

Heterogeneity in the Transition to Adulthood: The Cases of Australia, Canada, and the United States

Hétérogénéité dans le passage à l'âge adulte : cas de l'Australie, du Canada et des États-Unis

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Abstract The prolongation and diversification of the transition to adulthood is known to have occurred in all advanced industrialized countries, although to different extents and following different patterns. A number of comparative studies have explored single-events such as leaving the parental home or making the transition to a first birth, but few have examined the transitions to adulthood more holistically by examining multiple events. We do so in this article for Australia, Canada, and the United States. We find that youth in the United States experience a more uniform and shorter transition to adulthood than their peers in Australia or Canada, even though this transition is increasingly prolonged in all three countries. The earlier transition in the United States is mostly due to the concentration of education in traditional school ages, an earlier entry into employment, and to a lesser extent, an earlier and more coordinated transition into marriage and household headship. We argue that the transition to adulthood differs quantitatively and qualitatively since entry into marriage reflects the more traditional values of the United States.

Keywords Transition to adulthood · Adolescence · Cross-national comparisons · Life course · Social institutions

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Résumé Le passage à l'âge adulte s'est prolongé et diversifié dans tous les pays industrialisés, quoique à des degrés différents et de manière différente. Un certain nombre d'études se sont penchées sur des événements ponctuels tels que le départ du domicile parental ou la naissance du premier enfant, mais les analyses du passage à l'âge adulte sur la base d'événements multiples sont rares. Dans cet article, nous examinons le phénomène de cette façon globale en Australie, au Canada, et aux Etats-Unis. Il apparaît que les jeunes aux Etats-Unis ont un passage à l'âge adulte plus uniforme et plus court que les jeunes en Australie et au Canada, bien que la tendance soit à l'allongement dans les 3 pays. La relative avance du passage à l'âge adulte aux Etats-Unis est due en grande partie à la concentration de l'éducation aux âges scolaires traditionnels, à une entrée plus précoce dans le monde du travail, et, à un moindre degré, à une plus grande précocité et coordination du départ du domicile parental et du mariage. Nous soutenons l'idée que ces modalités de passage à l'âge adulte sont différentes sur un plan quantitatif et qualitatif, sachant que l'entrée dans le mariage reflète les valeurs plus traditionnelles des Etats-Unis.

Mots-clés Passage à l'âge adulte · Adolescence · Comparaisons entre pays · Biographie · Institutions sociales

1 Introduction

The prolongation and diversification of the transition to adulthood is known to have taken place in all advanced industrialized countries, although with non-negligible differences between countries (see Fussell and Gauthier 2005; Furlong and Kelly 2005; McDonald and Evans 2003; Corijn and Klijzing 2001). These studies observe that current generations are not following the predictable sequence of events that earlier generations did—completing school, entering the labor force, leaving the parental home, marrying, and becoming a parent—and the transitions they make are occurring at older ages than in the past. They conclude that there is no longer a set way of making the transition to adulthood, but one that instead involves a longer period of time, greater options, and even reversals of events (such as returning to the parental home). This increasing heterogeneity in the aggregate experiences of young adults is assumed to have occurred similarly throughout advanced industrialized countries because of similar changes in values or social institutions. However, no one has convincingly demonstrated that increasing heterogeneity in the transition to adulthood is similar in either its cause or magnitude.¹

Measuring the magnitude of cross-national difference in the process of transition to adulthood, and explaining why it exists, requires a descriptive tool that measures heterogeneity in the transition to adulthood holistically and quantitatively. In this article, we apply a statistical method—entropy analysis of demographic status combinations in synthetic cohorts—that allows for a more comprehensive

¹ Numerous comparative studies examine cross-national differences in single events, such as leaving the parental home or making the transition to a first birth, but very few examine cross-national differences in the combination of adult statuses.

assessment of whether the transition to adulthood occurs similarly across countries (Fussell 2006). In doing so, we gain insight into how social institutions, such as schools, labor markets, and marriage markets, structure the life course similarly, or differently. Entropy analysis has been used to examine heterogeneity in individuals' life course in Italy (Billari 2001), and in young adult synthetic cohorts in the United States (Fussell 2006) and Mexico (Fussell 2005).

Here we apply the method to synthetic cohorts derived from census data from Australia, Canada, and the United States for the years 2000–2001 and relate it to macro-level characteristics of these three countries. These three countries have similar cultural orientations and levels of economic development, but also substantial differences in the economic, institutional, and social structures guiding the process of becoming an adult. This comparison allows us to measure cross-national differences that correspond to the social institutions that age-grade and structure the life course in three countries.

The article is divided into the following sections: in the first section, we review the literature on the transition to adulthood and discuss the social, institutional, and economic causes of differences in the timing and complexity of the transition to adulthood in each country. We then present the entropy method and the results. We conclude the article by discussing the results and their implications for future applications of the entropy method.

2 Historical and International Perspectives on the Transition to Adulthood

2.1 A Demographic View of the Young Adult Life Course

Life course demographers have studied the transition to adulthood typically using five transition markers: the transition out of school, the transition into the labor market, the transition to independent living (i.e., moving out of parental home), the transition to partnership (i.e., forming a first union), and the transition to parenthood (Shanahan 2000). During the 1950s and 1960s, when life-course sociologists first examined the order of subsets of these markers among young men, the life course was often characterized as standardized and predictable (Hogan 1978, 1980; Hogan and Astone 1986; Marini 1984a; b; Winsborough 1978, 1979). An empirical debate ensued to investigate whether this standardized life course was indeed so prevalent (Rindfuss 1991; Rindfuss et al. 1987) and if so, whether it had always been that way (Modell et al. 1976). Since then it has become evident that the standardized life course was a fleeting phenomenon limited to the period between 1950 and 1970, and resulting from the age-graded social structures that concentrated this set of transitions into a limited age range in the young adult life course (Fussell 2006).

Since the 1970s, the life course of young adults has become de-standardized as more young people follow a greater number of sequences of life-course events and take longer to complete their sequence of events if they complete them at all (Bruckner and Mayer 2005; Buchmann 1989; Furstenberg et al. 2005). This process of de-standardization is linked with other broader societal changes that have occurred in advanced industrialized societies since the 1970s including changes in

values: specifically a greater emphasis on gender egalitarianism, self-actualization and self-fulfillment, economic restructuring, a de-stabilization of welfare regimes, and the emergence of new guidelines and regulations in the social institutions that structure the life course (Beck and Beck-Gernsheim 2002; Buchmann 1989; Bumpass 1990; Dannefer 2000; Furstenberg 2000; Fussell 2006; Heinz 2003; Lesthaeghe 1983; Mayer 2001, 2004). Some scholars have even argued that the changes in the transition to adulthood, especially the postponement of key events, may be seen as a coping behavior by young adults attempting to maximize their quality of life in the context of restructured labor markets, more temporary and irregular employment, and weaker welfare states (Dannefer 2000; Furlong and Kelly 2005; McDonald and Evans 2003; Vogel 2002). But while the de-standardization of the life course of young adults has been widely proclaimed, the actual description and measurement of changes in the transition to adulthood have presented major challenges for scholars (Seltzer et al. 2005).

2.2 Heterogeneity in the Life Course

Most life-course research employs measures of central tendency to describe the timing and sequencing of life course transitions. In other words, it describes what occurs in the average life course. Modell and his colleagues (1976) pushed beyond these measures by studying the “jointness” of pairs of transitions, specifically, the correlation of one status with another within a cohort. They concluded that young Americans in 1970 experienced a more prescribed and tightly scheduled life course based on the concentration of transitions into a smaller range of ages compared to their counterparts in 1890 (Modell et al. 1976). Canadian women experienced a similar reduction in the variance of the timing of key transitions during the twentieth century (Ravanera et al. 1998). While these studies capture the timing of individual transitions, they do not, however, measure the extent to which a cohort is following a similar life trajectory, in other words, how much heterogeneity there is in the life course.

To measure the standardization and de-standardization of the life course, a measure of heterogeneity that includes multiple events, each with their own timetable and variance, is needed. The entropy analysis of the transition to adulthood, as presented by Billari (2001) and Fussell (2005, 2006), offers such a method by combining information on the various demographic statuses held by individuals. Billari (2001) uses such an approach to study the sequencing of status combinations in individuals’ lives, while Fussell (2006) uses it to study combinations of statuses in synthetic age cohorts. Using this measure of cohort heterogeneity in status combinations, Fussell (2006) shows that the young adult life course became progressively more age-graded and standardized in the United States from 1880 to 1940, culminating in the tightly scheduled transition to adulthood described by Modell and his colleagues (1976), which lasted through the 1960s. Subsequently, the life course has become diversified and prolonged, reaching very high levels of heterogeneity in status combinations with each subsequent decade up to the year 2000. We adopt this synthetic cohort approach in this analysis to compare

age-specific heterogeneity of status combinations for synthetic cohorts in Australia, Canada, and the United States in the years 2000–2001.

We selected Australia, Canada and the United States for our analysis because of their similar welfare state and historical origins, hypothesizing that current differences in the transition to adulthood (if any) between these countries would likely result from country-specific policies, institutions, or economic conditions. These countries are often grouped as being similar in terms of their welfare state institutions. Esping-Andersen (1990) classified them as all belonging to the liberal welfare regime, since all have a low level of de commodification, a high degree of social stratification, and a large public–private mix of welfare support, a situation which contrasts sharply with countries belonging to the social-democratic and conservative welfare regimes.² Inglehart and Baker (2000) classify these countries as the so-called ‘English-speaking’ cluster using the World Values Survey. Respondents in this cluster prioritize self-expression over economic and physical security and are evenly divided between their preference for traditional and religious beliefs versus rational and secular beliefs. Within this cluster, the United States is more religious than Australia and Canada. To more precisely describe the differences between these three countries, we have assembled indicators of several social institutions (Table 1).

Each country developed laws based on English common-law, and French colonial law in the case of the province of Quebec in Canada, regarding the ages at which adolescents are regarded as being able to take responsibility for their decisions in schooling, employment, and marriage. The three countries appear similar, apart from an earlier age at ending mandatory education in Australia and a later one in the United States. Nevertheless, the standard age at graduation from upper secondary school is the same in all three countries. In all three countries, youth are regarded as legally adult by the age of 18 and therefore able to decide whether to continue in school or enter into marriage without their parent’s consent.

Legal adulthood does not necessarily translate into the full acquisition of adult roles, however, either because youth have the family support that allows them to avoid assuming such roles, or because movement into those roles is delayed for one reason or another. Researchers find that economic inequality strongly influences the transition to both economic and social adulthood (Lichter et al. 2002; Oppenheimer et al. 1997; Shanahan et al. 1998; Smeeding and Ross Philips 2002; Sweeney 2002). Economic inequality is highest in the United States, with a Gini coefficient of 40.8: the U.S. has not only the highest GDP per capita, but also the largest percentage of children living in poverty. Canada and Australia resemble one another more than they do the United States, with lower GDPs per capita, child poverty rates, and Gini coefficients. In a broader international perspective, all three countries have among the highest levels of child poverty in the industrialized world (UNICEF 2005). This

² Some critics of Esping-Andersen argue that Australia forms a different welfare regime because of its “more inclusive approach to social protection than the standard liberal form” (Arts and Gelissen 2002: 146) and that Canada has moved away from the liberal welfare regime and closer to the conservative and social-democratic ones (Scruggs and Allan 2006). In contrast, other studies have shown the relative robustness of Esping-Andersen’s classification, for example in the field of family policy (Gauthier 2002; Gornick and Meyer 2003).

Table 1 Selected macro-level indicators for three countries, around the year 2000

Domain	Indicator	Australia	Canada	USA
Legal	Ending age of mandatory education ¹	15	16	17
	Graduation age at the upper secondary level of education ²	17–18	18	18
	Legal age at marriage without parental consent	18.0	18.0	18.0
Economic	Gini coefficient ³	35.2	33.1	40.8
	GDP per capita ⁴	29,632	30,677	37,562
	Per cent of children in poverty ⁵	14.7	14.9	21.9
	Human Development Index ⁶	0.955	0.949	0.944
	Standardized unemployment rate ⁷	6.6	6.8	4.0
Education & employment	% in education 15–19 ⁸	79.5	82.1	81.3
	% in education 20–24 ⁸	35.9	37.9	32.5
	% in education 25–29 ⁸	15.5	12.4	11.4
	% has not attained upper secondary education (age 25–34) ⁹	23.0	9.0	13.0
	% has attained tertiary education (age 25–34) ¹⁰	36.0	53.0	39.0
	Labor force participation rate of women 15–19 ¹¹	59.9	43.5	55.4
	Labor force participation rate of women 20–24	76.5	69.7	76.4
	Labor force participation rate of women 25–29	74.7	74.9	81.8
	Labor force participation rate of men 15–19 ¹¹	55.4	43.7	53.7
	Labor force participation rate of men 20–24	84.8	80.0	81.5
	Labor force participation rate of men 25–29	90.9	91.3	90.4
Gender equality	Gender Related Development Index ¹²	0.954	0.946	0.942
	Women's empowerment index ¹³	4.61	4.87	4.40
	Labor force participation rate of mothers under the age of six ¹⁴	45	n/a	61.5
	Female part-time employment ¹⁵	40.7	27.3	18.2

Table 1 continued

Domain	Indicator	Australia	Canada	USA
Demographic	Mean age at first marriage (women) ¹⁶	27.1	27.6	26.6
	Mean age at first birth (women) ¹⁷	27.5	29.9	24.9
	% of TFR attributed to teenage fertility ¹⁸	5	6	14
	Teenage fertility rate ¹⁹	18	19	49
	Total fertility rate ²⁰	1.75	1.60	2.06
	Percent births outside wedlock ²¹	29.2	36.6	33.2

Notes and sources of data:

- 1 Ending age of mandatory education. Source: OECD Education at a Glance 2006. Online. Table C1.2
- 2 Graduation age at the upper secondary level of education (year 2004). Source: OECD Education at a Glance 2006. Table C1.3
- 3 Gini coefficient (for the year 2003). A Gini coefficient of zero indicates perfect equality, while a Gini coefficient of 100 indicates perfect inequality. Source: UNDP. Human Development Report 2005. http://hdr.undp.org/reports/global/2005/pdf/HDR05_HDI.pdf (Table 15)
- 4 Gross Domestic Product per capita (for the year 2003). In US \$ (based on the Power Purchasing Parity index). Source: UNDP. Human Development Report 2005. http://hdr.undp.org/reports/global/2005/pdf/HDR05_HDI.pdf (Table 1)
- 5 Child poverty: % of children living in poverty, defined as less than 50% of the median income (for the year 2005). Source: UNICEF (2005).(Fig. 1)
- 6 Human Development Index (for the year 2003). The index is based on the countries' life expectancy at birth, adult literacy rate, educational enrollment rate, and GDP per capita (see the report's technical notes p. 340 for detail). Source: UNDP. Human Development Report 2005. http://hdr.undp.org/reports/global/2005/pdf/HDR05_HDI.pdf (Table 1)
- 7 Standardized unemployment rate (both sexes combined) (for the year 2000). Source: OECD (2001). Employment Outlook. Table A, p. 208
- 8 Youth education data (for the year 2000). Source: OECD Education at a Glance 2006. Online. Table C4.4a
- 9 Percentage has not attained upper secondary education (for the year 2004). Source: OECD Education at a Glance 2006. Online. Table A1.2a
- 10 Percentage has attained tertiary education (for the year 2004). Source: OECD Education at a Glance 2006. Online. Table A1.3a
- 11 Age-specific labor force participation rates: Australia: ABS. Australian Labour Market Statistics, October 2006, Table 1.2 (June 2006) <http://www.ausstats.gov.au>; Canada, CANSIM (Table 282-0002). Accessed from GGP contextual database; U.S.: Bureau of Labor Statistics: civilian labor force participation rates. Seasonally adjusted, 3rd Quarter 2006. Note: 25–29 ages group data represents 25–34 for U.S. <http://www.data.bls.gov>

Table 1 continued

- ¹² Gender Related Development Index (for the year 2003). The index is based on gender inequality in life expectancy at birth, adult literacy rate, educational enrollment rate, and earned income (see the report p. 340 for details). *Source:* UNDP. Human Development Report 2005. http://hdr.undp.org/reports/global/2005/pdf/HDR05_HDI.pdf (Table 25)
- ¹³ Women's empowerment index (for the year around 2000). This index is based on women's economic participation, economic opportunity, political empowerment, educational attainment, and health and well-being. *Source:* World Economic Forum (2005).
- ¹⁴ Labor force participation rate of all mothers with children under the age of 6 (for the years 1999). *Source:* OECD (2001). Employment Outlook. (Paris). P. 134 (Table 4.1)
- ¹⁵ Part-time employment as a percentage of total employment for women (for the year 2000). *Source:* OECD (2001). Employment Outlook. (Paris). P. 224 (Table E)
- ¹⁶ Mean age at first marriage (women) (for the year 2000). *Source:* Billari (2005), Table 1, p. 65. The figure for Australia comes from: Australian Bureau of Statistics (2003). Marriages and Divorces 2002. Table 4.6
- ¹⁷ Mean age at first birth (women) (for the year 2000). *Source:* Billari (2005). Table 10, p. 73. The figure for Australia comes from: Australian Bureau of Statistics (2001). Australian Social Trend 2001. p.35 (for the year 1998). The figure for Canada comes from Statistics Canada (2002). Births 2002. Table 3.1 (for the year 2002)
- ¹⁸ Percentage of TFR attributed to teenage fertility: Author calculations using age-specific fertility rates from US Census Bureau International Data Base for 2006 data
- ¹⁹ Teenage fertility index expressed as the annual number of births per 1000 women age 15–19 (for the year 2000–2005). *Source:* <http://www.childinfo.org/eddb/fertility/dbad01.htm>
- ²⁰ TFR: Total period fertility rate (for the year 2000). *Source:* Billari (2005). For Australia, Japan, and New Zealand, data from the INED online database. Table 9, p. 72
- ²¹ Births outside wedlock (for the year 2000). *Source:* Billari (2005), Table 17, p. 79. The figure for Australia comes from: Australian Bureau of Statistics (2006). Births 2005. Table 2.12 (percent of exnuptial births)

suggests that the transition to adulthood may be more heterogeneous in all three countries relative to those where income inequality is leveled by the welfare state and those where public schooling at both the secondary and tertiary levels is universal, affordable, and of high quality.

The three countries are quite similar in providing free, public secondary education and having high-enrollment rates, especially at ages 15–19. Australia differs from Canada and the United States in that it has higher enrollment rates at ages 25–29, suggesting that many youth defer their education. Educational achievement also differs: in Australia 23% of 25–34 year olds have not attained upper secondary education compared with only 9% and 13% in Canada and the United States, respectively. Canada has the most highly educated population with 53% of 25–34 year olds having attained a tertiary education. These statistics suggest greater inequality in educational attainment in Australia and Canada than in the United States, though Canadians have more years of education on average than Australians. Consequently, we expect that school attendance may contribute to greater levels of heterogeneity in the late teens and early 20s in Australia and throughout the 20s in Canada relative to the United States. These differences in education may be related to labor force participation among youth in each country since school and work may compete for young people's time. Australian youth have higher labor force participation rates at age 15–19 than the United States and Canadians have lower rates at ages 15–19 among both men and women. Canadian labor force participation rates for men and women are also lower in the early 20s, perhaps due to greater rates of full-time schooling at these ages.

The composite indices of gender equality suggest that women and men in these countries are treated and behave in similar ways, at least as far as can be accounted for by these broad measures. Differences between the three countries are relatively small, and mostly concern the way women participate in the labor market. In the United States, women have age-specific labor force participation rates more similar to those of men, and mothers of young children have a higher labor force participation rate than similar mothers in Australia or Canada. This means that U.S. women's lives are structured more similarly to men's, since men also combine full-time work and parenthood. However, this type of equality is qualitatively different from that experienced by women in Australia, and to a lesser extent in Canada. The Australian labor market provides greater scope for combining work and family, with 41% of women in part-time employment, compared with 27% and 18% in Canada and the United States, respectively. Since employment is measured without respect to full- or part-time status in our analysis, these differences are not evident.

The transition into marriage and parenthood are often considered as the final transitions into adulthood. Ideally, these family transitions depend upon the successful transition out of school and into work, particularly for men but increasingly for women as well. In all three countries, the mean age at marriage has reached the late 20s for women, an unprecedented late age. However, the three countries differ in the age at first birth, with women in the United States entering into motherhood at a younger average age than the age at which they marry. This is partially due to the exceptionally high-teenage fertility rate in the United States,

with 14% of total fertility attributed to teenagers, compared with 6% and 5% in Canada and Australia. In addition, about one-third of births occur outside marriage. Because the censuses in all three countries do not ask about fertility, we only capture the effect of family statuses through marriage and household headship. To the extent that parenthood and marriage are correlated, we expect to find more heterogeneity due to marriage at the youngest ages in the United States and at older ages in Australia and Canada, particularly among women. Insofar as household headship is associated with marriage and parenthood, we also expect less heterogeneity due to household headship in the United States generally.

To summarize, Table 1 demonstrates that even though there are broad similarities between these countries, differences in the way social institutions structure the life course are evident. Schools and labor markets are strongly age-graded social structures and therefore we expect to observe strong effects of these statuses in our analysis. Family status differences are more weakly measured, but suggest that the transitions into marriage and household headship begin at different ages in the three countries, creating important differences in the level of age-specific heterogeneity.

2.3 Data and Method

The entropy analysis of age-specific status combinations in synthetic cohorts applies information theory to life-course analysis in order to describe change in the timing and complexity of the transition to adulthood. Information theory has most commonly been used in sociological research to gauge inequality in the distribution of continuous or ordinal measures—such as income, population distribution, and occupation—using the entropy transformation (Allison 1978; Magidson 1981). Billari (2001) applied Theil's entropy measure to examine heterogeneity in the sequences of statuses held during the life course using longitudinal data for Italy—an application that serves as an example for this analysis. Here we apply the entropy transformation to nominal variables to study the heterogeneity of status combinations in synthetic age cohorts.

The basic units in the analysis are single-year age cohorts observed in each census year which, when arrayed by age, constitute a synthetic cohort. Typically, synthetic cohort analysis assumes that the statuses held at each age in a given year replicate the progression of a cohort into or out of a particular status, thereby making the assumption that status transitions are irreversible. In this analysis of synthetic cohorts, however, the main objective is to describe age-specific patterns in status combinations. With cross-sectional census data we do not observe whether a person has experienced a reversal in status, only his or her status at a given point in time. If an individual is observed after having a status reversal, i.e., he or she has temporarily dropped out of school or is temporarily absent from the labor force, the effect is to increase heterogeneity in the age cohort by lowering the prevalence of a status, such as school attendance or labor force participation. This reflects a real phenomenon—instability in the life course—which is of interest in this analysis of cohort's experience of transition to adulthood. Thus the assumption that age-specific

prevalence simulates a cohort's progression through a life-course transition need not be a strong assumption, as our interest is in how heterogeneous the status combinations of age cohorts are at the specific ages which simulate the young adult life course.

We use 1% samples of U.S. census data for 2000 made available from the Integrated Public Use Microdata Series (IPUMS) Database (Ruggles et al. 2004). For Australia, the 1% household Sample File for the 2001 Census was obtained through the Australian Vice Chancellor's Committee (AVCC) Confidentialised Unit Record Files (CURF) agreement via the Australian Bureau of Statistics. For Canada, we use the 2.7% individual public use micro-file for the 2001 Census through the Data Liberation Initiative with Statistics Canada. The sample sizes and gender distributions are shown in Table 2, along with proportions in each status grouped in 5-year age groups.

The measure of age-specific status heterogeneity is constructed from the status combinations of individuals within each age-sex-country cohort for each year or period. Each age-sex-country cohort has 16 potential status combinations based on their school attendance, labor force participation, ever-married status, and status as head of household or spouse of the head (See Appendix A). The census in each of the three countries asks whether a person is currently attending school, which we code into a dichotomous indicator variable. Our employment measure gives a "1" to a person holding a job, be it full- or part-time, and those who are unemployed or not in the labor force receive a "0". This maximizes comparability since each country differs in how it defines unemployment. Ever-married status codes those who are currently or formerly legally married as 1 and those who have never been married as 0. Cohabitors were coded as never-married in all three countries. In addition, we measure whether the respondent is the head of household or the spouse of the household head to gauge the movement into residential independence. Unfortunately, questions on children ever born were not included in the 2000/2001 round of censuses in Australia, the United States and Canada, so we are unable to capture the transition to parenthood. These rather crude measures of educational attendance, employment, family formation, and independence create general comparability over the years included in this analysis.

The measures of prevalence and association that have been applied to describe the transition to adulthood using synthetic cohort information are well known. Winsborough (1978, 1979) and Modell et al. (1976) used the age-specific prevalence of a status and Goodman's lambda to describe the timing and integration of status transitions for two cohorts. Age-specific prevalence is simply the proportion of a single-year age cohort holding a status. Arrayed by age, they simulate the movement of a cohort through a transition assuming that everyone eventually acquires (or loses) the status and that the transition is irreversible. In cross-sectional data it is impossible to identify the age at which an individual first made a status-transition and whether it has ever been reversed, but since this is an analysis of cohorts, not individuals, the problem does not threaten the validity of our conclusions about the cohort experience of transition to adulthood. In other words, each person's current status contributes to the age-specific distribution of status

Table 2 Descriptive statistics for Australian, Canadian, and U.S. census samples (percentage distribution)

	Australia 2001	Canada 2001	US 2000
<i>Men</i>			
School attendance, 16–19	73.5	73.9	74.9
School attendance, 20–24	32.8	45.4	29.0
School attendance, 25–29	17.3	19.8	12.1
<i>Women</i>			
School attendance, 16–19	76.8	77.5	75.0
School attendance, 20–24	36.4	51.0	27.0
School attendance, 25–29	18.0	21.7	11.0
<i>Men</i>			
Employed, 16–19	39.1	47.6	43.7
Employed, 20–24	68.7	71.9	73.3
Employed, 25–29	76.4	82.4	84.2
<i>Women</i>			
Employed, 16–19	43.1	48.8	38.7
Employed, 20–24	64.5	69.8	61.8
Employed, 25–29	64.7	74.0	61.5
<i>Men</i>			
Ever-married, 16–19	0.4	0.1	3.8
Ever-married, 20–24	6.1	4.8	29.4
Ever-married, 25–29	31.8	27.8	63.1
<i>Women</i>			
Ever-married, 16–19	0.7	0.9	9.8
Ever-married, 20–24	12.3	10.9	45.2
Ever-married, 25–29	45.9	42.2	73.9
<i>Men</i>			
Household head, 16–19	0.8	2.0	3.8
Household head, 20–24	13.7	23.5	35.5
Household head, 25–29	41.8	59.0	68.4
<i>Women</i>			
Household head, 16–19	4.0	5.3	8.7
Household head, 20–24	28.4	37.8	50.4
Household head, 25–29	60.6	72.4	79.4
Men <i>N</i>	26,844	26,844	26,844
Women <i>N</i>	26,759	26,759	26,759

combinations and describes the status heterogeneity of the cohort at a given age whether an individual has experienced a reversal in a status or not.

The entropy analysis of status combinations for synthetic cohorts is an attractive summary measure of the transition to adulthood, especially when presented graphically. It captures both the effect of changes in prevalence of statuses held by a

cohort at specific ages, and the degree to which those statuses are coordinated, whether negatively or positively. The proportions of the age-sex-country group in each of the status combinations are transformed using a multidimensional entropy index (Cover and Thomas 1991), which is calculated as:

$$H(S, W, M, H) = - \sum_{s=S} \sum_{w=W} \sum_{m=M} \sum_{h=H} p_{ijk}(s, w, m, h) \log_2 p_{ijk}(s, w, m, h),$$

where S , W , M and H are the four dichotomous variables representing statuses held at any age (school attendance, labor force participation, ever-married, and household headship) and p is the joint distribution of the cohort in each status combination created by the combinations of S , W , M , and H , and i indexes age, j indexes sex, and k indexes country. The summation of this measure across status combinations gives a number between 0 and 4 indicating the degree of heterogeneity of status combinations in a given age-sex-country group. This measure can be analyzed using terms taken from information theory, specifically: entropy, conditional entropy, and mutual information (Cover and Thomas 1991). Joint entropy describes the magnitude of intra-cohort heterogeneity according to how a cohort is distributed across states. When a single status evenly divides a cohort, heterogeneity is greater than when a cohort is concentrated in one of the two status values. For example, when half a cohort is attending school and half is not, heterogeneity will be greater than when more cohort members are attending school, or when more cohort members are not attending school. Heterogeneity also increases when two statuses are mutually uninformative, in other words, when knowing one status, such as school attendance, does not help us predict another status, such as marital status. Joint entropy reduces these two types of information into a single measure. When age-specific joint entropy is graphed by age, it illustrates the distribution of heterogeneity in the young adult life course.

To analyze the contribution of each status to total entropy, including the portions contributed through conditional entropy and mutual information, we calculate the difference in entropy between the joint entropy measure of all four statuses, $H(S, W, M, H)$, and joint entropy when one of the statuses is not included. The difference measures the contribution of the omitted status at a specific age. We present this graphically for two of the statuses, school attendance and marriage, to illustrate the ages at which each of these events contributes relatively more or less to joint entropy and whether this contribution differs significantly between countries. Statistics on which the graphs are based are presented in Table 3.

To evaluate whether the differences between countries are statistically significant, we use a bootstrap method to simulate variation (Stine 1989/90). However, census samples of differing sizes have more or less power to capture variation. Therefore, to ensure that our sample sizes do not affect our results, we limit the samples to the size of the smallest census, that of Australia. We sample each census sample with replacement in order to create 100 samples of 5,000 cases. We calculate joint entropy and reduced entropies for each sample and observe the means and 95% confidence intervals for each age-sex-country cohort to determine whether differences between measures are statistically significant.

Table 3 Joint entropy and contribution of each status to joint entropy, Australia, Canada, and U.S. 2000/01

		Joint entropy			School attendance contribution			Employment contribution			Ever-marriage contribution			Household headship contribution		
		OZ	CA	US	OZ	CA	US	OZ	CA	US	OZ	CA	US	OZ	CA	US
Men																
16	1.38	1.57	1.24	0.49	0.67	0.33	0.83	0.87	0.81	0.00	0.01	0.04	0.03	0.00	0.01	0.01
17	1.73	1.75	1.61	0.72	0.74	0.51	0.90	0.97	0.95	0.01	0.01	0.08	0.03	0.01	0.02	0.02
18	2.01	1.99	2.30	0.93	0.82	0.82	0.95	0.97	0.94	0.04	0.02	0.20	0.04	0.14	0.20	0.20
19	2.10	2.20	2.61	0.95	0.91	0.91	0.91	0.91	0.90	0.04	0.04	0.30	0.12	0.29	0.32	0.32
20	2.21	2.45	2.86	0.92	0.94	0.88	0.88	0.90	0.85	0.06	0.06	0.37	0.24	0.48	0.46	0.46
21	2.42	2.54	3.08	0.90	0.94	0.86	0.85	0.82	0.78	0.13	0.11	0.51	0.37	0.57	0.63	0.63
22	2.40	2.74	3.14	0.82	0.93	0.79	0.79	0.82	0.76	0.20	0.17	0.58	0.41	0.70	0.67	0.67
23	2.57	2.95	3.11	0.75	0.89	0.70	0.77	0.77	0.70	0.29	0.33	0.66	0.53	0.84	0.70	0.70
24	2.62	2.93	3.00	0.68	0.85	0.58	0.75	0.68	0.65	0.32	0.39	0.74	0.54	0.87	0.72	0.72
25	2.74	3.02	2.94	0.66	0.77	0.57	0.73	0.67	0.59	0.43	0.53	0.75	0.59	0.91	0.71	0.71
26	2.86	3.05	2.83	0.63	0.74	0.51	0.71	0.66	0.60	0.55	0.62	0.76	0.64	0.90	0.70	0.70
27	2.98	2.97	2.68	0.60	0.63	0.47	0.68	0.59	0.57	0.66	0.73	0.72	0.69	0.85	0.64	0.64
28	2.95	2.99	2.61	0.58	0.63	0.47	0.65	0.57	0.53	0.68	0.82	0.71	0.69	0.80	0.64	0.64
29	2.91	2.96	2.45	0.55	0.59	0.45	0.62	0.62	0.53	0.71	0.85	0.64	0.68	0.74	0.57	0.57
Women																
16	1.48	1.65	1.21	0.48	0.68	0.29	0.92	0.89	0.72	0.01	0.01	0.07	0.04	0.05	0.03	0.03
17	1.81	1.88	1.74	0.63	0.73	0.44	0.96	0.98	0.91	0.01	0.03	0.10	0.14	0.09	0.08	0.08
18	2.18	2.16	2.51	0.90	0.77	0.75	0.94	0.97	0.96	0.03	0.06	0.28	0.22	0.31	0.23	0.23
19	2.46	2.40	3.01	0.93	0.78	0.84	0.94	0.92	0.96	0.07	0.09	0.41	0.41	0.48	0.43	0.43
20	2.62	2.68	3.23	0.92	0.83	0.81	0.91	0.90	0.94	0.15	0.17	0.48	0.47	0.65	0.55	0.55
21	2.80	2.93	3.37	0.89	0.88	0.78	0.88	0.87	0.92	0.24	0.27	0.58	0.56	0.75	0.68	0.68
22	3.00	3.12	3.34	0.83	0.92	0.72	0.87	0.86	0.91	0.36	0.35	0.64	0.66	0.85	0.69	0.69
23	3.13	3.32	3.15	0.77	0.90	0.56	0.86	0.84	0.89	0.46	0.53	0.67	0.74	0.88	0.68	0.68

Table 3 continued

	Joint entropy		School attendance contribution		Employment contribution		Ever-marriage contribution		Household headship contribution						
24	3.17	3.35	3.12	0.74	0.84	0.55	0.86	0.81	0.89	0.53	0.66	0.69	0.73	0.88	0.67
25	3.21	3.37	2.95	0.70	0.80	0.51	0.88	0.80	0.90	0.61	0.76	0.65	0.72	0.86	0.59
26	3.26	3.32	2.91	0.67	0.74	0.48	0.89	0.80	0.93	<i>0.69</i>	0.84	0.66	0.72	0.80	0.61
27	3.30	3.24	2.76	0.63	0.70	0.48	<i>0.90</i>	<i>0.78</i>	0.92	<i>0.77</i>	0.86	0.61	0.71	0.74	0.53
28	3.20	3.18	2.72	0.60	0.67	0.45	<i>0.91</i>	0.81	0.92	<i>0.74</i>	0.89	0.59	0.67	0.66	0.54
29	3.10	3.10	2.56	0.58	0.65	0.40	<i>0.93</i>	0.81	0.92	<i>0.72</i>	0.90	0.59	0.63	0.61	0.47

OZ: Australia; CA: Canada; US: United States.

Note: Boot strapped confidence intervals are used to calculate statistically significant differences between countries. For OZ, bold refers to a statistically significant difference with the US and italics refers to CA; For CA, bold refers to a difference with the US and italics refers to OZ; For US, bold refers to a difference with CA and italics refers to OZ. Age-specific statistics for Australia are interpolated for ages 25–29 based on grouped data for ages 25–29 and ages 30–34 using grouped data as mid = point (age 27)

3 Results

In all three countries, joint entropy follows a very similar pattern (Fig. 1a and b), starting off at age 16 with similarly low levels of entropy which rise quickly and peak at ages between 21 and 27 for men and women alike. The low levels at ages 16 and 17 indicate that at these young ages there is little heterogeneity in the combinations of school, work and family statuses. The majority of these teenagers are in school, not employed, not married and not a household head. After peaking, entropy gradually drops, though it is truncated here at age 29. The inverted-U shape of the distribution suggests that the social structures under investigation—school attendance, employment, marriage, and household headship—structure the transition to adulthood similarly, but these social structures differ in how they age-grade the life course.

Late adolescence is very similar in each country for each sex. Only after age 17 do important differences emerge between countries and between genders within

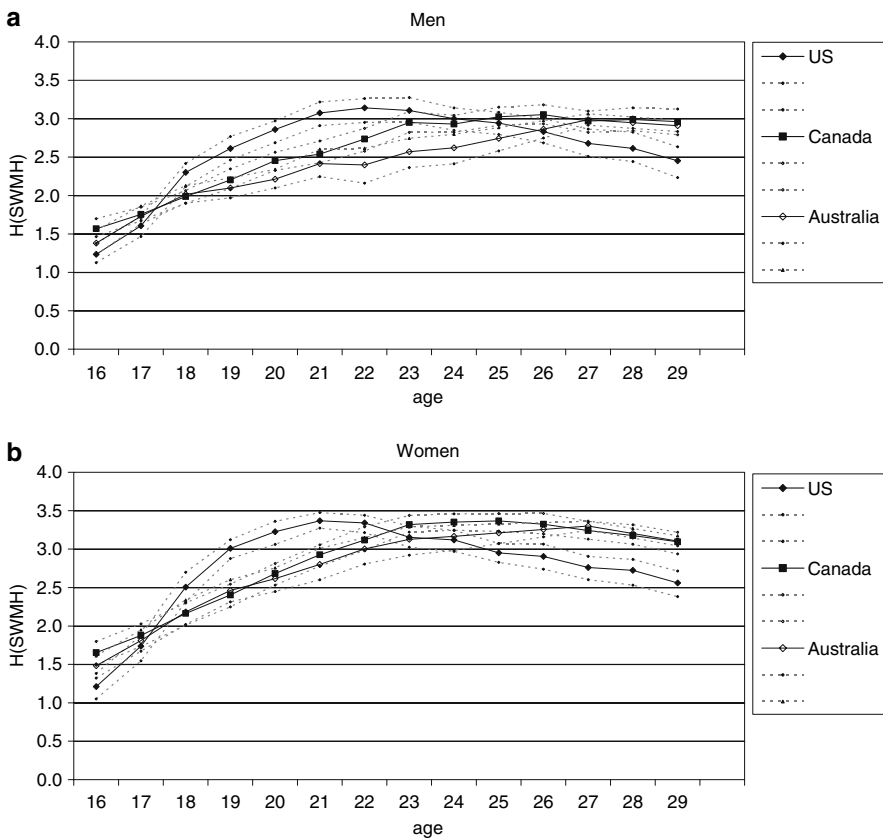


Fig. 1 (a and b). Joint entropies for men and women in Australia, Canada, and the U.S., 2000/2001. Note: Dashed lines represent corresponding 95% confidence intervals

countries. Male and female Australian cohorts experience peak entropies at age 27, while in Canada entropy peaks at 26 and 23, respectively, and in the United States these ages are 22 and 21. The differences between Australia and Canada are minimal, but joint entropy is significantly higher in the United States at ages 19 through 22, and lower at ages 27–29. Table 3 provides the age-specific joint entropy measures for each country (on which Fig. 1a and b are based) and shows statistically significant differences between them. The distinct contributions of each status to joint entropy allow us to gauge how much each social structure accounts for these national-level differences in age-specific heterogeneity. We present graphically only the results for school attendance and marriage since we find those to be most important.

Schools most strongly age-grade the life course (Fig. 2a and b). In all three countries, the contribution of school attendance to joint entropy is smallest at the beginning and end of the age range, and the peak ages reflects the degree to which post-secondary education is concentrated at traditional (18–22) or older, non-

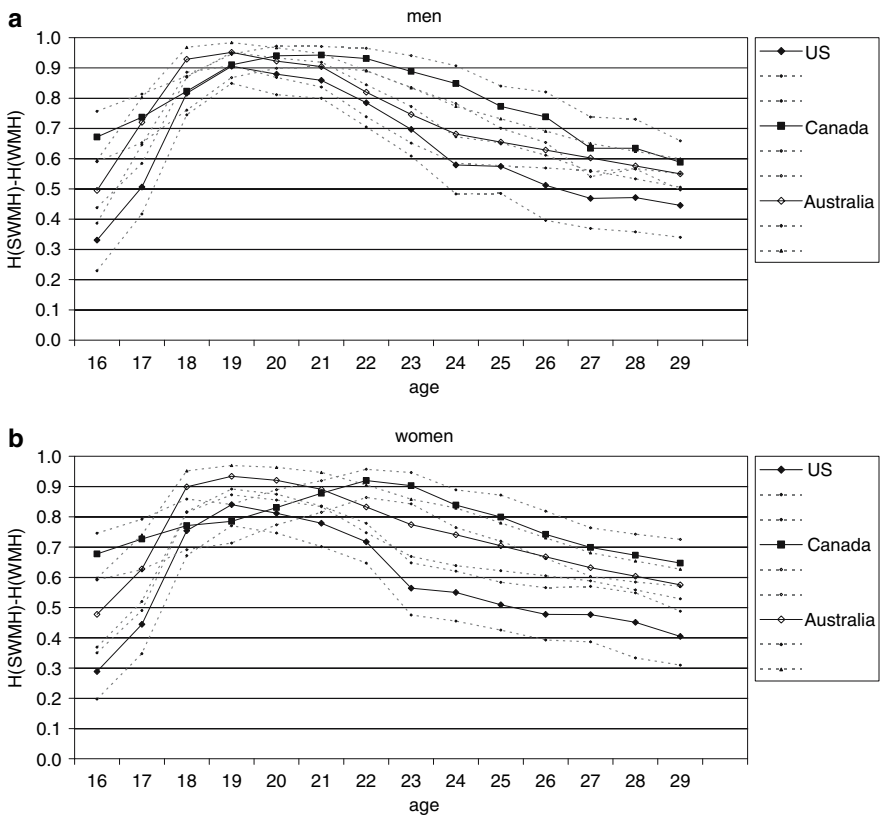


Fig. 2 (a and b) Contribution of school attendance to joint entropy, men and women, Australia, Canada, and U.S., 2000/2001. *Note:* Dashed lines represent corresponding 95% confidence intervals

traditional ages. In Australia, school attendance contributes most—more than 80% of its potential—to joint entropy for men and women between ages 18 and 22, traditional post-secondary ages. At those ages, the cohorts are nearly evenly split between students and non-students. In the United States, the pattern is similar for men and women, but the contribution is smaller because there are fewer students at these ages than in Australia (see Table 2). This reflects the concentration of post-secondary education in traditional ages and varying rates of attendance. In Canada the contribution of school attendance to joint entropy remains higher much longer than in Australia and the United States, since school attendance at non-traditional ages is more common for men and women there. Notably, the contribution of school attendance to joint entropy is not diminished by its coordination with any of the other statuses, as indicated by the lack of mutual information of school with employment, ever-marriage, and household headship (Table 4). Clearly, education is an important, though age-specific, source of heterogeneity in the cohort experience of transition to adulthood that varies among nations, but contributes significantly to the age at which joint entropy peaks.

Labor market entry is more difficult for young people in some countries than in others, but in these three liberal welfare regimes there are few structural barriers to employment. In each of the three countries, employment contributes between 80% and 100% of its potential to joint entropy at ages 16 through 20 for men and women alike. After age 20, consistent gender differences emerge. Among men, the contribution of employment to joint entropy steadily drops, more quickly in the United States than in Australia or Canada because of the higher percentage of men employed at each age in the United States. In contrast, employment contributes 80% or more of its potential to joint entropy for women at nearly all ages in all three countries. In other words, age-specific employment is more strongly guided by common gender norms than national-level social structures.

U.S. men and women enter into marriage earlier than their Australian and Canadian peers, raising the contribution of marriage to joint entropy between ages 18 and 25 for men and 18 and 23 for women, significantly higher than that in the other countries (Fig. 3a and b). Entry into marriage makes similarly low contributions to joint entropy for Australian and Canadian men until the late 20s, when Canadian men and women experience higher contributions of marriage to joint entropy than their Australian peers. Household headship also contributes to differences in joint entropy among men, since Australian men of all ages are less likely to be household heads than either Canadian or U.S. men.

Another factor that lowers the contribution of these statuses to joint entropy is the fact that marriage and headship are more tightly coordinated than other statuses, especially in the early- to mid-20s (Fig. 4a and b). These statuses are much less coordinated among Australian and Canadian men and women compared to their peers in the United States at ages 20–23 and 17–21, respectively, though they are particularly weakly coordinated for Canadians since cohabitation is more frequent there and not counted in our measure of ever-married (Heuveline and Timberlake 2004). These results reveal that the process of transition to marriage and household headship is quite different in the three countries despite the fact that the mean age at marriage is similar (Table 1). In Australia, the delay in establishing household

Table 4 Mutual information of status pairs, Australia, Canada, and U.S., 2000/2001

	School-work			School-marriage			School-headship			Marriage-work			Headship-work			Marriage-headship		
	OZ	CA	US	OZ	CA	US	OZ	CA	US	OZ	CA	US	OZ	CA	US	OZ	CA	US
Men																		
16	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.06	0.02	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.04	0.02	0.04	0.00	0.00	0.02	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.05
19	0.03	0.02	0.06	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.09
20	0.04	0.03	0.06	0.00	0.00	0.03	0.01	0.01	0.02	0.00	0.00	0.01	0.00	0.00	0.02	0.02	0.01	0.17
21	0.04	0.03	0.05	0.01	0.01	0.04	0.01	0.01	0.01	0.00	0.00	0.02	0.01	0.01	0.02	0.06	0.01	0.17
22	0.04	0.04	0.03	0.01	0.01	0.04	0.02	0.01	0.01	0.00	0.00	0.03	0.02	0.00	0.03	0.08	0.03	0.25
23	0.06	0.03	0.02	0.00	0.01	0.02	0.01	0.02	0.01	0.00	0.00	0.02	0.02	0.01	0.02	0.10	0.04	0.27
24	0.06	0.03	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.02	0.05	0.01	0.04	0.17	0.06	0.23
25	0.05	0.03	0.02	0.00	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.05	0.01	0.04	0.19	0.06	0.22
26	0.05	0.02	0.01	0.00	0.00	0.01	0.02	0.00	0.00	0.01	0.01	0.02	0.05	0.01	0.03	0.20	0.08	0.19
27	0.04	0.03	0.01	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.06	0.02	0.05	0.22	0.09	0.19
28	0.04	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.02	0.06	0.01	0.05	0.22	0.10	0.17
29	0.04	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.06	0.03	0.04	0.22	0.10	0.20
Women																		
16	0.00	0.01	0.00	0.01	0.00	0.04	0.02	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.05
17	0.01	0.01	0.00	0.01	0.01	0.08	0.04	0.01	0.07	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.15
18	0.03	0.01	0.01	0.01	0.01	0.08	0.02	0.02	0.09	0.01	0.00	0.01	0.00	0.00	0.00	0.02	0.01	0.18
19	0.01	0.00	0.01	0.00	0.01	0.11	0.03	0.04	0.09	0.01	0.00	0.00	0.01	0.00	0.00	0.03	0.02	0.26
20	0.01	0.01	0.01	0.01	0.02	0.13	0.05	0.05	0.09	0.01	0.00	0.01	0.00	0.00	0.00	0.05	0.04	0.33
21	0.01	0.01	0.01	0.01	0.02	0.13	0.04	0.07	0.07	0.01	0.00	0.01	0.02	0.00	0.00	0.10	0.05	0.28
22	0.02	0.01	0.00	0.02	0.03	0.08	0.05	0.04	0.04	0.01	0.01	0.02	0.01	0.00	0.01	0.15	0.05	0.29
23	0.03	0.01	0.00	0.01	0.03	0.04	0.03	0.04	0.02	0.01	0.01	0.03	0.00	0.00	0.01	0.14	0.07	0.26
24	0.01	0.01	0.00	0.01	0.02	0.02	0.02	0.04	0.01	0.01	0.01	0.04	0.01	0.00	0.01	0.21	0.06	0.23

Table 4 continued

	School-work	School-marriage	School-headship	Marriage-work	Headship-work	Marriage-headship
25	0.01	0.01	0.02	0.01	0.01	0.08
26	0.01	0.01	0.02	0.01	0.00	0.16
27	0.01	0.01	0.02	0.01	0.00	0.17
28	0.01	0.01	0.01	0.02	0.00	0.15
29	0.01	0.00	0.02	0.01	0.00	0.11

OZ: Australia; CA: Canada; US: United States

Note: Boot strapped confidence intervals are used to calculate statistically significant differences between countries. For OZ, bold refers to a statistically significant difference with the US and italics refers to CA; For CA, bold refers to a difference with the US and italics refers to OZ; For US, bold refers to a difference with CA and italics refers to OZ. Age-specific statistics for Australia are interpolated for ages 25–29 based on grouped data for ages 25–29 and ages 30–34 using grouped data as mid = point (age 27)

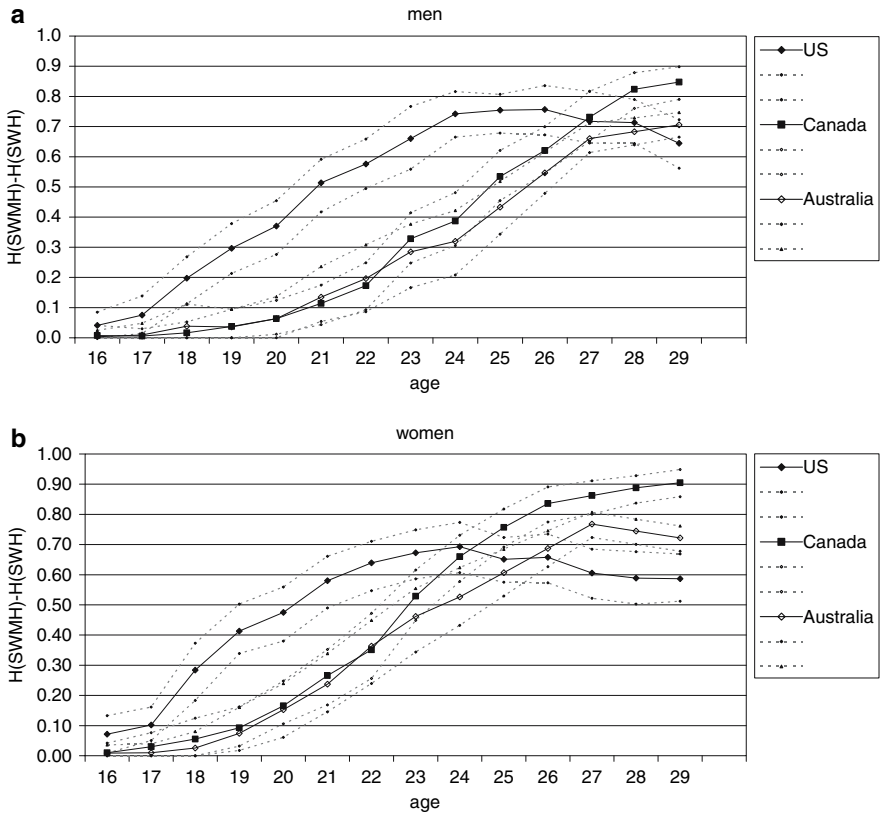


Fig. 3 (a and b) Contribution of ever-marriage to joint entropy, men and women, Australia, Canada, and U.S., 2000/2001. *Note:* Dashed lines represent corresponding 95% confidence intervals

headship among men may inhibit entry into marriage. In Canada, there is no delay in household headship but marriage is also deferred for men and women alike.

The preceding analysis shows that the contributions of each status to joint entropy and mutual information reveal the sources of heterogeneity at specific ages, thus explaining the differences in the patterns seen in the age-specific distribution of joint entropy. During adolescence, school is a homogenizing social structure which then becomes a source of heterogeneity at post-secondary school ages. These three countries differ in how young people proceed onto post-secondary education, contributing to distinct levels of heterogeneity throughout the 20s. Cohorts' timing of entry into marriage and household headship also strongly differentiates the three countries. Whereas entry into marriage and headship contribute to higher levels of heterogeneity at earlier ages for men and women in the United States, they raise heterogeneity later for men and women in Canada and Australia. The weak coordination of marriage and household headship contributes further still to Australian and particularly Canadian men's and women's higher joint entropy at older ages. In both countries, entry into marriage is delayed perhaps because cohabitation is an increasingly acceptable substitute (Evans and Gray 2005; Le

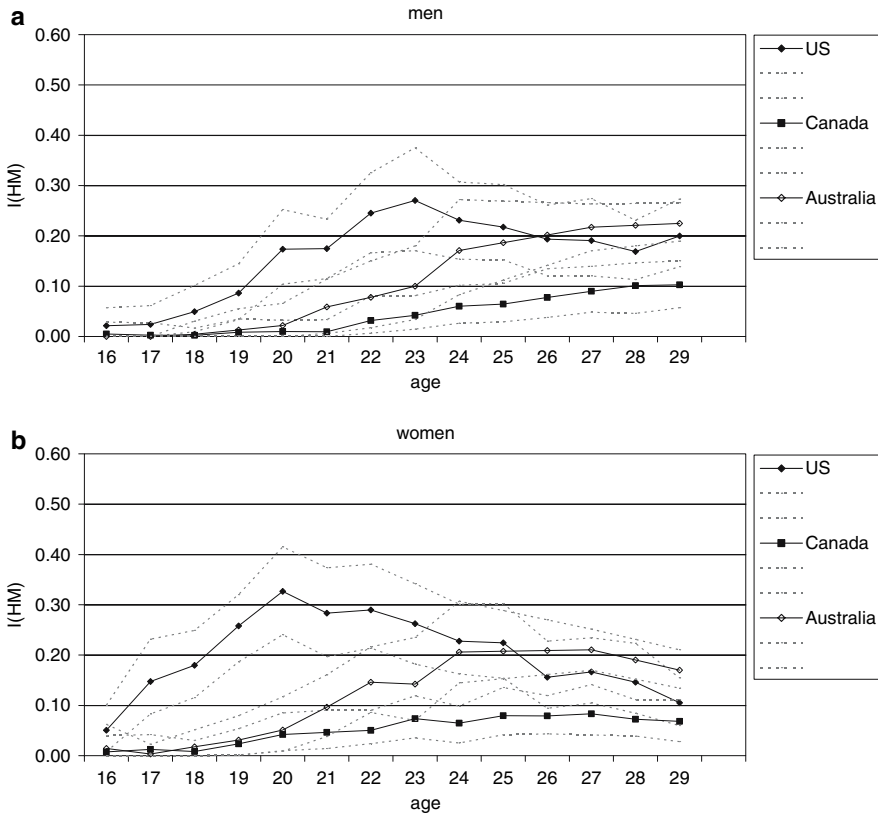


Fig. 4 (a and b) Coordination of ever-marriage and household headship, men and women, Australia, Canada, and U.S., 2000/2001. *Note:* Dashed lines represent corresponding 95% confidence intervals

Bourdais and Lapierre-Adamcyk 2004). In Australia, men's delay in establishing household headship compounds this weak coordination and further raises joint entropy (Fleateau et al. 2007).

4 Discussion and Conclusion

This article presents a unique method for measuring heterogeneity and its sources in the young adult life course. By examining three broadly similar countries in terms of their social, political, and economic structures and finding marked differences in the life course of young adults, we illustrate the power of entropy analysis for informing comparative life course research. The analysis presented here moves beyond the comparison of aggregate measures (predominantly of central tendency) to examine the prevalence and combination of life course events throughout young adulthood. This allows us to highlight and explain differences in the way in which youth cohorts in each country negotiate the transition to adulthood.

Education cannot be understated as an institution that molds the lives of young adults. Through the late teens, uniform levels of high-school attendance constrain heterogeneity, consistent with similar ages of mandatory education in all three countries. In each country post-secondary education has become increasingly important as labor markets require more and more skilled workers, thus it strongly structures late adolescence and early adulthood. Differences emerge in the extent to which post-secondary education is concentrated in traditional post-secondary ages and the absolute level of participation. For example, the greater contribution of school attendance to joint entropy through the mid-20s in Canada corresponds to the results reported in Table 1 showing that a larger proportion of Canadians attain post-secondary education and do so at non-traditional ages, whereas these figures are lower and concentrated at traditional ages in Australia and the United States. Employment also structures the young adult life course although the differences occur between men and women rather than between countries, as we also saw in Table 1.

In contrast to the transitions to economic adulthood, as characterized by leaving school and entering employment, the transition to social adulthood, as measured by marriage and household headship, is quite different between the three countries. The most marked difference—entry into parenthood—is not measured in the entropy analysis (or by national censuses). The higher teen pregnancy rate and total fertility rate in the United States may be both cause and consequence of the earlier transition to marriage and household headship there, whereas in Australia and Canada, later and less childbearing are associated with later entry into marriage and household headship. Since all three countries are similar in terms of their economic and employment characteristics, these differences in the transition to social adulthood appear to be more a function of differences in values and marriage markets than economic ability to support a family. The differences in the coordination of entry into marriage and household headship is consistent with the finding that the United States is more traditional on the World Values Survey's traditional-secular scale.

These differences illustrate that United States youth experience a more uniform and shorter transition to adulthood than their peers in Australia or Canada, even though this transition is increasingly prolonged in all three countries. The earlier transition in the United States is mostly due to the concentration of education in traditional school ages, an earlier entry into employment and, to a lesser extent, an earlier and more coordinated transition into marriage and household headship. In other words, the postponement of the transition to adulthood that has been widely observed appears to be more pronounced in Australia and Canada than in the United States and differs qualitatively as well. The United States contrasts strongly with Australia and Canada because of the relatively stronger and earlier contribution of marriage to joint entropy. Marriage is more closely linked to values than to social institutions, and the more traditional values expressed in the United States suggests a qualitative difference with respect to the other two countries. This explanation may be explored further with an entropy analysis of sub-populations within the United States since distinct ethnic groups exhibit very different family formation patterns, reflecting different values and orientations toward school, work, and family.

The entropy analysis of age-specific status combinations adds a new tool to the life course tool box—one that is particularly useful for comparing the life course

across populations for which comparable data are limited or for analyzing the life course in populations where census data is the only source of population information. The comparison of Australia, Canada, and the United States—three countries with minimal differences in the structure of the life course—provides a test of the utility of this tool for comparing the structure of the young adult life course. It deepens our ability to reveal differences between countries in the prolongation and diversification of the transition to adulthood on the basis of social institutions and social norms that exist in those countries.

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Appendix: Status Combination Variable

Status	Code
Headship status: Is head or spouse of head of household	1—
Headship status: Is not head or spouse of head of household	0—
Marital status: Ever-married	-1-
Marital status: Never-married	-0-
Labor force status: In labor force	-1-
Labor force status: Not in labor force	-0-
School status: Attending school	—1
School status: Not attending school	—0

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