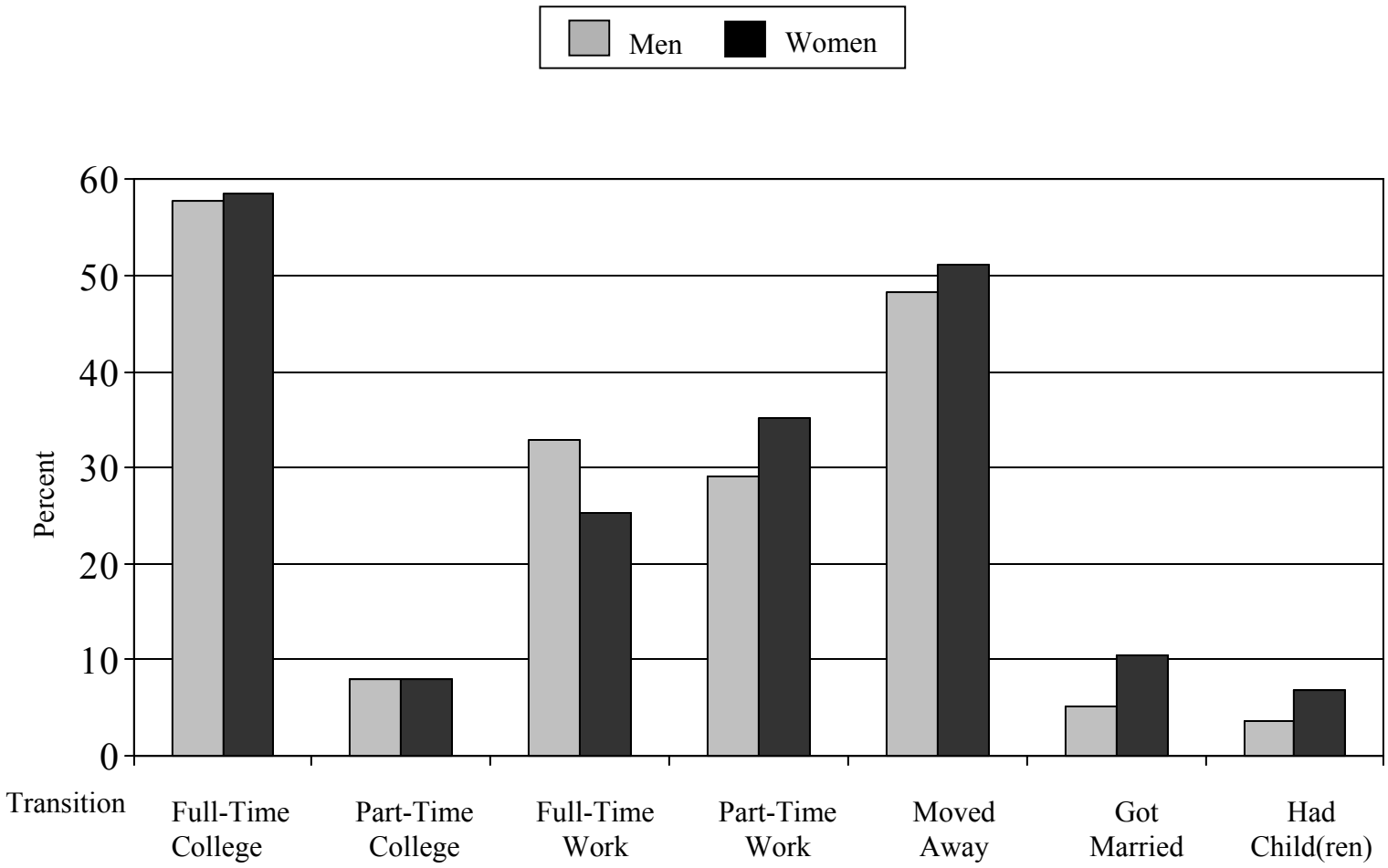
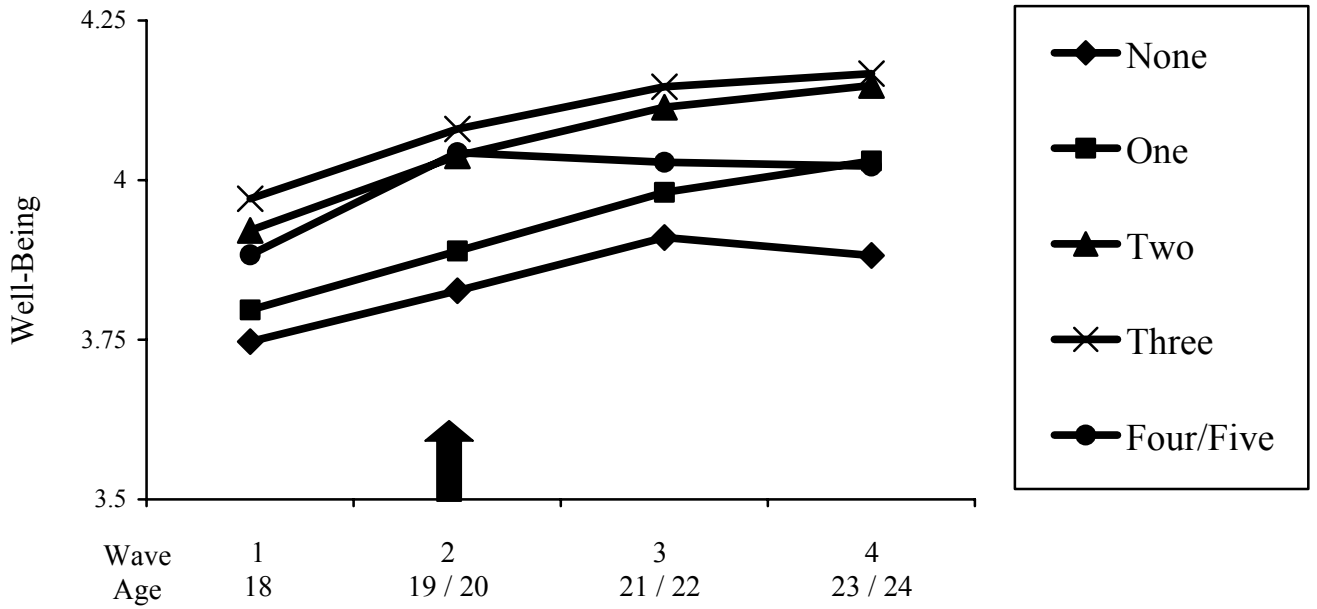


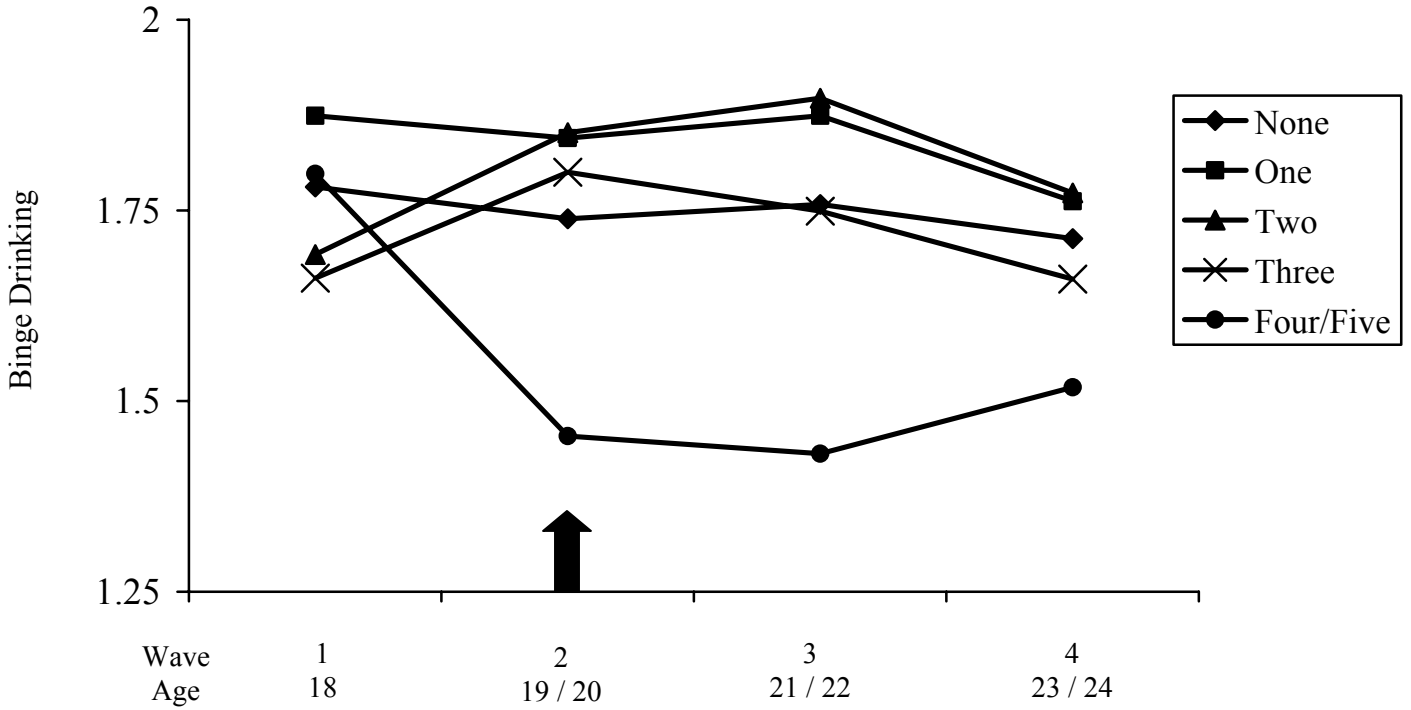
Figure 5. Well-Being Over Time by Number of Wave 2 Transitions



Note: The arrow at wave 2 signifies when transition groups are defined.

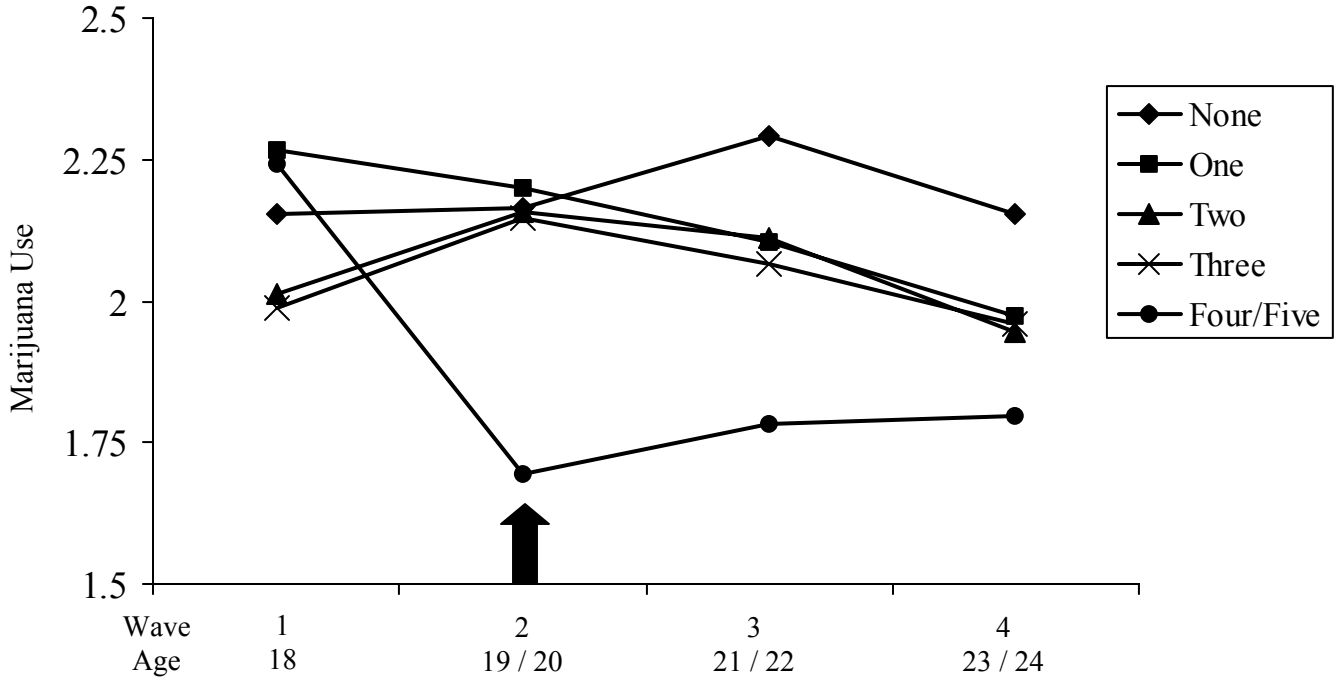
The index is the sum of responses for 19 well-being questions, with subcategories of loneliness/social support, self-efficacy/fatalism, and self-esteem/self-derogation (e.g., I feel I am a person of worth), each with the following scale: 1 = disagree, 2 = mostly disagree, 3 = neither agree nor disagree, 4 = mostly agree, 5 = agree.

Figure 6. Binge Drinking by Number of Wave 2 Transitions



Note: The arrow at wave 2 signifies when transition groups are defined.
1 = none, 2 = once, 3 = twice, 4 = 3-5 times, 5 = 6-9 times, 6 = 10 or more times

Figure 7. Marijuana Use by Number of Wave 2 Transitions



Note: The arrow at wave 2 signifies when transition groups are defined.
1 = 0 occasions, 2 = 1-2 occasions, 3 = 3-5 occasions, 4 = 6-9 occasions, 5 = 10-19 occasions, 6 = 20-39 occasions, 7 = 40 or more occasions

Figure 8. Prevalence of Wave 2 Transition Groups by Gender

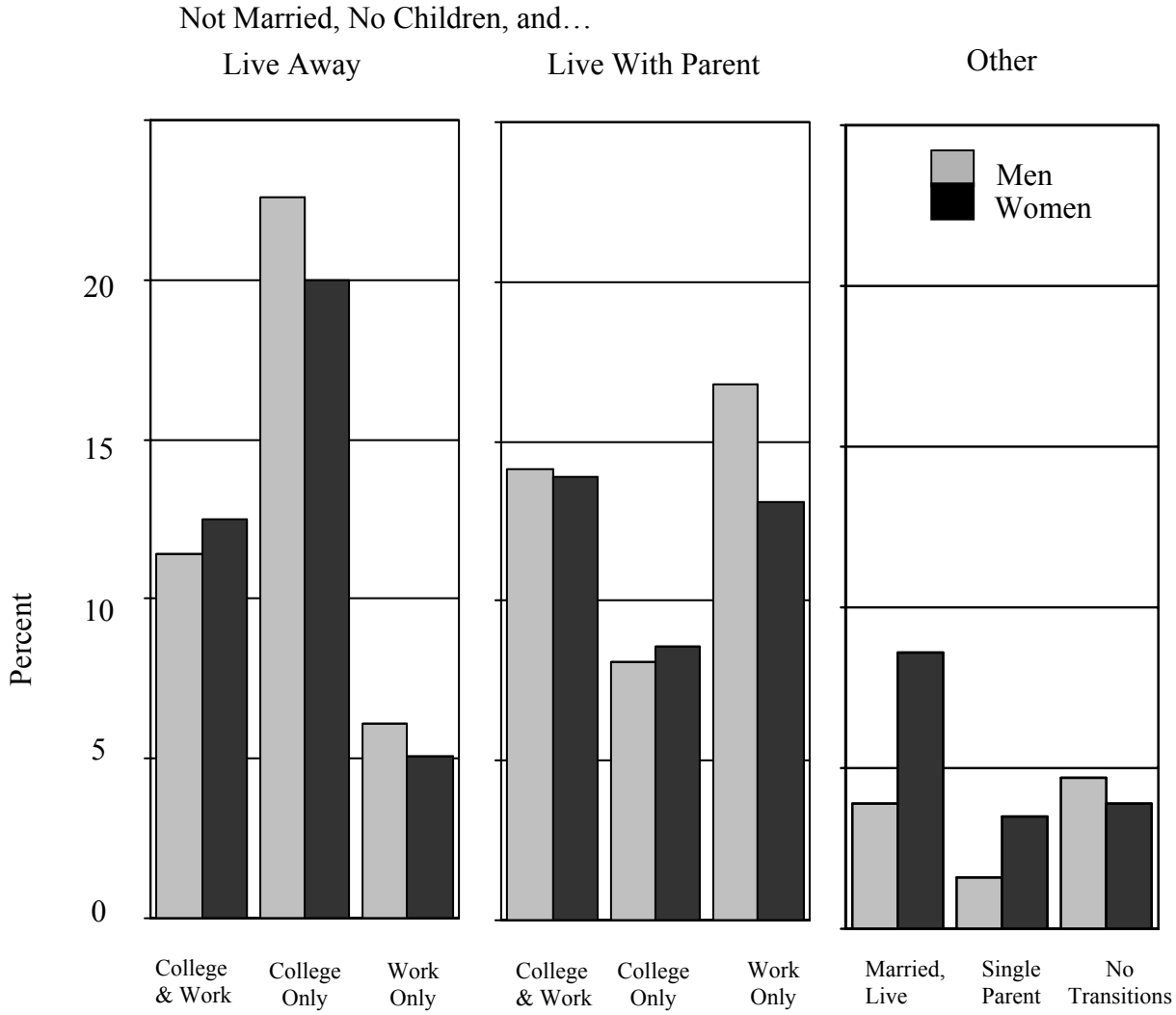
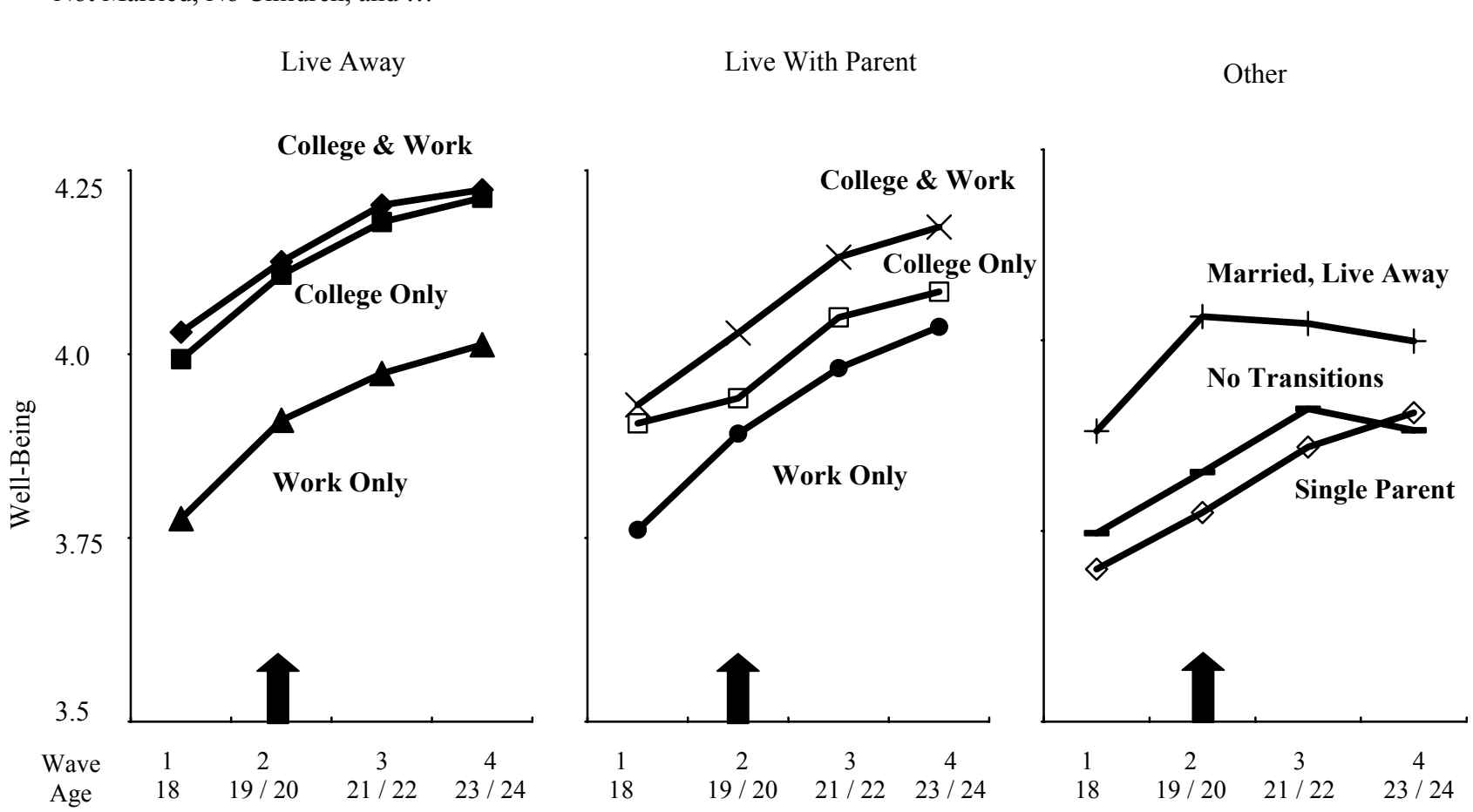


Figure 9. Well-Being Over Time by Wave 2 Transition Groups



Note: The arrow at wave 2 signifies when transition groups are defined.
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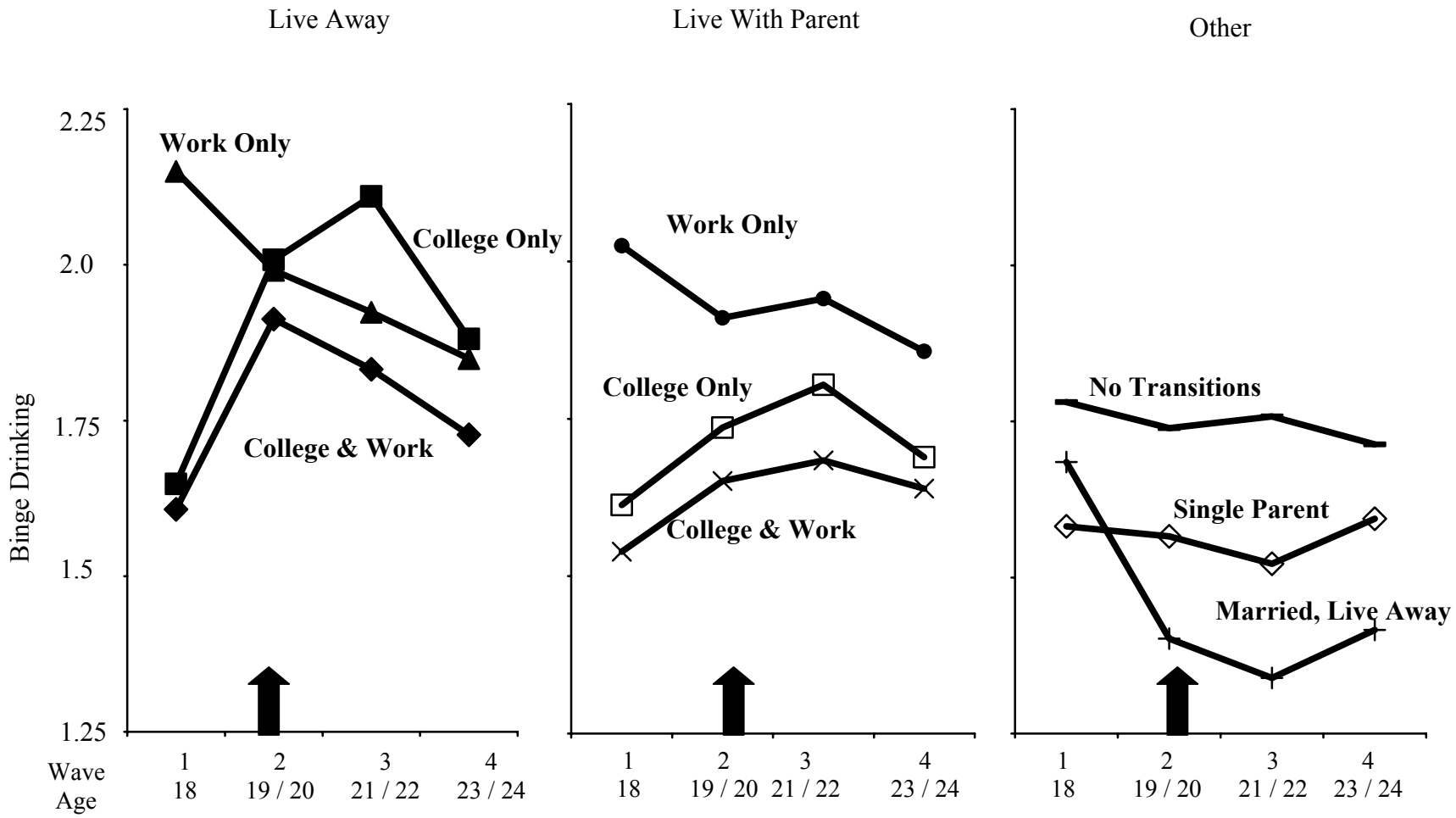
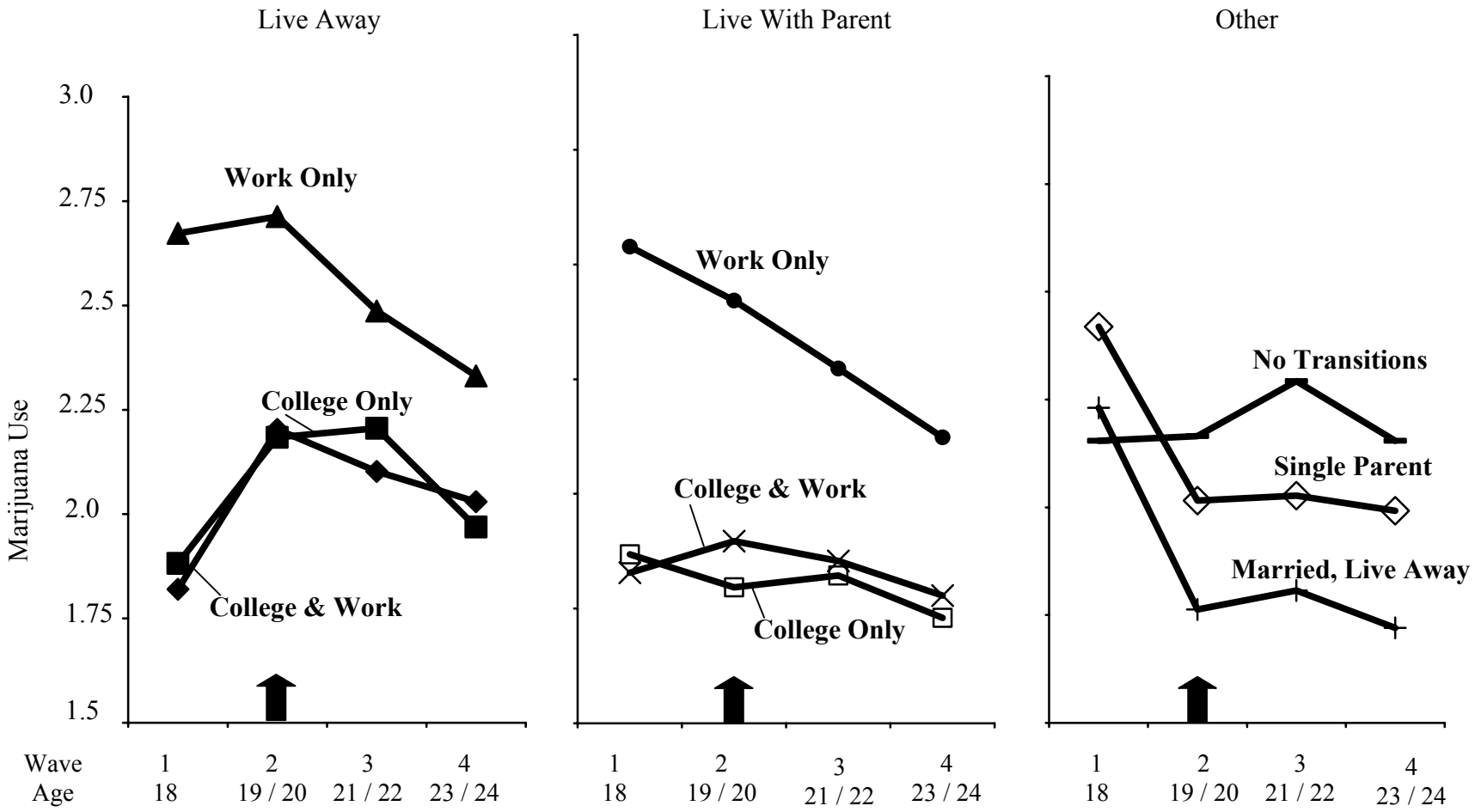
Figure 10. Binge Drinking Over Time by Wave 2 Transition Groups



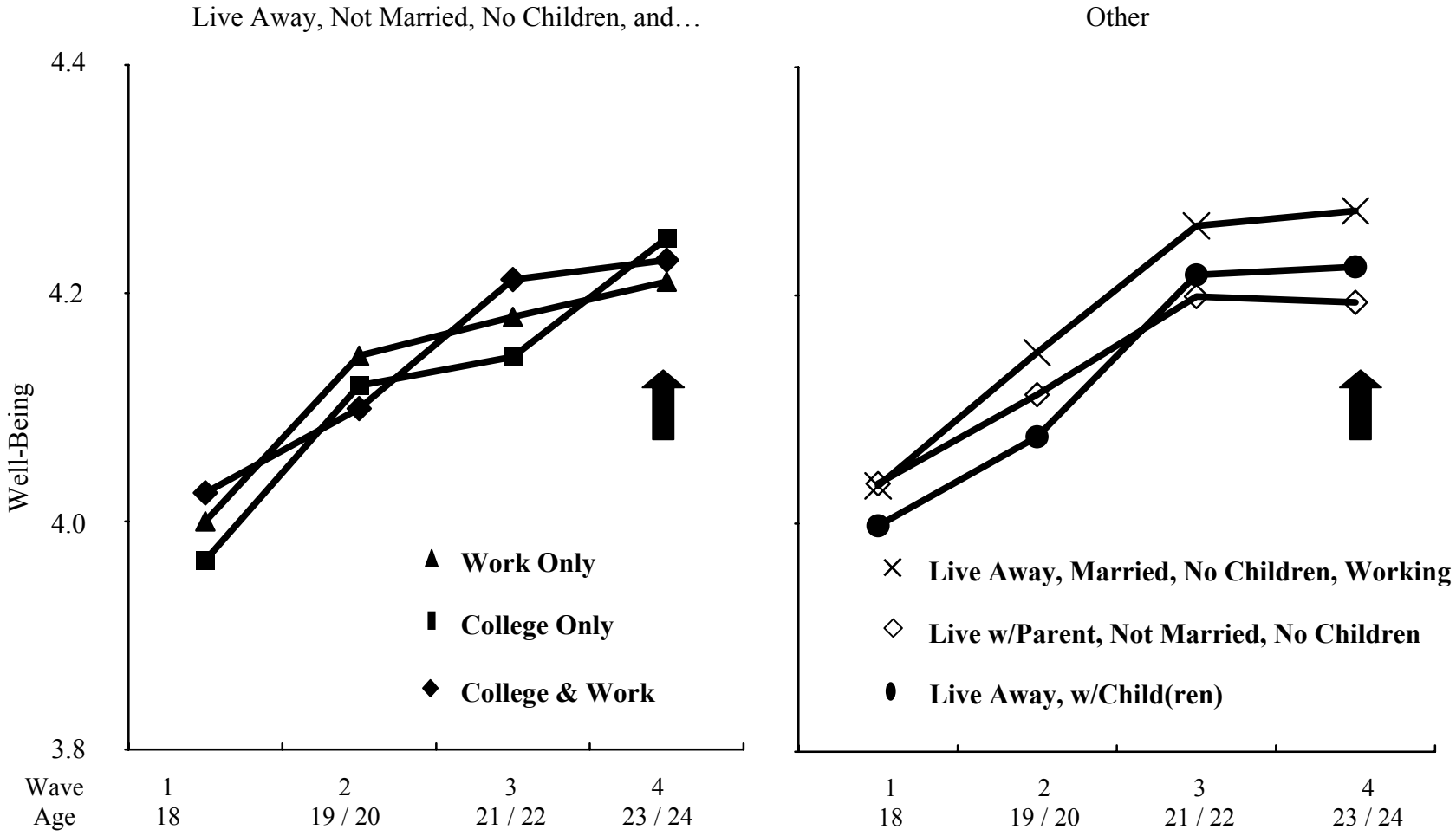
Note: The arrow at wave 2 signifies when transition groups are defined.
1 = none, 2 = once, 3 = twice, 4 = 3-5 times, 5 = 6-9 times, 6 = 10 or more times

Figure 11. Marijuana Use Over Time by Wave 2 Transition Groups



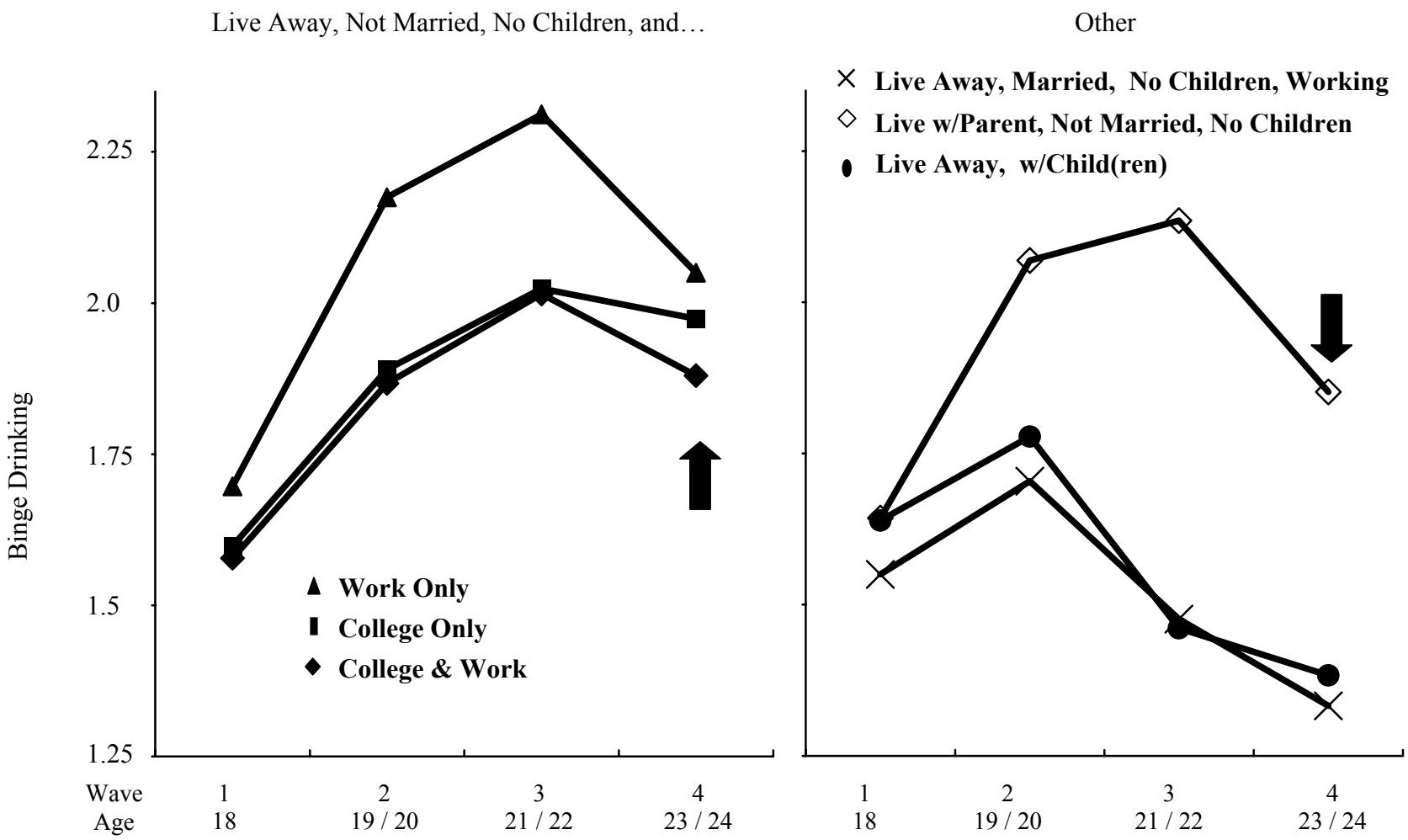
Note: The arrow at wave 2 signifies when transition groups are defined.
1 = 0 occasions, 2 = 1-2 occasions, 3 = 3-5 occasions, 4 = 6-9 occasions, 5 = 10-19 occasions, 6 = 20-39 occasions, 7 = 40 or more occasions

Figure 12. Within Wave 2 "Live Away, Not Married, No Children, Full-Time College" Group:
Well-Being Over Time by Wave 4 Transitions



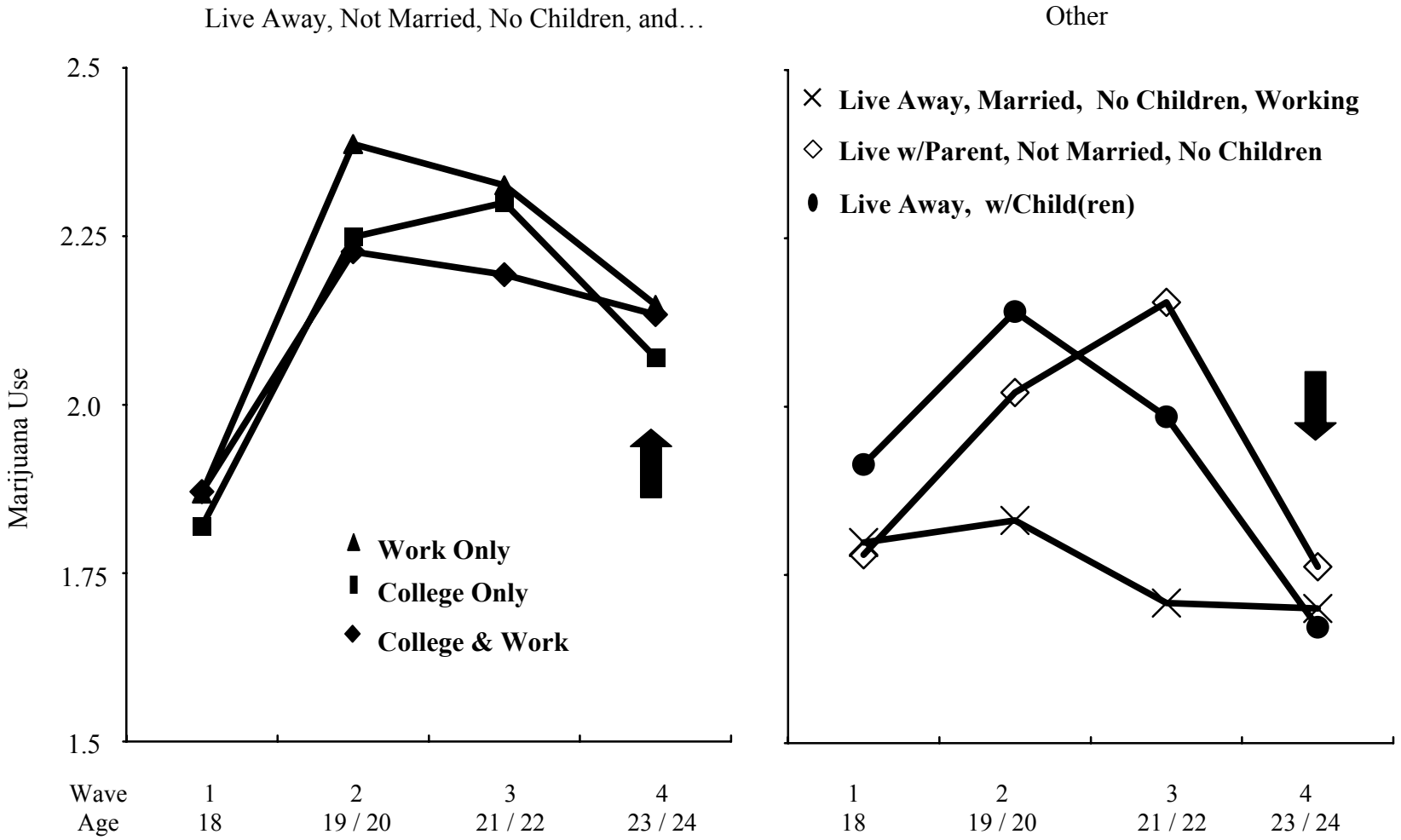
Note: The arrow at wave 4 signifies when transition groups are defined.
The index is the sum of responses for 19 well-being questions, with subcategories of loneliness/social support, self-efficacy/fatalism, and self-esteem/self-derogation (e.g., I feel I am a person of worth), each with the following scale: 1 = disagree, 2 = mostly disagree, 3 = neither agree nor disagree, 4 = mostly agree, 5 = agree.

Figure 13. Within Wave 2 "Live Away, Not Married, No Children, Full-Time College" Group:
Binge Drinking Over Time by Wave 4 Transitions



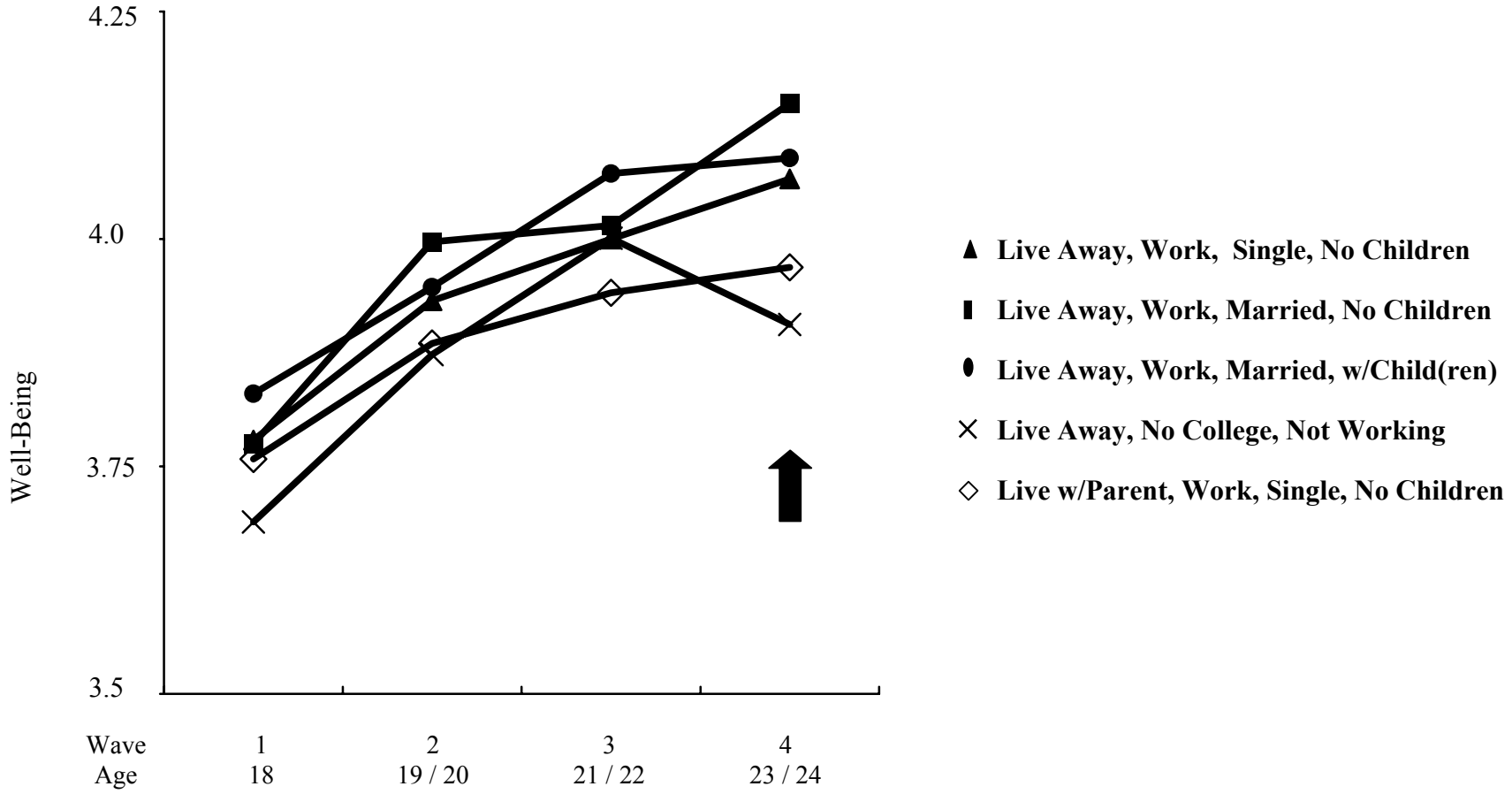
Note: The arrow at wave 4 signifies when transition groups are defined.
1 = none, 2 = once, 3 = twice, 4 = 3-5 times, 5 = 6-9 times, 6 = 10 or more times

Figure 14. Within Wave 2 "Live Away, Not Married, No Children, Full-Time College" Group: Marijuana Use Over Time by Wave 4 Transitions



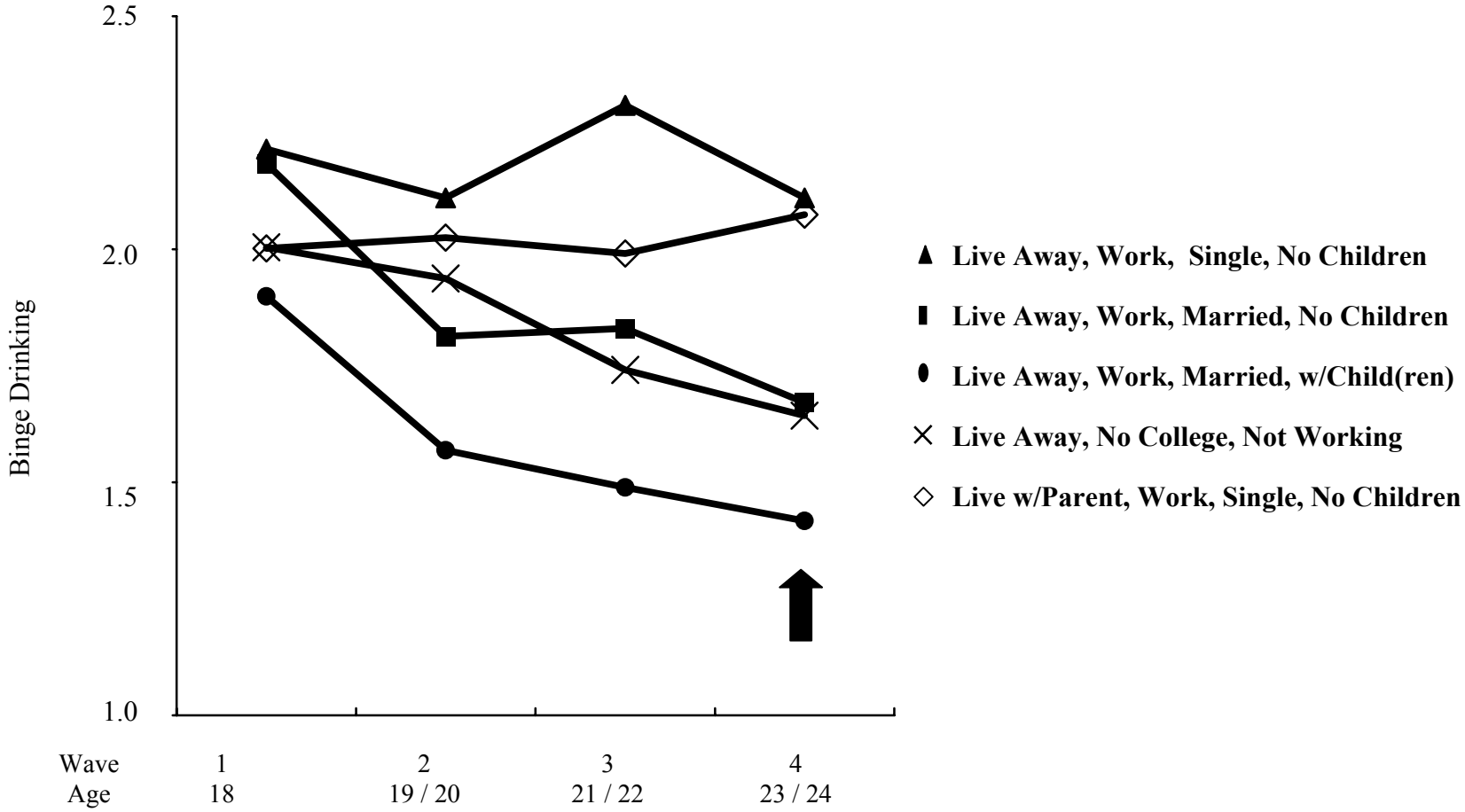
Note: The arrow at wave 4 signifies when transition groups are defined.
1 = 0 occasions, 2 = 1-2 occasions, 3 = 3-5 occasions, 4 = 6-9 occasions, 5 = 10-19 occasions, 6 = 20-39 occasions, 7 = 40 or more occasions

Figure 15. Within Wave 2 "Not Married, No Children, Work Only" Group:
Well-Being Over Time by Wave 4 Transitions



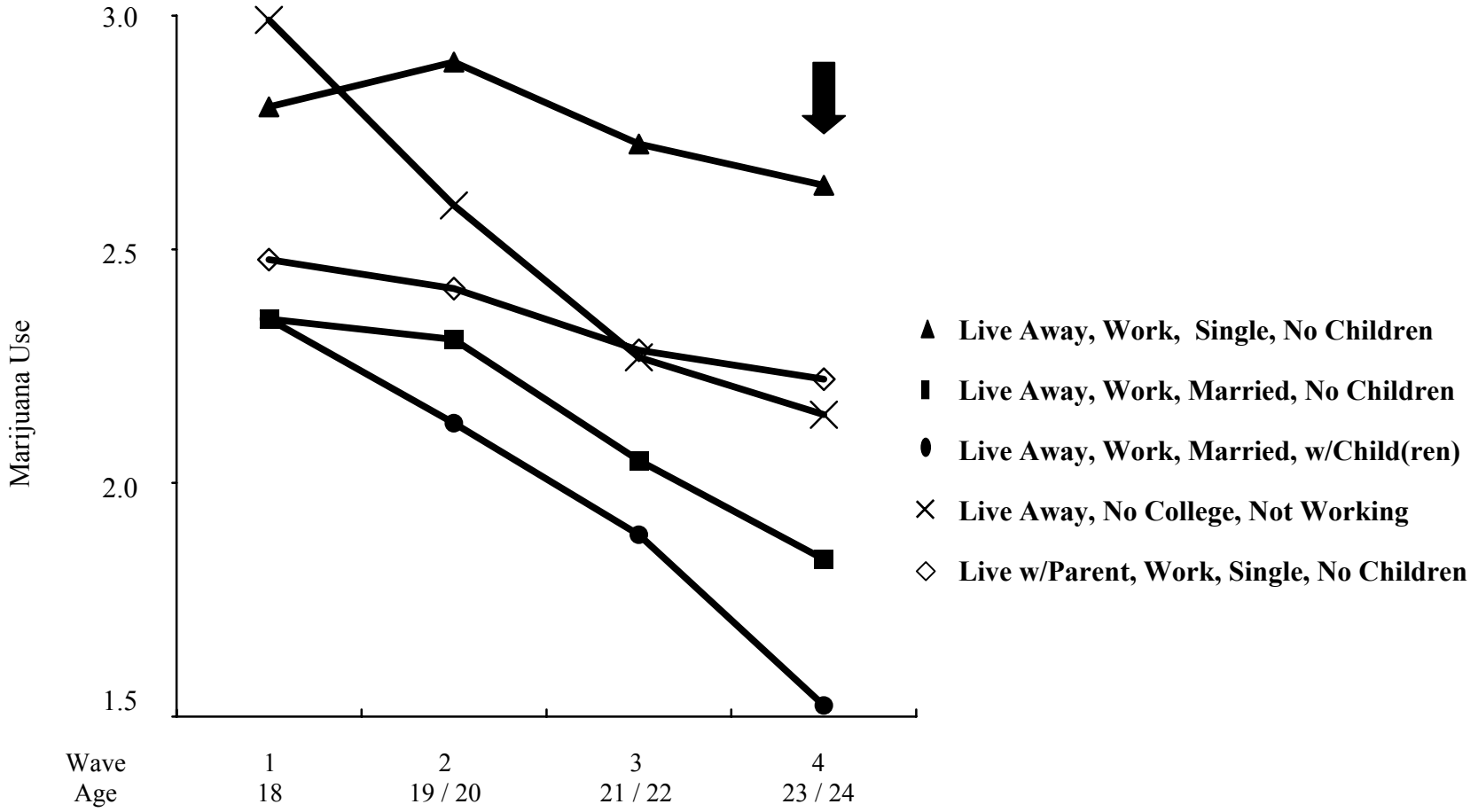
Note: The arrow at wave 4 signifies when transition groups are defined.
The index is the sum of responses for 19 well-being questions, with subcategories of loneliness/social support, self-efficacy/fatalism, and self-esteem/self-derogation (e.g., I feel I am a person of worth), each with the following scale: 1 = disagree, 2 = mostly disagree, 3 = neither agree nor disagree, 4 = mostly agree, 5 = agree.

Figure 16. Within Wave 2 "Not Married, No Children, Work Only" Group:
Binge Drinking Over Time by Wave 4 Transitions



Note: The arrow at wave 4 signifies when transition groups are defined.
1 = none, 2 = once, 3 = twice, 4 = 3-5 times, 5 = 6-9 times, 6 = 10 or more times

Figure 17. Within Wave 2 "Not Married, No Children, Work Only" Group:
Marijuana Use Over Time by Wave 4 Transitions



Note: The arrow at wave 4 signifies when transition groups are defined.
1 = 0 occasions, 2 = 1-2 occasions, 3 = 3-5 occasions, 4 = 6-9 occasions, 5 = 10-19 occasions, 6 = 20-39 occasions, 7 = 40 or more occasions