

Economic Attainment Patterns of College-Educated Women in Mid-Career: An Objective Indicator of Career Success

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The purpose of this study was to identify latent classes of college-educated late-baby-boomer generation women's economic attainment (income) patterns during mid-career and examine the family and job satisfaction characteristics within each latent class. Longitudinal latent class analysis was used to analyze income data from the National Longitudinal Survey of Youth 1979 for 607 college-educated women in the United States for the years 1990 to 2010. The analysis revealed five distinct patterns of women's economic attainment. A majority of the sample (72.7%) fell into the sustained growth group in which women's economic attainment increased continuously and consistently. Approximately one-third of the sample exhibited sporadic (steady decline, early-sustained, and late rebound) or limited (stagnant growth) patterns. Both newly-formed family and family-of-origin factors differed significantly across classes. However no difference in job satisfaction among classes was found.

Keywords: college-educated women, economic attainment, career patterns, objective career success, family characteristics

Introduction

Since the mid-20th century, there has been a dramatic increase in women's labor market participation. Today, women represent almost half (47%) of the U.S. labor force (U.S. Council of Economic Advisers, 2015). Even so, women are still at a disadvantage when compared to men on many occupational indicators including a persistent gender gap in wages (U.S. Bureau of Labor Statistics, 2015a) and narrower career choices (Hegewisch & Hartmann, 2014). Moreover, women's career paths are likely to be more heavily influenced by external factors such as family responsibilities than the career paths of men, which often hinders career progress and continuity (Metz & Tharenou, 2001).

Women typically experience temporary and permanent interruptions throughout their careers because of the family-related roles most women assume (O'Neil & Bilimoria, 2005). As a result, women's career development patterns are inherently heterogeneous (Betz & Fitzgerald, 1987; Huang, El-Khoury, Johansson, Lindroth, & Sverke, 2007) and depend, in large part, on their decisions about children and family. Given the heterogeneity of career experience, several theorists and researchers have focused on identifying and profiling different types of women's career development patterns (Betz, 1984; Gersick & Kram, 2002; Gerson, 1985; Hakim, 2000; Huang et al., 2007; Zytowski, 1969). Their findings have shed light on the reality and diversity of women's career experiences at different times throughout their working lives.

The present study examined the heterogeneity of women's career patterns using a U.S. national database, the

National Longitudinal Survey of Youth 1979 (NLSY79). Specifically, we identified underlying classes of mid-career, college-educated women's economic attainment (income) patterns using longitudinal latent class analysis techniques. Economic attainment may not comprehensively reflect an individual's career status or satisfaction with work (Gunz & Heslin, 2005; Heslin, 2005) due to several limitations, e.g., inconsistent value of money in different settings, lack of attention on subjective aspects of career. However, many researchers recognize that money in the form of wages or salary is a meaningful indicator because of its importance in most people's lives. For example, economic attainment has been considered and extensively used as an index for career success in the career literature (Heslin, 2005). Furthermore, human capital theory asserts that financial compensation for work reflects, to some degree, individuals' developmental status assessed by society (Anand & Sen, 2000).

Women's Economic Attainment Patterns. Research in fields such as labor economics and sociology typically focus analyses on numerically describing or scrutinizing individuals' economic attainment while few are concerned with developmental or psychological aspects of economic attainment. While our analysis adopted the latter perspective, it was helpful to examine research from other fields of study.

The extant literature has consistently indicated that women's lifelong economic attainment patterns are generally different from men. Bosworth, Burtless, and Steuerle (2000) analyzed a representative sample of Social Security earnings from the 1990-1993 Surveys of Income and Program



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Participation (SIPP) to develop predictive models connected to Social Security reforms. Using standard econometric approaches, they concluded that the average earnings of American men born between 1927 and 1965 were higher than the average earnings of women throughout their working lives, and produced an arch-shaped pattern, peaking in the mid-40s age range. Throughout their careers, women's pay was not only less than men's but rose very little from their mid-20s to late 30s. In contrast to men, women's overall economic attainment pattern was negatively-skewed and arch-shaped, peaking in their early 50s.

Manning and Swaffield (2008) also highlighted longitudinal differences in income based on gender. These researchers analyzed data from the British Household Panel Survey (1991-2002), finding that women and men receive roughly equal pay when first entering the labor market as young adults. Over the ensuing decade, however, wages for men increase in a continuous and stable manner, while the wages of women early in their careers increase more slowly and are prone to wider fluctuations. The stagnation and fluctuation found in women's economic attainment patterns indicate that women are likely to experience more complications that make their economic career patterns diverse and complex (Gersick & Kram, 2002).

Heterogeneity and Classification of Women's Career Development. Several efforts have been made to classify the underlying patterns of women's career development in the last 50 years or so. For example, Zytowski (1969) theorized that three distinct career patterns existed for women; (a) mild pattern (very early/late entry, brief span, limited participation), (b) moderate pattern (early entry, lengthy span, limited participation), and (c) unusual pattern (early entry, lengthy span, high degree of participation). Wolfson (1976) used Zytowski's conceptual framework to design a 25-year follow-up study of 306 women who had graduated from college in the 1930s, resulting in the addition of two career patterns, i.e., never worked and high moderate (lengthier work span than moderate type). Betz (1984) extended the classification schemes proposed by Zytowski (1969) and Wolfson (1976) by organizing college-educated women's career patterns into two dimensions. The *traditionality* dimension accounted for a then-changing society in which women were less restricted to female-dominated occupations, and beginning to choose work in non-traditional, male-dominated industries. A second dimension, *degree of commitment*, was added to account for length of employment. These two dimensions were combined to identify seven specific work patterns. Almost one-quarter (23.5%) of Betz's (1984) sample of college-educated women belonged to the high-commitment-pioneer group, while only 1.4% fell in the never worked group.

More recently, Hakim (2000, 2006) applied preference theory to construct three prominent career patterns for women that explained persistent gaps in wages and career opportunities between men and women. Hakim proposed that women's career patterns fall into three sociologically-based groups according to individuals' preferences for work and personal lifestyle; (a) home-centered (20%; full-time homemakers once married), (b) work-centered (20%; career-oriented, primary

focus on work not family), and (c) adaptive (60%; combining work and family). She asserted that work-centered women represent a minority of all women, "despite the massive influx of women into higher education and into professional and managerial occupations in the last three decades" (p. 289). In contrast, a majority of men are considered work-centered.

Finally, Huang et al. (2007) studied the career development of a representative sample of 549 Swedish women by examining the interactions of work and other career-related life domains. Using optimal matching analysis, these authors identified nine categories that described varying employment patterns. These patterns were determined by women's level of engagement in work (none, part-time, full-time) and age of starting a family (early or delayed child birth). The complexity of women's career patterns was driven, in part, from decisions about whether or not to return to work and in what capacity, e.g., part- or full-time, after children were born.

Job Satisfaction. The current study examined the job satisfaction of women experiencing different economic attainment patterns to examine one aspect of the subjective nature of their careers. Job satisfaction refers to "how people feel about their jobs and different aspects of their jobs" (Spector, 1997, p. 2) and reflects the subjective or emotional aspect of one's career attainment. The relationship between career attainment patterns and job satisfaction has been studied, but results have been inconsistent. Jepsen and Choudhuri (2001) reported that individuals who experienced more occupational changes were more likely to positively evaluate their past occupations in mid-career than individuals with less occupational change. On the other hand, O'Neil, Bilimoria, and Saatcioglu (2004) found that mid-career women who had predictable career patterns were more satisfied with their careers than women whose career patterns were characterized by less predictability and more fluctuation and interference. Huang et al. (2007) reported no significant differences in job satisfaction among women with different career patterns.

Family Characteristics. A prominent topic in the discourse on women's career development is family. In studies of women's careers, family is usually referred to in one of two ways: *family of origin*, typically referred to as one's natural family or family into which one is born or adopted and raised (Saubert, L'Abate, Weeks, & Buchanan, 1993) or *newly-formed family*, a family "based on legal ties, beginning with marriage between two people" (Schwartz, 1993, p. 430).

Research on adult women's careers has usually been more concerned with newly-formed families than family of origin due to the proximity of a newly-formed family to a woman's career. Since women increasingly maintain their careers regardless of marital status, the impact of marriage on women's career has decreased (Hoffnung, 2004). However, parental status can still have a negative influence on women's careers, i.e., more children often results in lower career involvement and achievement (Metz & Tharenou, 2001) and less commitment to career (Spain & Bianchi, 1996). In contrast, some researchers have argued that women benefit from newly-formed families because the emotional and practical support they receive helps them handle multiple roles (Hobfoll, 1986).

Spousal support can reduce women's work-family conflict (Grzywacz & Marks, 2000) and enhance job satisfaction (Bures, Henderson, Mayfield, Mayfield, & Worley, 2011).

With regard to family of origin, much research has shown that both psychological, relational factors and structural, socioeconomic factors of parents can affect daughters' future careers. First, early career orientation and women's aspirations have been found to be significantly related to the influence of female role models (Hackett, Esposito, & O'Halloran, 1989), mother's career orientation (Gerson, 1985), and quality of relationship to parents (Li & Kerpelman, 2007). Also, women's nontraditional career choices are positively associated with the influence of female role models (Hackett et al., 1989), support from family (Houser & Garvey, 1983), mother's gender stereotype (Steele & Barling, 1996), and fathers' parenting style (Scott & Mallinckrodt, 2005). Second, several studies reported that structural and socioeconomic factors such as parents' education significantly predict their children's educational and occupational achievements (Eccles, 2005). Dubow, Boxer, and Huesmann (2009), for example, explained that parents' education level affects children's educational and occupational prestige levels at age 40 by enhancing the children's educational aspirations and achievement at age 19.

The Present Study. Previous typology studies across different times have shown that women's careers have evolved from relatively simple patterns with a smaller number of career types and more home-centered women to complex patterns with more diverse career types and more work-centered/adaptive women. This change in women's careers occurred most substantially during the late twentieth century (Gersick & Kram, 2002). Most of the studies that investigated this change were either conceptual, qualitative, or not American; thus, little has been investigated in an empirical way about U.S. women's careers during this period.

This study was conducted to longitudinally examine and classify the career development of mid-career, college-educated U.S. women of the late baby-boomer generation. Specifically, longitudinal latent class analysis was used to classify the career patterns of women from the 1980s to the 2000s using income as the indicator of labor market participation and attainment. While the specific number of career patterns was not known *a priori*, we expected to identify multiple patterns, some reflecting volatility due to the more complicated relationships between work/career, childbirth, and, family responsibilities for women than for men.

Once underlying classes of career attainment were identified, job satisfaction and family characteristics were used to describe the women that comprised each career pattern. Here, we anticipated that negative relationships would characterize women with higher economic attainment on newly-formed family factors such as spousal income, number of children, and marital status. In contrast, we expected that positive relationships would exist between women with higher economic attainment and their parents', especially mothers', higher educational and occupational achievements. Also expected was that job satisfaction would be higher for women who presented stable and relatively high economic attainment.

Methods

Sample. Participants were selected from the NLSY79, a nationally representative database developed by the U.S. Bureau of Labor Statistics to gather information on labor market activities and other significant life events of American men and women. The NLSY79 initially included 12,686 individuals who, when interviewed in 1979, were 14 to 22 years of age. The most recent NLSY79 data was collected in 2014 when 7,071 individuals (men=3,405; women=3,666), ages 49 to 58, were interviewed.

Women respondents who, in the 1988 interview, reported holding a bachelor's degree or higher ($n=820$) were initially selected. The average age of respondents in 1988 was 27.2 (ranging from 23 to 31). Women who earned bachelor's degrees after 1988 were not included as it was likely these respondents were nontraditional students. To enhance validity, some respondents were deleted from this initial data pool. First, we deleted 157 women from supplemental and military samples that were not followed after 1984 and 1990. We also excluded 56 women who did not reported economic attainment for three or more time points (42% missingness). Researchers and statisticians continue to discuss the issue of handling missing data in longitudinal research. Indeed, only a few guidelines are available about the proper analytical approach for longitudinal data with missing values (Young & Johnson, 2015). Thus, our decision to exclude participants with three or more missing time points was based on a theoretical concern. Among career patterns reported in previous studies, such as Huang et al. (2007), some patterns have shown a tendency to fluctuate in employment status—i.e., Scandinavian family-builder women who had employment-unemployment-re-entry patterns. This implies that quadratic- or even cubic-shaped trajectories are likely to be found in our income analysis; thus, we assumed that at least four time points would be required to stably capture those possible trajectories. The final data pool included 607 women – 429 white (70.7%), 124 black (20.4%), and 54 Hispanic women (8.9%).

Since participants' ages varied in the base line year of 1979 from 14 to 22, ages for individual survey years were not identical. Therefore, an adjustment was necessary to ensure that each time point represented the same age period. To determine annual income data from women's mid-career phase, we (a) assigned each participant to one of five cohorts that reflected their age in 1979, the baseline year, and (b) selected particular survey years, for each cohort that corresponded to the age range of interest. The overall annual income data from the seven selected time points corresponded to each participant's ages from 33 to 45. ANOVA tests detected no significant differences in selected variables, indicating that our adjustment scheme was valid.

Measures. *Economic attainment.* Women's economic attainment was measured using reported annual income. Participants reported their total annual income, in dollars, for the year prior to each interview year. Biennial data from seven time points were used and corresponded to individuals' ages from 33.8 to 45.7.

All annual income data were converted to constant dollars – dollar values after adjustment for inflation – on the basis of the 2015 consumer price index (CPI; U.S. Bureau of Labor Statistics, 2015b). This conversion was necessary because raw annual income data were pulled from different years with inconsistent dollar values depending on assigned cohorts. Furthermore, women's genuine progress, as evidenced by economic attainment, was likely to be captured more accurately as increases in annual income due to inflation were eliminated.

Participants' annual income in constant dollars was then transformed using a natural logarithm based on the fact that log-income better captures people's *perception of income change* than does a dollar scale (Kahneman & Deaton, 2010). The distributional nature of a logarithm reflects people's tendency to discern a percentage change in income more sensitively than a change in absolute value. For instance, \$100 dollar monthly raises, one given to a CEO of a major company and another to a minimum wage worker, is sure to hold widely different levels of significance because the percentages of the raise are likely be very different. For this reason, many researchers prefer the log-transformation to investigate income (Kahneman & Deaton, 2010). In addition, while income distribution is usually skewed, as it was in our analysis, log-income better fits assumptions of normality (Babieri & Cutuli, 2009).

Demographic and occupational characteristics. Race/ethnicity of women, in 1978, was used to assign members of the sample to one of three categories; white, black, and Hispanic. Educational attainment was reflected by the highest degree each participant had completed as of the final time point. Values for this indicator ranged from 15 (3rd year college) to 20 (8+ years of college) for our sample. Occupations reported at the first time point were also included and categorized into one of ten types, i.e., managerial and professional specialties; technical; sales; administrative support and clerical; service; farming forestry and fishing; precision production, craft, and repair; operators-machine, assembler and inspectors; operators-transportation, and material moving; and operators-handlers, helpers, laborers.

Job satisfaction. Participants reported how much they liked their primary jobs at time points when they were in employment. A 4-point Likert-type scale was used, with 1 being "like it very much" and 4 being "dislike it very much." For our analysis, participants' responses were reverse coded. Thus, scores ranged from 1 to 4 with high scores indicating greater job satisfaction.

Family of origin. Parent educational attainment was recorded using the highest degree each parent had completed. These values ranged from 0 (none) to 20 (8+ years of college). Parent occupations (from the 1979 interview) were coded using two-digit Duncan (1961) socioeconomic index scores (DSEI). The DSEI estimates socioeconomic status of individual occupations using a composite of occupational prestige, income, and education. Scores ranged from 0 to 97, with higher scores representing more prestigious occupations.

Newly-formed family. At each of the seven time points, participants reported their marital status as married, not married, or separated/divorced/widowed. A marital history score was determined by counting the time points when each

woman indicated being married. Thus, scores ranged from 0 to 7. Average income of spouse/partner was calculated using spousal income. Number of children was recorded as the largest number reported during the data collection period. Values ranged from 0 to 8.

Data Analysis. Longitudinal latent class analysis (LLCA) was used to identify existing subgroups or patterns from the economic attainment data. In LLCA, techniques of latent class analysis (LCA) are applied to longitudinal data. LCA identifies latent class membership among subjects based on patterns of categorical and/or continuous observed variables. When LCA is performed with observed variables that were repeatedly measured over time, it is considered in a LLCA framework. Essentially, LLCA models the joint distribution of repeatedly-measured-observed variables and a latent class variable (Boeninger, Masyn, Feldman, & Conger, 2010). Unlike latent growth models (LGM), which assume continuous patterns of observed variables, LLCA presumes local independence among observed variables. Therefore, LLCA models observe variables' states across time, whereas LGM models scaled growth that is described with intercepts and slopes. While LLCA is limited in that it only provides means and standard deviations of each observed variable, instead of predictable functions (i.e., intercept and slope), it is more appropriate for cases in which observed variables are multinomial, noncontiguous, or arbitrary. Given that prior classification studies, such as Huang et al. (2007), have suggested that some women's career patterns may not be continuous, LLCA was expected to better capture participants' economic attainment patterns than would LGM.

In LLCA, individuals' class memberships are determined by Bayes rule, shown in the equation below. On the left side of the equation, $f(x|y)$ is the density of an individual whose joint distribution (response pattern) equals y belonging to class x . This is called *posterior probability* (density) and can be obtained using the *prior probability* (density), $f(y|\mu_x, \Sigma_x)$. The prior probability is the probability of a person, who belongs to a class with the mean μ_x and the covariance matrix Σ_x , having a joint distribution y . $P(x)$ is the proportion of persons in each of the components. The most typical classification rule is modal assignment by which one is assigned to the latent class with the highest posterior probability, $f(x|y)$.

$$f(x|y) = \frac{P(x)f(y|\mu_x, \Sigma_x)}{f(y)}$$

The final model is selected by deciding on the number of groups that best describe the data. The Bayesian information criterion (BIC) index and the Vuong-Lo-Mendell-Rubin (VLMR) adjusted likelihood ratio test were used to determine the number of categories (Nylund, Asparouhov, & Muthén, 2007). In general, the model with the smallest absolute BIC value is considered to best fit the data. Next, the Vuong-Lo-Mendell-Rubin-adjusted (VLMR) likelihood ratio test assesses whether the (n)-class model (H_1) significantly fits data better than the (n-1)-class model (H_0). Therefore, a model with the lowest BIC value, as well as a significant LMR test p-value, is considered a final model that best fits the data. Other considerations include successful convergence, high entropy

Table 1. Fit Indices and Entropy Values of Individual Models with 1 through 7 Classes

Number of Classes	BIC	VLMR Test	Entropy
1	17763.639	-	-
2	15545.060	2269.847***	.999
3	14976.163	620.165**	.973
4	14436.182	591.249*	.997
5	13854.756	632.694*	.978
6	13638.169	267.855	.982
7	13201.134	441.655	.971

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 2. Estimated Group Average of Women's Economic Attainment Patterns

Class	Time Point 1		Time Point 2		Time Point 3		Time Point 4		Time Point 5		Time Point 6		Time Point 7	
	Log \$	\$	Log \$	\$	Log \$	\$	Log \$	\$	Log \$	\$	Log \$	\$	Log \$	\$
1	10.698	44267.23	10.801	49069.85	10.791	48581.59	10.793	48678.85	10.977	58512.75	11.009	60415.44	11.026	61451.28
2	10.328	30576.90	10.256	28452.75	7.599	1996.20	4.529	92.67	0.135	1.14	2.349	10.48	3.372	29.14
3	9.366	11684.28	9.134	9265.01	9.527	13725.35	9.221	10107.17	9.498	13333.03	9.365	11672.61	7.696	2199.53
4	10.597	40014.61	10.691	43958.44	10.576	39183.07	9.347	11464.38	9.547	14002.62	0.222	1.25	5.084	161.42
5	9.704	16383.01	9.986	21720.24	0.145	1.16	4.157	63.88	8.903	7354.00	9.363	11649.28	8.965	7824.38

Table 3. Women's Occupation at Time Point 1 by Classes

Class	1st	2nd	3rd	4th
Sustained growth (%)	Managerial and professional specialties (66.4)	Administrative support/clerical (13.2)	Technical (7.2)	Service (5.5)
Steady decline (%)	Managerial and professional specialties (57.5)	Sales (17.5)	Administrative support/clerical (10.0)	Technical (5.0)
Stagnant growth (%)	Managerial and professional specialties (45.5)	Service (21.8)	Administrative support/clerical (14.5)	Sales (10.9)
Early sustained (%)	Managerial and professional specialties (42.9)	Administrative support/clerical (21.4)	Operators-machine, assembler, inspectors (21.4)	Sales (7.1)
Late rebound (%)	Managerial and professional specialties (66.7)	Technical (11.1)	Service (11.1)	Administrative support/clerical (11.1)

*percentage within class

value, no less than 1% of total count in a class, and high posterior probabilities (Jung & Wickrama, 2007).

Mplus 7.0 was used to calculate parameter estimations using the maximum-likelihood (ML) method. To avoid non-convergence or local-maxima problems, 100 random sets of starting values and 25 optimizations were employed. The model was replicated several times, yielding identical results every time, thus ensuring the validity of the solution (Nylund et al., 2007). Finally, missing data were managed with full information maximum likelihood (FIML) estimation.

Once the optimal number of economic attainment classes was identified, descriptive statistics and ANOVA were used to provide profiles of each class. Specifically, differences in job satisfaction and family characteristics across classes were examined using SPSS, version 20.0 (IBM, 2012). Since the sizes of identified classes were unequal, adjusted sum of squares were used in the ANOVA estimation. For variables for which omnibus ANOVA tests detected significant differences among classes, Tukey honest significant difference (HSD) post-hoc tests were further conducted with an alpha level of .05.

Results

Determining Optimal Number of Classes. First, we examined the heterogeneity of college-educated women's economic attainment patterns by looking at a combined graph of individuals' changes in economic attainment over 12 years. The graph of individuals' economic attainment trajectories did not exhibit a single pattern but revealed multiple patterns, suggesting potential sub-populations. This result indicated that LLCA was appropriate for investigating sub-populations of women's economic attainment.

Models with one to seven classes were tested to identify the optimal number of classes. Models with more than seven classes were not considered because they included classes with

too few individuals (i.e., less than 2% of the total sample). Table 1 provides BIC, VLMR, and entropy values of individual models. BIC values decreased as the number of classes increased, suggesting that it was not an appropriate indicator for our model. VLMR indices supported the 5-class model. In addition, in models with more than five classes, no theoretically meaningful difference between classes was identified. Thus, we concluded that the 5-class model best fit the data.

The initial 5-class model was estimated with equal within-class variances. That is, all variances of log-constant dollars were constrained to be equal across classes. Despite the benefit of constraining within-variances across classes (i.e., clear class identification and less computation burden), constrained models may not accurately represent the real world. Therefore, it is not unusual in latent class models to free all or particular within-class variances across classes depending on theories or observed data (Jung & Wickrama, 2007; Muthén & Muthén, 2010). We freed variances of log annual income at time point 7 in Class 1 and at time point 6 in Class 3 after looking at individual class plots and modification indices. The BIC of the modified model improved to 13213.75. In the end, we chose the modified 5-class model as the most likely representation of mid-career, college-educated women's economic attainment patterns.

Economic Attainment Patterns of Five Latent Classes of College-Educated Women. Figure 1 presents the average economic career patterns of the five identified latent classes. The largest portion of women ($n=441$, 72.7%) fell into Class 1, followed by Class 2 ($n=68$, 11.2%), Class 3 ($n=67$, 11.0%), Class 4 ($n=19$, 3.1%), and Class 5 ($n=12$, 2%). Each of these latent classes is briefly described next (Figure 2 and Table 2).

Class 1: Sustained growth. A total of 441 women belonged to Class 1, which reflected *sustained growth*, i.e., consistent growth in average economic attainment. The

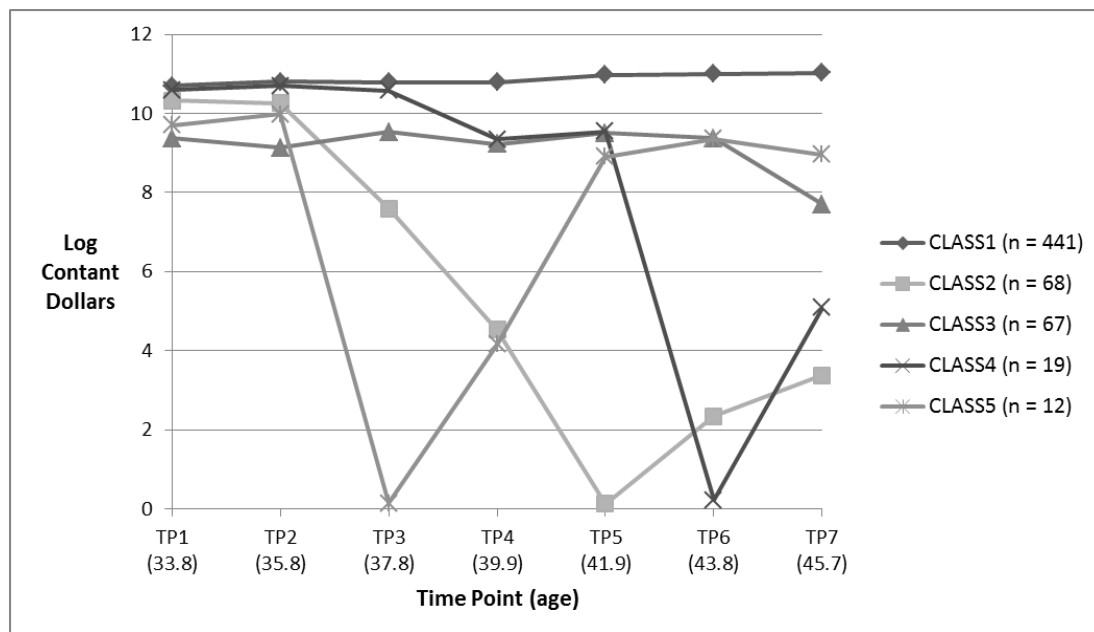


Figure 1. Average (estimated means) economic attainment patterns of each latent class.

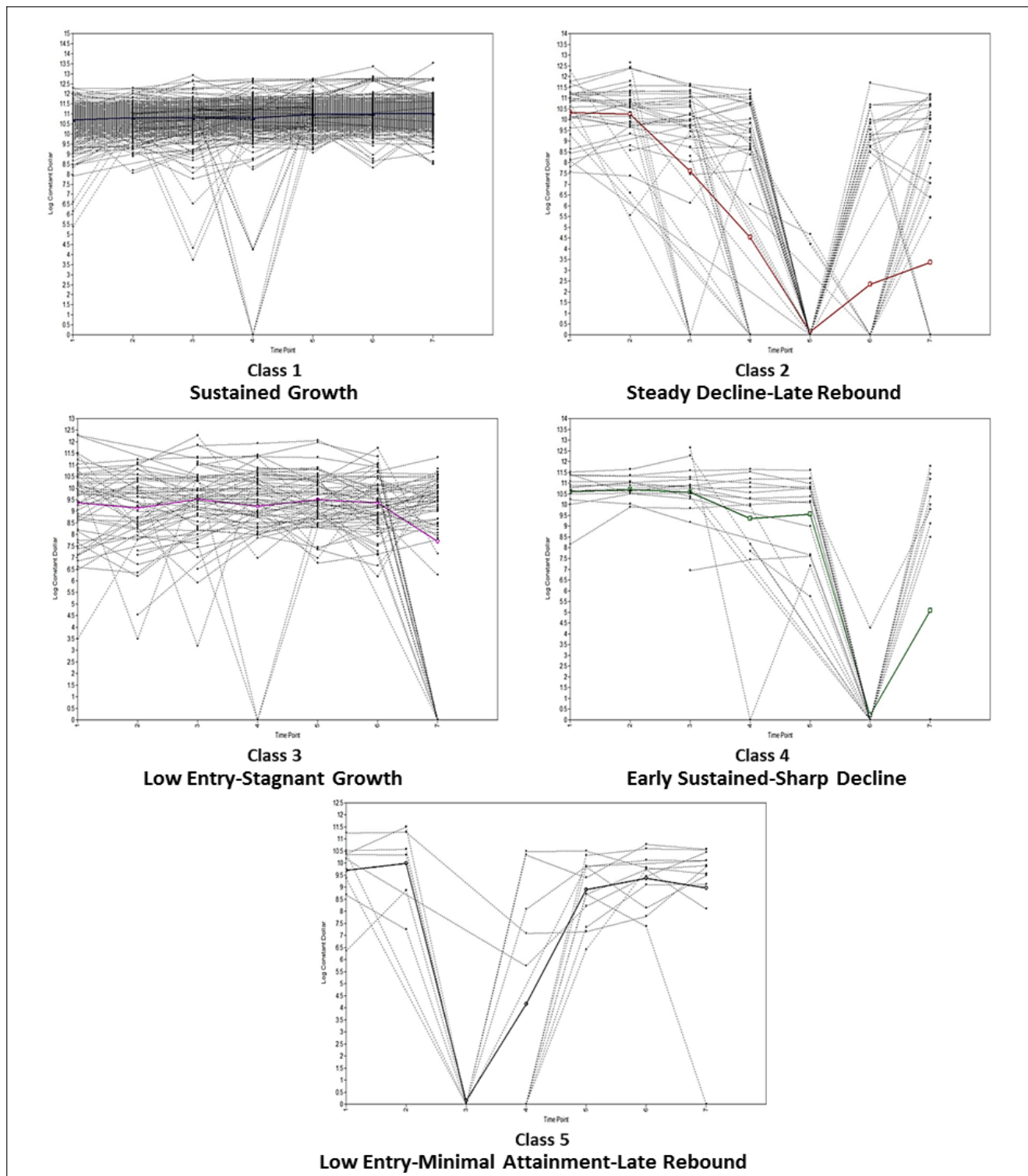


Figure 2. Average (estimated means) and observed economic attainment patterns of each latent class.

economic attainment of Class 1 women at age 34 (the first time point, T1) was 10.698 log-constant dollars, or \$44,267, the highest of all identified classes. Attainment continued to rise throughout the selected time period and by T7 had reached 11.026 log-constant dollars or \$61,451. The annual economic attainment of women in this class averaged 0.055 log-constant dollars.

Class 2: Steady decline-late rebound. Class 2, containing 68 women, was labeled *steady decline-late rebound*, hereafter referred to as “steady decline”. Women in this class experienced a moderate level of initial economic attainment at T1 (10.328 log-constant dollars, \$30,577), which began to decline substantially after T2. Attainment continually decreased into the mid-40s (through T5) when average economic

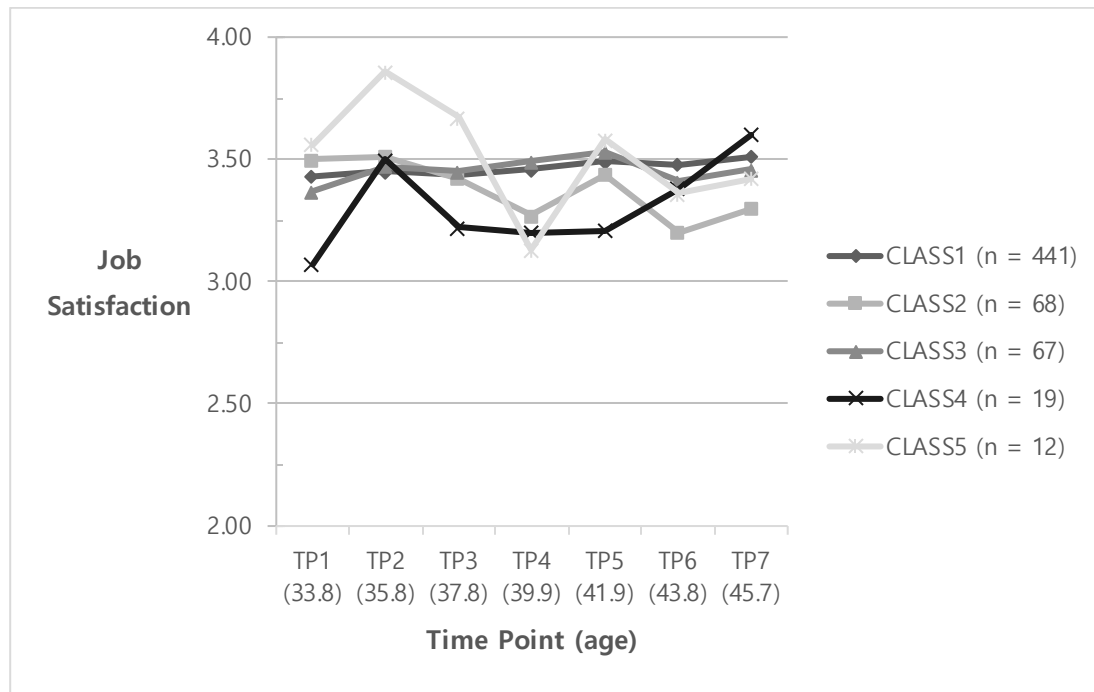


Figure 3. Average job satisfaction trajectories of each latent class.

attainment was almost zero (0.135 log-constant dollars, \$1.14). Despite a slight, late rebound from T5-T7, the degree of this increase was rather small as women recovered very little of their initial attainment.

Class 3: Low entry-stagnant growth. A total of 67 women belonged to Class 3, referred to as *low entry-stagnant growth*, hereafter referred to as “stagnant growth”. The initial average economic attainment of Class 3 women (T1) was the lowest of all five classes (9.366 log-constant dollars, \$11,684) and remained low throughout the 12-year period of our analysis. The overall economic attainment of low entry-stagnant-growth women started low and remained stagnant, not showing any particular growth or decline trends.

Class 4: Early sustained-sharp decline. Class 4 contained 19 women and was labeled *early sustained-sharp decline*, hereafter referred to as “early-sustained”. Initial average economic attainment for these women (T1) was the second highest (10.597 log-constant dollars, \$40,015) and remained so until around age 38 (T3). Despite a gradual decrease, these women continued to exhibit a moderate level of economic attainment until T5 (age 42) when they appeared to leave the labor market almost entirely (0.222 log-constant dollars, \$1.25). Although a slight rebound in attainment was observed between T6-T7, their economic attainment at age 46 (T7) equaled about one-third of their initial attainment.

Class 5: Low entry-minimal attainment-late rebound. Twelve women belonged to Class 5, referred to as *low entry-minimal engagement-late rebound*, hereafter referred to as “late rebound”. Women in this class started with a relatively low level of economic attainment (9.704 log-constant dollars, \$16,383) which increased slightly during the first two time points. However, at T3 (age 38) the average economic attainment rapidly decreased (0.145 log-constant dollars, \$1.16). Women in this class exhibited a rebound in attainment after T4 (age 40), and

again, four years later at T6, regaining almost 90% of their highest economic attainment.

Description of Economic Attainment Classes.

Demographic and occupational characteristics. White women represented a majority of the members in each of the five classes. Two-thirds (69.9%) of all white women belonged to the sustained growth group. A greater percentage of all black and Hispanic women were classified in the sustained growth group (87.3% and 72.2%, respectively). The percentage of white women was the highest in the steady decline group (80.9%), while the sustained growth and early sustained groups had higher portions of black (23.1%) and Hispanic (26.3%) women, respectively. Given the composition of our sample, there was little variation in the education level of women ($M = 16.8$) across the five classes.

Information concerning women’s occupation at T1 (age 34) was also tabulated by class (Table 3). A majority of women from each class held occupations that were categorized as managerial or professional in nature. However, several distinctions were observed. First, women in sustained growth (66.4%) and late rebound (66.7%) groups experienced the highest rates of employment in the managerial/professional category. Conversely, less than half of women in the stagnant growth (45.5%) and early-sustained (42.9%) groups held positions in these fields. Women in the early-sustained group held the most widely distributed occupations including 21.4% in administrative support/clerical and 21.4% in machine operator/assembler positions. Occupations held by women in the stagnant growth group were also scattered among several categories, including 21.8% in service and 14.5% in administrative support/clerical positions.

Job satisfaction. ANOVA tests indicated that there was no significance difference in the level of average job satisfaction among classes at all time points. Furthermore, average job

Table 4. Family Characteristics of Participants by Classes

Characteristics	Sustained growth (n = 441)	Steady decline (n = 68)	Stagnant growth (n = 67)	Early sustained (n = 19)	Late rebound (n = 12)	ANOVA Tests
<i>Family of Origin*</i>						
Mothers' educational attainment	12.7 (2.8)	13.5 (2.1)	13.4 (2.1)	10.8 (3.8)	13.1 (2.0)	$F = 4.812$ $df(b) = 4$ $df(w) = 602$ $p = .000$
Fathers' educational attainment	13.3 (3.5)	14.9 (3.2)	13.3 (3.5)	12.6 (5.0)	15.1 (2.2)	$F = 4.067$ $df(b) = 4$ $df(w) = 602$ $p = .002$
Mothers' occupations	27.6 (28.2)	20.1 (27.5)	28.1 (29.3)	11.3 (22.1)	22.8 (28.6)	$F = 2.532$ $df(b) = 4$ $df(w) = 602$ $p = .039$
Fathers' occupations	47.1 (27.4)	60.5 (23.7)	47.7 (25.7)	47.8 (29.4)	46.1 (26.5)	$F = 3.724$ $df(b) = 4$ $df(w) = 602$ $p = .005$
<i>Newly-Formed Family*</i>						
Marital history**	4.5 (3.0)	6.1 (2.0)	6.0 (2.1)	5.4 (2.3)	6.5 (1.0)	$F = 9.271$ $df(b) = 4$ $df(w) = 602$ $p = .000$
Number of Children	1.5 (1.2)	2.3 (1.4)	2.2 (1.4)	2.2 (1.5)	2.1 (0.7)	$F = 10.491$ $df(b) = 4$ $df(w) = 602$ $p = .000$
Partner's income	\$49,128 (\$49,087)	\$140,868 (\$107,653)	\$85,619 (\$62,667)	\$87,726 (\$75,457)	\$65,684 (\$65,242)	$F = 36.241$ $df(b) = 4$ $df(w) = 602$ $p = .000$

* Mean (Standard Deviation)

** Marital history reflects the number of time points (out of 7 possible) that respondents indicated being married.

satisfaction across seven time points did not significantly differ among classes (average job satisfaction of Classes 1-5 were 3.47, 3.42, 3.46, 3.26, and 3.45, respectively). We plotted trajectories of average job satisfaction of each class throughout seven time points (Figure 3). While sustained growth and stagnant growth women exhibited relatively stable average job satisfaction trajectories, women in the other three groups appeared to exhibit fluctuating trajectories. For the three groups that showed fluctuating job satisfaction – steady decline, early-sustained, and late rebound – analysis revealed no patterns or tendencies that were identifiable or seemed to covary with the economic attainment patterns.

Family-of-origin variables. Table 4 provides the means and standard deviations of family of origin variables by class. ANOVA tests indicated that significant differences existed in all four families of origin variables. Thus, subsequent post-hoc

tests were conducted. First, mothers of early-sustained women had the lowest educational attainment ($M=10.8$), significantly lower than the educational attainment of mothers of sustained growth, steady decline, and stagnant growth women. Second, the educational attainment of fathers of steady decline women ($M=14.9$) was significantly higher than those of sustained growth women. Third, despite the significant omnibus ANOVA, post-hoc tests detected no significant differences between any pair of classes on occupation. Lastly, the occupations of husbands of steady decline women were the highest ($M=60.5$) among the five classes and also significantly higher than those of sustained growth and stagnant growth women.

Newly-formed family variables. Means and standard deviations of newly-formed family variables by classes are displayed in Table 4. ANOVA tests showed that all chosen

newly-formed family variables significantly differed across classes. With regard to marital history, sustained growth women were married the shortest period of time (4.5 out of 7 time points). A post-hoc test indicated that this period is significantly shorter than the periods of steady decline (6.1) and stagnant growth (6.0) women who were married. In addition, a substantial portion of sustained growth women reported having never married (17.6%) while the remaining four classes had very small numbers of women who had never married (0-4.9%). Similarly, among the five classes, sustained growth women had the fewest children (1.5). This number was significantly smaller than the number of children had by steady decline and stagnant growth women. Finally, the income of women's spouse/partner were lowest in the sustained growth (\$49,128) group and greatest in the steady decline group (\$140,868). A post-hoc test showed that steady-decline women's spouse income was significantly higher than in the other four classes.

Discussion

Our study sought to classify college-educated, late-baby-boomer generation women's mid-career patterns using economic attainment, which extends our understanding of women's career development from the late 1980s to the early 2010s. First of all, nearly three out of four (more than 72%) of college-educated women in our sample belonged to the sustained growth group, supporting the notion that most women today, especially those who are highly educated, are willing and able to pursue and maintain careers (Hoffnung, 2004). The economic attainment of these women increased continuously and consistently from ages 34 to 46. During this period, these women remained in the labor market, received a relatively high income, and did not experience major long-term absences from work.

Our findings contradict earlier classification studies from the mid-20th century that portrayed women who were continuously involved in a career as unusual and comprising only a small portion of all women, e.g., Zytowski's (1969) unusual career pattern. This difference is likely a reflection of several social changes that have occurred during the last several decades including the increasing educational attainment of women (Welch, 2000); increasing availability of service sector jobs that favor female labor (Galor & Weil, 1996); changes in ideology that accept diverse lifestyles for women such as being divorced or remaining single (Barnett & Hyde, 2001); and an elevated sense of domestic gender equality in terms of sharing family responsibilities such as childrearing and household chores with men (Bond, Galinsky, & Swanberg, 1998). The mixture of these changes has led to a dramatic rise in women's participation in the labor market from the 1970s to the present and has also resulted in an increase in the number of highly-educated women who maintain stable careers. Our findings also support the notion that the chosen time period, the 1980s-2000s, represents the first generations of women whose careers progressed in terms of both quality and quantity (Gersick & Kram, 2002).

The remaining 28% of women in our sample experienced sporadic or limited career patterns. This is consistent with earlier studies that have documented interruption and fluctuation in women's career paths. Women experiencing either steady decline-late rebound or early sustained-sharp decline stayed in the labor market, although economic attainment gradually declined, until their early forties when almost all left. Despite their attempts to return at the very end of the mid-career period, such returns were not at the same level as their highest attainment. These women roughly correspond to Gerson's (1985) *early-vocational-career-orientation-modified* women who discontinued their career as other life-roles grew more prominent. Women of stagnant growth, on the other hand, showed constant but depressed economic attainment patterns. These women are comparable with Zytowski's (1969) moderate career pattern, which characterized women's patterns as early entry, lengthy span, and low degree of participation. Lastly, women in the late rebound group started with rather low economic attainment, which decreased even further until age 38. They returned to the labor market in their late mid-careers. These women would, in Hakim's (2000) classification, be considered adaptive women who accommodate both work and family.

The aforementioned similarities between four career patterns of our study and some of the patterns reported in previous studies were explained, in part, by the newly-formed family variables. Women in one of these four limited or sporadic career patterns were notably more involved in family responsibilities than sustained growth women. This situation is in line with previous studies (Metz & Tharenou, 2001; Spain & Bianchi, 1996) that viewed family as a major influence in the career patterns of women. Indeed, women in the sustained growth group were married for the shortest period of time and had the least number of children. It also seems relevant that early-sustained women, who showed the second highest and longest economic attainment patterns, were married for the second shortest periods of time. These results are also consistent with the findings of Metz and Tharenou (2001) and Spain and Bianchi (1996) and show that a negative relationship still exists between women's career progress and family responsibilities.

Spouses' income, on the other hand, appeared to negatively impact women's sustaining their careers, especially in their early 40s. In this period, a tendency was revealed that the lower a spouse's average income, the more likely for a woman to remain in the labor market or earn higher income. For example, spouses of sustained growth women had the lowest average income whereas steady decline women's had the highest. This can be largely attributed to the fact that the late mid-career stage (around mid-40s) is a period when family expenses expand as children grow and the size of households increase. It is likely that the restricted availability of economic resources in a household during this period affects women's decisions to remain in or reenter the labor market.

All in all, our findings on college-educated women's economic attainment patterns and newly-formed families are in agreement with past findings (Betz, 1993; O'Neil & Bilimoria, 2005) that have addressed the heterogeneity of women's career development and the influences of newly-formed families on it.

Scholars have asserted that women's career choices in mid-career are more realistic than idealistic, compromising work to accommodate growing family responsibilities or doing the reverse. The specific patterns that women's careers take depend on what decisions they make regarding the pursuit of career achievement or the raising of children and family, resulting in varied career histories and trajectories (Betz & Fitzgerald, 1987; Huang et al., 2007).

Our analyses of the family-of-origin factors, on the other hand, produced results that were incongruent with existing studies. While the majority of previous research emphasized mother's influence on daughters' careers, our findings implied a stronger connection between fathers and daughters. For instance, post-hoc ANOVA tests showed that average prestige scores of mothers' occupations did not significantly differ across classes. Furthermore, for mothers of early sustained women, whose initial economic attainment was the second highest, educational attainment was the lowest. These findings are inconsistent with a number of prior studies (Gerson, 1985; Hackett et al., 1989) that claimed a positive influence from mothers' educational and occupational achievement on daughters' career development.

On the other hand, we found a consistent tendency of fathers' education and occupations across five classes of daughters' career patterns. Specifically, steady decline women's fathers had significantly higher educational and occupational attainments than other groups. Women in the steady decline group had a moderate level of economic attainment in the beginning and showed continuous decrease afterwards. This discouraging relationship between fathers' achievements and daughters' careers contradicts most career studies that have examined father-daughter relationships. These mostly reported positive or supportive fathers' influence on daughter's active work involvement, such as closer father-daughter relationships prompting daughters' career maturity or nontraditional career choices (Graef, Wells, Hyland, & Muchinsky, 1985). Future studies that investigate fathers' influence on daughters' career development in terms of psychological and practical/role-model influence might further elucidate our finding. It is also interesting to note that steady decline women had the most socioeconomically successful and productive family members (fathers and spouses) both in their family of origin and newly-formed family. Given the limited and discontinued career patterns of steady decline women, this result raises the possibility that the presence and productiveness of a major financial supporter in a family may have a negative impact on both women's career development in early ages and long-term continuity.

We note that job satisfaction represented only for those women who were employed when each survey was taken; unemployed women were excluded. Even so, we assumed that the average job satisfaction of a class at a certain time could represent the subjective aspect of that class's career. This was based on our assumption that both employed and unemployed women would be similar, to some degree, in terms of their career experiences as well as affective evaluations of their careers. However, interpretations of results should not be considered definitive or generalized. We did not find any significant difference in the level of job satisfaction across the

five groups. This is consistent with Huang et al.'s (2007) study that reported no significant difference in job satisfaction among women of different career patterns. Interestingly, we observed that average job satisfaction trajectories of women with interrupted career patterns (Class 2, 4, 5) fluctuated whereas job satisfaction trajectories of women with stable career patterns (Class 1, 3) were relatively flat. However, for the three interrupted career pattern groups, we found no identifiable similarities in trajectories between economic attainment and job satisfaction. For example, the time at which economic attainment peaked did not match the time at which job satisfaction peaked for any of the three groups. Also, the overall patterns of fluctuation in economic attainment and job satisfaction were not comparable. This implies that economic attainment may not be a factor that directly affects women's job satisfactions. Instead, it is likely that family factors that were shown to complicate women's economic attainment patterns may also have influenced women's job satisfaction. This would happen by their affecting the way women re-adjusted in order to work around significant life events such as childbirths and maternity leaves (Bernardi, Bollmann, Potărcă, & Rossier, 2017). These intertwining relationships between family, economic attainment (objective aspects of career), and job satisfaction (subjective aspects of career) could be topics for future studies.

Two issues to be considered with the study must be pointed out. First, the psychological aspects of women's mid-career patterns were not thoroughly examined. Diverse psychological dynamics, in addition to job satisfaction, would be involved in women's career choices and attitude toward a chosen career, such as motivations or attractions leading women to choose certain career paths, potential hardships, and their feelings about both the career paths selected and subsequent life styles. Knowing those dynamics would be important to fully understand the identified career paths, thus requiring further study. Second, since the analysis looked only at college-educated women, generalizing our findings to all women is not warranted. College-educated women have demographic, psychological, and occupational characteristics that are distinctive from other women. Thus, additional study is needed to ascertain whether the career patterns we identified are similar for women with different levels of educational attainment or only hold for college-educated women.

To sum up, our findings on career patterns evidently contradict the old notion that women took little part in the labor market. At the same time, they support studies in the 2000s (Hakim, 2003; Huang et al., 2007) that have argued that the major type of women's career pattern is now work-centered rather than family-centered. Also, we showed, in a statistical fashion, that newly-formed family variables indeed had negative associations with the continuity of women's mid-careers. This finding is not only evidence of the arduousness required for baby-boomer generation women to pursue both work and family, but it also supports prior classification studies that theoretically or qualitatively asserted such relationships. Next, our findings on family-of-origin factors shed light on a father's influence on daughters' careers, which have not received as much attention as did a mother's influence. However, the direction of the influence of fathers' education

and occupation on women was rather negative, which was inconsistent with prior studies. Last, we found that women whose career patterns were unstable had fluctuating job satisfaction patterns but the two patterns did not exactly covary. This implies that economic attainment and job satisfaction may not directly affect each other but underlying factors such as family events may be the source of the change in both patterns.

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