Research Institute for Quantitative Studies in Economics and Population
Faculty of Social Sciences, McMaster University
Hamilton, Ontario, Canada
L8S 4M4

AGE-GAPPED AND AGE-CONDENSED LINEAGES: PATTERNS OF INTERGENERATIONAL AGE STRUCTURE AMONG CANADIAN FAMILIES

Anne Martin-Matthews, Karen M. Kobayashi
Carolyn J. Rosenthal, Sarah H. Matthews

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Carolyn Rosenthal is a QSEP Research Associate and a member of the McMaster Centre for Gerontological Studies. Anne Martin-Matthews and Karen Kobayashi are members of the University of British Columbia School of Social Work and Family Studies. Sarah Matthews is a member of the Department of Sociology at Cleveland State University.

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by

Anne Martin-Matthews, Ph.D.[1]
Karen Midori Kobayashi, Ph.D.[1]
Carolyn J. Rosenthal, Ph. D.[2]
and
Sarah H. Matthews, Ph. D.[3]

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[1] School of Social Work and Family Studies, The University of British Columbia, 2080 West Mall, Vancouver, B.C. V6T 1Z2.

[2] Center for Gerontological Studies, McMaster University, Hamilton, Ontario L8S 4MS

[3] Dept. of Sociology, Cleveland State University, Cleveland, Ohio, USA.

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Abstract:

This paper examines intergenerational connections within Canadian families. Its focus is on intergenerational age structure, the interval or 'gap' in years that separates one generation from the next. Intergenerational age structure is measured in terms of the age of a mother at the birth of her first child. Using data from the 1995 General Social Survey of Canada, the study examines the socio-demographic characteristics of women (n=404) in three- and four-generation families (lineages) that are *age-condensed (*small age distances between generations that are the result of early fertility) and those that are *age-gapped* (with large age distances between generations that are the result of late fertility patterns). Across two generations of women, there is a striking similarity in the distributions of age at first birth with just under one-third of the sample having early fertility, just over one-half falling into a normative or "on-time" category, and one-seventh having delayed fertility. However, when matched pairs of mothers and daughters are compared across generations, age-condensed and age-gapped lineage patterns show considerable variability. Although just under one-half of mother-daughter dyads show lineage consistency in family age structure across three generations (most typically in age-condensed/age-condensed or normative/normative age structures), low percentages of women whose family of origin was age-gapped repeat that age structure pattern in their own families of procreation. Socio-demographic factors such as mother's and daughter's age, family size, age at first marriage, and level of education are associated with lineage continuity and discontinuity in family age structure.

Introduction

This paper examines intergenerational connections within families over time. The focus is on "temporal aspects of life patterns" (George and Gold, 1991) within families and among families of different generations in the same lineage. Our specific interest is in the interval between generations: the 'gap' in years that separates one generation from the next, the age of a mother from the age of her child.

Burton (1996) argues that "...within kin systems, family members may be channeled into parental and grandparental roles according to age norms that are grounded in a broader social context, but revised, adapted and implemented by the kin network. Age norms, the core of kin age systems, are socially governed expectations and sanctions concerning the appropriateness of role acquisitions and behaviors as a function of chronological age. These expectations form elaborate systems which provide prescriptive timetables for the ordering and sequencing of familial role transitions. Individual family members anticipate certain transitions and the time at which they should occur..." (Burton, 1996: 199). As Neugarten, Moore and Lower (1965:711) have noted, "age norms and age expectations operate as prods and brakes upon behavior, in some instances, hastening an event, in others delaying it". In this paper, we examine selected behaviours associated with generational age structure across multiple generations in the same family, and we endeavour to discern what these patterns may mean in the lives of families over time.

In so doing, our focus is on the extent of 'informal age structuring' which may characterize families. Settersten (1999: 65) has observed that "individuals use age-linked mental maps to organize their own lives, the lives of others, and their general expectations about the life course....These maps in turn serve an important human need for order and

predictability...individual's perceptions of these models, and the degree to which age is embedded in them, may be powerful forces in determining how the life course is actively negotiated and experienced". He further observes (1999: 68) that "the family sphere ...may not be structured by age to the same degree as the economic and political spheres. ... [however]... the degree of formal and informal age structuring may vary by life sphere".

Several key concepts guide our inquiry: age-condensed family structure and age-gapped family structure. Early fertility (specifically, becoming parent at a comparatively young age) is linked to what has been termed an 'age-condensed' family structure. Such early fertility results in small age distances between generations: that is, not only a young mother, but also in young grandparents and, perhaps, young great-grandparents. As Bengtson, Rosenthal and Burton (1990) have noted, in age-condensed families, boundaries between generations are likely to blur because of the narrow age gap between them. There is evidence that age-condensed families are more prevalent among black than white families in the U.S. (Burton, 1990); however, in an analysis of U.S. National Longitudinal Survey data, Caputo (1999) found just the opposite: black women were more likely to reside in age-gapped families.

In describing the age structure of intergenerational families when entry to parenthood is early (Burton 1996) notes that "the boundaries between generations are not necessarily consistent with age, developmental life stage, and role status in these families". In citing an extreme example where a new generation is born every 14 years, Burton notes that "this pattern produces a condensed, overlapping intergenerational structure... [where] family roles are chronologically and developmentally out of synch with generational position." Burton found, for example, that patterns of on-time parenthood are more likely to produce grandparental roles for women in which they are

not expected to be the primary caregiver for their grandchildren.

In contrast, age-gapped family structure is associated with delayed childbearing, typically operationalized as having the "first child born at age 30 or later, and is especially likely if delayed fertility has been a family pattern, affecting multiple generations" (Bengtson et al, 1990). It has been hypothesized that the larger age differences across generations, characteristic of age-gapped families, may hinder the development of affective bonds and value congruence across generations.

In the decade since Bengtson et al. (1990) and George and Gold (1991) noted the lack of empirical studies of age-gapped and age-condensed families, only Caputo (1999) has sought to address this issue. It therefore remains the case that "such studies are badly needed. It is likely that an age-gapped family structure has implications for generational and intergenerational relationships... studies that compare age-condensed and age-gapped families would be especially valuable" (George & Gold, 1991:76). This paper addresses this lack in the literature. It examines the patterns of these two types of family age structure, and does so through a comparison of age-condensed and age-gapped family structures across multiple generations of family lineages.

In addressing these issues, as fundamentally reliant as they are on the presumed importance of age differences between generations, we nevertheless recognize the importance of Settersten's observation that "chronological age by itself is an 'empty' variable. We rarely assume that age *itself* causes behavior; instead, it is whatever age presumably indexes that is important" (1999: 77). Our inquiry thus concerns the patterns and behaviours indexed by age structure variations across generations in a family lineage. Put simply: what does intergenerational family age structure index?

Research Questions

Four primary questions guide this analysis:

1) What is the incidence of age-condensed (AC) and age-gapped (AG) age-structures among a sample of adult daughters and their mothers?

2) When examined in terms of lineage (multiple generations of the same family), is there evidence of informal age-structuring within families across generations? In other words, are there patterns of consistency in family age structure within lineages?

3) Are there socio-demographic correlates of being in one type of family age structure versus another?

4) Are there socio-demographic correlates of being in age-condensed versus age-gapped lineages, when that pattern persists across generations?

Methods

This study uses data from the 1995 (Cycle 10) General Social Survey (GSS) of Canada to estimate the incidence of three- and four-generation age-condensed and age-gapped families. The 1995 cycle of the GSS is a national survey monitoring changes in Canadian family structures. Data for the 1995 GSS were collected monthly from January to December 1995. The target population was all persons 15 years of age and older living in private households in one of the ten provinces, excluding full-time residents of institutions. Using random digit dialing techniques, the sample population was selected. In total, 10,749 respondents were interviewed by telephone. For the purposes of this intergenerational study, both the main and child data files of the 1995 GSS data set were merged according to the identification number of the respondent before the sample was selected.

The selected sample for the current study (N = 404) is all female adults with a living mother who are only or eldest children, and who have at least one natural child at the time of the survey. Because of limitations with the data set, stringent eligibility criterion were required in order to achieve the requisite sample characteristics; this, however, substantially limited the sample size, for important methodological reasons. Because the study did not ask the respondent how old her mother was when she (respondent) was born, the only way in which we could determine the difference in age between a respondent adult daughter and her mother was to subtract the daughter's age from that of her mother. Mother's age was known only for living mothers; therefore the sample was reduced only to those women who reported that their mother was still alive.

Sample selection was limited to eldest or only children because the GSS cycle 10 did not collect age data for respondent's siblings. Because our focus is on the multi-generational family over time, it was important to define generational age status as 'condensed' or 'gapped' on the basis of the mother's age at the time that her first child was born, the point at which the succeeding generation is created. While elsewhere we consider the implications of the birth interval between sibling children on family age structure (Kobayashi et al., 2001) , our focus here is on the age interval at the point when a new generation is added to a family. GSS data could tell us what that interval was only if the adult respondent was the first-born or only child in the second generation; this selection criterion thus also was a sample-limiting criterion. In addition, because of our research interest in patterns across successive generations, an adult female respondent to the GSS could only be included if she herself was the mother of at least one child, for here again our interest was in analyzing the interval between the respondent's generation and that of her children. This eligibility criterion also reduced the sample size.

The analysis of lineage patterns therefore utilizes data on a minimum of three generations: G1

(the mother of the respondent); G2 (the respondent herself); and G3 (the child of the respondent). Just over a fifth of the G2 respondents (n=89) were also grandmothers (meaning, of course, that a similar number of G1 mothers were great-grandmothers), thus indicating the presence of a G4 in 22% of the lineages we studied. However, because the GSS provided no data on the ages of the children in G4, we are not able to analyze the age structure characteristics of the G3-G4 generation. Nevertheless, their existence in one-fifth of the lineages being examined here is a relevant characteristic of these families, as will be shown.

The variables "age-condensed" and "age-gapped" were created using data on *age at birth of first or only child* for the sample. The respondent's mother's (G1) *age at first or only child's birth* is calculated using age of living mother minus age of the respondent. Respondent's (G2) *age at birth of first or only child* is calculated using the *respondent's age* minus the *age of first natural child*.[1] For example, the interval between G1 and G2 is categorized as representing an *age-condensed* family structure if the G1 mother gave birth to the G2 respondent when she was 21 years of age or younger. Thus, in the analysis, we describe the G1 mother as in an age-condensed family age structure. We categorize the G1 mother as an *age-gapped* family age structure, if she gave birth to the respondent at the age of 30 or older. Similarly, a respondent (G2) is defined as in an *age-condensed family age structure* if she gave birth to her first child when she was 21 years of age or younger, and in an *age-gapped* family age structure if her first child was born when she was age 30 or older.

In creating these "chronologically bounded categories" (Fry, 1996), we have taken care to ensure that they are not what Settersten has decried as "arbitrarily-defined age brackets" (1999:77). Rather, these cut-offs were selected based on the findings of other researchers (Burton, 1996; Caputo, 1999) and are intended to reflect what 'age indexes" in ways that are meaningful and salient for

families. However, it should be noted that while both Burton and Caputo set the age cut-off for age-condensed families at age 19 (to be considered in age-condensed family age structures, women had to have given birth to their first child by age 19 or younger), Canadian data (Beaujot, 1998) suggest that age 21 is a more appropriate cut-off in our national context (Kobayashi et al., 2001 discuss this point more fully). The inclusion of data on African Americans, and their acknowledged high rates of early fertility, were factors contributing to the lower age cut-offs in the U.S. samples cited.

Our decision-making, especially in relation to the definition of age-gapped structures, was also guided by the unexpectedly relevant findings of a study, being conducted by the first author, of couples receiving treatment for infertility (Martin-Matthews and Matthews, 2001). In that research, the verbatim accounts of the couples seeking treatment for infertility indicate that individuals bring to the infertility experience and treatment process very specific ideas as to acceptable intervals between generations within a family lineage. Respondents consistently provided negative appraisals of age-gapped family structures, alluding repeatedly to their families of origin and and their perceptions of the role of large age differences in defining parent - child relations. They expressed these concerns in terms such as: "My Mom had kids late and had lots of problems. I should start young; it's too late in your 30s"; and "My Dad was 31 when I was born. He didn't do anything with me" (*ibid.*: 199). Based on our analysis of these accounts, and guided by the work of researchers such as Burton and Caputo, the selection of age 30 as the criterion for defining age-gapped family structures was appropriately conceptually grounded.

For the purposes of this analysis, it was also necessary to classify the "residual" category, that is, women whose age at birth of their first child defines them neither as *age-condensed* (21 years of age or younger) nor as *age-gapped* (age 30 or older). This classification, which applies to women whose age

at birth of their first child was between 22 and 29 years of age, we have termed "normative". This term is used only to represent the residual category between *age-condensed* and *age-gapped*, and is not used to imply that these ages are necessarily "normative" for their time period, even though the age period does encompass the average age at most Canadian women become mothers. Throughout this paper, we present data on the respondents in age normative family age structures, although they are discussed in the analyses only in referencing comparisons and contrasts to the age structures of interest: age-gapped and age-condensed.

While this analysis is based on the mother (G1) and daughter (G2) dyad, in fact we have data on the third generation, in that by definition in this sample all the G2 women are mothers. We know how old they were at the time of the birth of their first child and we know something of the characteristics of this G3 family (whose presence necessarily makes the G1 women grandmothers, and, for about 20%, also great-grandmothers). In that sense, then, we may think of these as "lineage units" in Burton's (1996) terms, although in her case she studied mothers, grandmothers and great-grandmothers.

In the separate analyses of the G1-G2 age structure intervals (linked to the G1 mother) and G2-G3 age structure interval data (linked to the G2 mother) , we have three family age-structure categories: *age-condensed*, *normative* and *age-gapped*. However, when these structures are analyzed in lineage terms, there are actually nine multi-generation family age-structure categories. For example, when the G1-G2 age structure interval is age-condensed (AC), the G2-G3 interval may be either AC, normative (N) or age-gapped (AG). Thus, we have possible three lineage age structures: AC-AC; AC-N; and AC-AG. If, for example, the G1 mother was 18.7 years of age when her first child was born (reflecting an age-condensed family age structure), and her daughter was 20.6 when her own first child was born

(similarly an age-condensed family age structure), this was classified as having an AC-AC (age-condensed/age-condensed) lineage age structure pattern.

When the G1-G2 age structure interval is N, the G2-G3 interval may be either AC, N or AG. Thus, we have three possible lineage age structures: N-AC; N-N; and N-AG. A G1 mother who was 25.3 years of age when her first child was born (reflecting a normative family age structure), with a daughter who was 31.6 years of age when her own first child was born (an age-gapped family age structure), was classified as having a N-AG (normative/age-gapped) lineage age structure pattern.

When the G1-G2 age structure interval is AG, the G2-G3 interval may again be either AC, N or AG. Thus, we have three more possible lineage age structures: AG-AC; AG-N; and AG-AG.[2] Therefore, a G1 mother who was 32.7 years of age when her first child was born (reflecting an age-gapped family age structure), with a daughter who was 20.4 years of age when her own first child was born (an age-condensed family age structure), was classified as having an AG-AC (age-gapped/age-condensed) lineage age structure pattern.

The continuity of age structure patterns across lineages, and the socio-demographic correlates thereof, is a particular interest in this research. This lineage age-structure continuity is operationalized as being the same age structure category for both the G1-G2 and the G2-G3 intervals. For example, in an age-condensed (G1-G2) – age condensed (G2-G3) intergenerational family structure pattern, there is lineage age-structure continuity in that *both* the respondent *and* her mother gave birth to their first children when each was 21 years of age or younger, and these successive generations thus each had an age-condensed family structure. The other type of lineage age-structure continuity analyzed here occurs when both the G1-G2 and G2-G3 intervals reflect an age-gapped structure.

The profile of age-condensed and age-gapped families and lineages is examined in terms of selected socio-demographic characteristics. These include: (1) current age of G1 mother; (2) current age of G2 respondent; (3) age of respondent at first marriage; (4) educational status of respondent; (5) living arrangements of respondent; (6) current marital status of respondent; (7) family size of respondent; (8) respondent's attitude towards mother and (9) presence of G4 in the lineage (the G2 respondent is a grandmother).

Because this paper is based on a secondary analyses of an existing data set, we were again limited in the range of variables available for analysis. The demographic variables were chosen because they do enable us to consider whether, in Settersten's terms, family age structure variability is 'indexing' other structural characteristics of the individuals in these categories, or of the lineages to which they belong. Ideally, we would have wished to examine more fully some of the propositions implied by Bengtson et al. in suggesting that age-gapped structures may hinder the development of affective bonds and value congruence across generations. Certainly, the findings, cited previously, of the qualitative data in the fertility study (Martin-Matthews and Matthews, 2001) support this observation. However, only one question in the GSS 1995 permitted a preliminary exploration of this relationship. Respondents were asked whether or not they considered themselves to be 'close' to their mothers. We hoped, with this measure, to get even a preliminary indication of variability in inter-generational affective bonds across family age-structure categories.

For the bivariate analysis, age variables are recoded as ordinal level variables. Current age of G1 mother is recoded as 55 years of age and under, 56-65 years, and over 65 years. Similarly, current age of G2 respondent is recoded as 30 years and younger, 31-40 years, 41-50 years, and over 50 years. The

recoded value for age of respondent at first marriage results in three categories: under 21 years of age; 21-25 years; and over 25 years.

The variable, living arrangements, is defined as the people with whom the respondent lives, and includes the following categories: alone, with spouse, with spouse and child/other, with child and no spouse, and with parents. The current marital status of the respondent is recoded as married/common-law, divorced/separated, widowed, and single. Family size is operationalized as respondent's number of natural children, categorized as one child, 2-3 children, and 4 or more. The methods used to analyze the data include descriptive and bivariate statistical techniques.

Results

[Table One about here]

Our first research question considers the incidence of age-gapped and age-condensed families among this sample of adult daughter and their mothers. Table One presents the distributions of the age structure variables, showing the proportion of the sample in each of the three age structure categories. Let us look first at the G1 mothers, whose mean age in 1995 was 64.7 years (sd =13). These women were born between 1918 and 1942, with the average being around 1930. They are now between 58 and 82 years of age. Among this cohort of women, mean age at the birth of their first child was 24.34 years (sd = 5.26).

For their daughters, the G2 respondents, the mean age is 40.3 years (sd=12). These women were born between 1944 and 1967, with the average being around 1955. They are now between 33 and 56 years of age. Among this cohort, the mean age at birth of their first child was 24.43 (sd= 4.85). The G1 women in our sample are the mothers of the baby boom; the G2 women largely represent the baby

boom generation of Canadian women (although some were born prior to 1948 and some after 1960-1, generally acknowledged as the period of the baby boom in Canada).

In terms of incidence, close to one-third of the cohort of G1 women had fertility patterns which we associate with an age-condensed family structure. Only about one in seven (13%) had an age-gapped family structure.

Among the G2 respondents, the daughters of the G1 women, one-third had fertility patterns associated with an age-condensed family structure and one in seven (14%) had an age-gapped structure.

What is most striking is the comparability of family age structure patterns (as reflected in the age of the mother at the birth of first child) of these two cohorts of women who otherwise had many quite different life experiences. The age structure patterns for both G1 and G2 generations look *very similar*. Among both the G1 and G2 women, the majority (55%) of the sample fall in the normative family age structure category. The second largest group (31-32%) for both cohorts is the age-condensed category followed by the age-gapped group at 13-14%. The incidence of age-gapped and age-condensed family structures in Canada has remained quite stable over time, at least as reflected in the fertility patterns of two generations of women, one born in the first half and the other in the last half of the century.

[Table Two about here]

The second research question examined patterns of consistency in family age structure patterns within lineages. The data in Table Two indicate variability across the age structure categories in the likelihood of consistency in family age structure within lineages. There is a modest positive relationship between age-condensed structures in both G1 and G2, but no significant relationship between age-gapped structures in both G1 and G2. Women are over-represented among G2 age-

condensed families if they themselves grew up in an age-condensed G1 family. This is, again, consistent with the findings of the infertility study, where none of the couples made any negative comments about age-condensed intergenerational family structures and any comments made were of the order "My parents were young when I was born. So I'd like it to be the same"; "My parents were young; I appreciated that at the time" (Martin-Matthews and Matthews, 2001: 120).

The lack of evidence of consistency in age-gapped family structure patterns within lineages is noteworthy. It suggests support for the comments also made by infertile couples who perceived an inverse relationship between quality of the intergenerational tie and the size of the age interval between parent and child. The very fact that the G2 respondent daughters of G1 mothers in age-gapped families were themselves the least likely of all the family age structure combinations to have an age-gapped structure supports this interpretation. It suggests that the children of age-gapped families may be especially motivated to avoid situations where "cohort gaps might turn into generation gaps" (Hagestad, 1985: 38).

However, the data for age-gapped lineages must be interpreted with particular caution. While there are 48 age-condensed lineages (where both the G1 mother and the G2 daughter have family age structure patterns we have characterized as age-condensed), there are only 4 such age-gapped lineages. This number is simply too small for comparative analysis in this context and thus limits our analysis possibilities, as will be seen.

Nevertheless, the analysis of lineage patterns in family age structure yielded some unexpected findings. One involved the respective ages at motherhood for these G1 and G2 mother-daughter dyads in the same lineage. Given the changing patterns of age at first marriage (increased age), declining fertility rates, later average age of mothers at birth of first child, and women's increased labour force

participation in Canada over the past three decades, we had expected that in the majority of G1-G2 mother-daughter dyads, the G1 mother's age at the time of the birth of her first child would be younger than her daughter's (G2) age at the birth of her own first child. Instead, the results show that many of the G1 mothers had fertility patterns that were later than that of their daughter's.

An examination of the data reveal that the patterns are in fact complex and likely reflect historical time effects. For example, while 40% of 31-40 year old G2 respondents fit the pattern we had expected, with their G1 mothers having given birth to their first child at an earlier age than their daughters did, over a third (37%) of 41-50 year old G2 respondents gave birth to their first child at an earlier age than their G1 mothers did. Similarly, there are significant differences in these patterns by age of G1 mother. Just over a third (38%) of G1 mothers aged 55 years and under and 37% of G1 mothers 56-65 years of age gave birth to their first child at an earlier age than their G2 daughters did. By contrast, 41% of mothers aged 65 years and older gave birth to their first child at a later age than their G2daughters did. We postulate that period effect, and the intersection of historical time with individual and family time, are factors in these observed patterns. For the oldest of these G1 mothers, fertility patterns would have been affected by the socio-economic upheavals of the Depression and then World War II.

[Table Three about here]

The third research question asks whether there are socio-demographic correlates of being in one type of family age structure versus another. Because of the nature of the data set used for this secondary data analysis, we have information on socio-demographic characteristics primarily on only the G2 respondent. In Table Three, we present data on four socio-demographic characteristics of the G2 respondent; we see that, for each, there is a significant relationship between being in one family age

structure versus another, and level of education, living arrangements, marital status and family size. Women in age-condensed family structures are significantly more likely to lack a high school diploma, to be living in an 'empty nest' situation with only a spouse, to be single, and to have four or more children. By contrast, women in age-gapped family structures are most likely to have post-secondary education, to have dependent children still living at home, to be married, and to have only one child (in G3).

Given the ability of our data to match mother-daughter pairs, however, we were especially interested in our fourth research question, which asks whether there are socio-demographic correlates of being in age-condensed versus age-gapped lineages, where that pattern persists across generations.

Although we would, ideally, have wished to be able to compare characteristics of mothers and daughters across generations of the same family, the GSS 1995 data file did not permit this. Thus, with the exception of age of G1 mother, we only have these socio-demographic data for the mid-life G2 respondents. But, these data nevertheless illustrate the implications for G2 of being in one type of lineage (AC or AG) or not.

[Tables 4, 5, and 6 about here]

In these three Tables, we present detailed data comparing the three lineage types: Table 4 presents the socio-demographic correlates for G2 daughters in lineages headed by a G1 mother in an age-condensed family age structure. Table 5 presents the socio-demographic correlates for G2 daughters in lineages headed by a G1 mother in a normative family age structure. Table 6 presents the socio-demographic correlates for G2 daughters in lineages headed by a G1 mother in an age-gapped family age structure.

Overall, these Tables show that there is a significant relationship between the lineage age

structure and the characteristics of the G2 respondent daughter in terms of age at first marriage, with women in a more condensed lineage age structure marrying at younger ages; and in level of educational attainment, with women in a more gapped lineage age structure more likely to have post-secondary education. As a rule, the percentage of G2 women who are grandmothers (reflecting the presence of a G4 in the lineage) is higher the more condensed the lineage age structure. And for those in more gapped lineage age structures, there is a significant relationship with living arrangement; these women are more likely to have children still living at home.

[Table 7 about here]

In order to more succinctly depict the findings relevant to age-condensed and age-gapped lineages, the primary focus of this analysis, Table 7 is a summary of the analyses for lineages headed by G1 mothers in age-condensed and age-gapped family structures. Variations in patterns of age at marriage, educational attainment, family size, living arrangements, and the presence of G4 in the lineage are especially pronounced in this summary.

Discussion

George and Gold (1991:71) have observed that during the past decade, scholars have come to recognize that the life course is both less predictable and more heterogeneous than was initially imagined. Earlier depictions of the life course emphasized the existence of age norms, relative consensus concerning the preferred sequencing of life course transitions, and similarities in the timing of transitions both within and across cohorts. However, according to George and Gold, recent writings emphasize the modest to weak associations between age and many life course transitions and the tremendous variability of transitions and trajectories within and across cohorts.

Our data show the heterogeneity of the age structure pattern of families. Despite broad generalizations that women today (and women of the Baby Boom) are electing later childbearing than did their mothers, these findings point to the fallacy of such over-generalized 'averaging'. Connidis (1999) has systematically made this point in terms of perceptions of family size. Our data clearly show considerable heterogeneity in terms of the age structure profile of Canadian families as age-gapped, age condensed and normative. Across two generations of women, we see striking similarity in the distributions of age at first birth: with 55% giving birth to their first child at ages we have characterized as 'normative'; just under one-third (31-32%) having early fertility associated with an age-condensed family structure, and one-seventh (13-14%) having a first birth at ages characteristic of an age-gapped family structure.

While there is consistency in the incidence of age-structure distributions across generations, we also find some evidence that there are lineage patterns of either early or delayed fertility, affecting multiple generations, as Bengtson et al. have speculated. Fully 42% of the mother-daughter pairs in this analysis showed lineage consistency across three generations, most typically in either age condensed/age-condensed lineage or normative/normative age structures. In a message of some relevance to those parents who elect later child-bearing, we find very low levels of lineage consistency when for age-gapped G1 family age structures. Children who have grown up in age-gapped family age-structures seem not inclined to repeat this age structure pattern in their own families of procreation. We began this paper with a consideration of Settersten's notion of the 'informal age structuring' which may characterize families, and his observation that individuals use age-linked mental maps to organize their lives. Our data suggest that these behaviours may indeed characterize individuals in age-condensed and age-gapped family structures: in the case of age-condensed structures, to emulate them; but in the

case of age-gapped family structures, to reject them in one's own family of procreation. However, this is a question that can only be fully answered with data that permit consideration of attitudes and beliefs, and not merely inferences from demographic characteristics and assessments of incidence.

These analyses, although preliminary, also permit us a glimpse of the socio-demographic factors associated with lineage continuity and discontinuity in family age structure. They point to the importance of age, as reflecting period effect, and also of family size. They demonstrate that 'informal age structuring' decisions in the family sphere are integrally linked to other characteristics of women in families: their age at first marriage, their levels of education (with associated implications for the kinds of employment they may acquire and the socio-economic resources available throughout their lives), and the pattern of their life course in terms of family life – the duration and timing of the post-parental period with dependent children launched from the home, and the scheduling of generational succession.

Somewhat surprisingly, what these data did not provide was any direct evidence of a relationship between family age structure and variability in affective bonds across generations. It may well be that the one question available to us for analysis – enquiring as to the closeness of the tie between the respondent G2 daughters and their G1 mothers – was simply too general to tap this dimension. In any event, it was the only variable examined to consistently failed to show significance in any of the analyses of correlates of family and lineage age structure.

Limitations

The secondary data analysis reported here limits the generalizability of our findings in several ways. The stringent eligibility criteria that defined the sample and shrank the sample size have been noted. It is also important to note that "the timing and sequencing of role transitions in families within

different population subgroups may vary as a function of the family's social class, community context, and ethnic ancestry" (Hogan, 1978 as cited in Burton, 1996). In fact, as Burton notes, what has been delineated as an early transition is in some cultural enclaves considered to be on-time behavior. In this research, the sample size was too small to permit analyses which were sensitive to these potential sources of variability. While we were able to test for associations between family age structure and certain indicators of socio-economic status, we could not examine these patterns in relation to ethno-cultural affiliation, which would be important to do in the Canadian context.

The issue of chronological boundaries is also relevant here. The central variables created and analyzed in this paper – age-condensed and age-gapped family age structures – do not represent "neatly chronologically bounded categories" (Fry, 1996), although one may be tempted to treat them as such. This raises the methodological issue of the salience of the chronologically bounded categories we have selected in this analyses and their meaningfulness and salience for families. While we have argued that the practice of other researchers, and the insights gained from our analysis of the qualitative data in other relevant data sets reinforce the appropriateness of the chronologically bounded categories we have created, this is an issue warranting further research.

Conclusions

As George and Gold have observed, "Comparisons of distinctly different family forms are particularly useful for highlighting the implications of family structure for generational and intergenerational relationships" (1991: 76). The analyses presented here are a first step in addressing this issue. And given that so little is known about age-condensed and age-gapped family forms, about their "unique problems" and particularly about how they might differ from other families in general

(Caputo,1999), the preliminary findings reported here suggest that this is indeed a research avenue worth exploring.

This study has sought to examine the patterns of age structured family forms characterizing two cohorts of Canadian women, and, prompted by the suggestion of Bengtson et al., specifically to explore whether there are "family pattern(s), affecting multiple generations" characterized as age-gapped and age-condensed.

Having examined these types of family age structure across two generations of Canadian families, and having examined the 'sequencing' or patterning of these age-structure characteristics within lineages over time, we supplement this analysis with two other related analyses. Kobayashi, Martin-Matthews, Rosenthal and Matthews (2001) examine the complexity of our understandings of age-gapped and age-condensed families, among a larger sample of Canadian women (not tied to a lineage analysis), and consider the role of family size and birth interval in shaping family age structure within generations. Rosenthal, Martin-Matthews, Matthews and Kobayashi (2000) examine the implications of these family structures for caregiving relationships and social support in later life.

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Endnotes:

1... Although data were collected for the age at birth of all children for the respondent in the 1995 GSS, it was not collected for age of respondent's siblings. The study sample was therefore limited to the respondent as a first or only child.

2... The age range for the age-gapped category is consistent with Caputo's (1999) and George and Gold's (1991) categorization of first child born at age 30 or older. Although conceptually similar, the age range of the age-condensed grouping is slightly different from previous studies' definitions. In the current study, the maximum age of the age-condensed category is 21 years as compared to 19 years for the Caputo (1999) and George and Gold (1991) studies. Given the increasing age at first marriage and birth of first child in Canada over the past three decades, the increased age maximum for this category makes sense. The normative age range (22-29 years) has not been a focus of past studies on age structure and aging families, thus, there is no research basis for comparison for this category.

Table 1: Incidence of age-condensed, normative and age-gapped family structure among two generations of Canadian women (N=404)

	Age-Condensed		Normative		Age-Gapped	
	%	N	%	N	%	N
G1	31.9	129	55.2	223	12.9	52
G2	31.2	26	55.0	222	13.9	56

Table 2: Age-Structured Intergenerational Patterns (N = 404) (GSS 1995)

	G2 Age Structure			
G1 Age Structure	***Age-Condensed***	***Normative***	***Age-Gapped***	D_{yx}
Age-Condensed (n = 129)	37.2% (48)	54.3% (70)	8.5% (11)	0.10 *
Normative (n = 223)	28.3% (63)	53.4% (119)	18.4% (41)	-0.11*
Age-Gapped (n = 52)	28.8% (15)	63.5% (33)	7.7% (4)	0.01

Summary: The magnitude of D_{yx} (Somers' D) ranges from 0 to 1.00. There is a weak positive relationship between G1-AC and G2 age structure. There is a weak negative relationship between G1-Norm and G2 age structure. And there is no significant relationship between G1-AG and G2 age structure.

Table 3: Definitions and Percentages of Socio-demographic Variables by G2 Age Structure Category (N = 404)

		%	
	AC	***N***	***AG***
Education - Respondent			
Post-secondary education/training	39.2	68.2	83.6
High school diploma	20.8	19.4	5.5
Less than high school diploma	40.0	12.4	10.9
χ^2	53.62 ***		
Living Arrangements			
Alone	11.0	9.5	5.4
With spouse	25.4	10.4	0.0
With spouse and child/other	37.3	59.3	78.6
With child, no spouse	24.6	19.9	16.1
With parents	1.6	0.9	0.0
χ^2	39.58 ***		
Marital Status - Respondent			
Married/common-law	63.5	69.8	78.6
Divorced/separated	19.8	19.8	16.1
Widowed	2.4	6.3	5.4
Single	14.3	4.1	0.0
χ^2	21.13 **		
Family Size - Respondent			
One child	23.8	24.3	46.4
2-3 children	53.2	64.4	48.2
4 or more children	23.0	11.3	5.4
χ^2	23.15 ***		

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

Table 4: Percentage in G1-Age-Condensed Category For Each G2 Age Structure Group by Selected Socio-Demographic Measures (N = 129)

	G1-AC		
G2 Age Structure	**AC (n = 48)**	**NORM (n = 70)**	**AG (n = 11)**
Current Age of G2 Respondent			
< = 30	33.3	24.3	25.6
31-40	22.9	40.9	35.7
41-50	20.8	18.6	18.6
> 50	22.9	17.1	20.2
D_{yx}			**0.04**
Age of G1 mother			
< = 55	52.1	52.9	36.4
56-65	14.6	24.3	27.3
> 65	33.3	22.9	36.4
D_{yx}			**0.01**
Age of G2 Respondent at First Marriage			
< 21	62.5	14.3	9.1
21-25	14.6	48.6	27.3
26 +	22.9	37.1	63.6
D_{yx}			**0.38*****
Education			
< High school diploma	47.9	9.0	36.4
High school diploma	14.6	26.9	0.0
Post-secondary education/training	37.5	64.2	63.6
D_{yx}			**0.27****
Family Size			
One child	18.8	34.3	45.5
2-3 children	52.1	55.7	45.5
>= 4 children	29.2	10.0	9.1
D_{yx}			**-0.24****
Living Arrangements			
Alone	8.3	12.9	0.0
With spouse	20.8	8.6	0.0
With spouse & child/other	37.5	60.0	90.9
With child	33.3	17.1	9.1
With parents	0.0	1.4	0.0
V			**0.26***
Closeness of G1-G2 Relationship			
Close	72.3	80.0	90.9
Not close	27.7	20.0	9.1
V			**0.13**

G2 is a Grandmother			
Yes	27.1	17.4	18.2
No	72.9	82.6	81.8
V			**0.11**

~ <= .10 * <= .05 **<=.01 *<=.001**

D_{yx} = Somers' D
V = Cramer's V

Summary for G1-AC:

There is a strong positive relationship between G1-G2 age structure and G2 age at first marriage.

There is a moderate positive relationship between G1-G2 age structure and G2 educational status.

There is a moderate negative relationship between G1-G2 age structure and G2 family size.

There is a moderate relationship between G1-G2 age structure and G2 living arrangements.

Table 5: Percentage in G1-Normative Category For Each G2 Age Structure Group by Selected Socio-Demographic Measures (N = 223)

		G1-NORM	
G2 Age Structure	**AC (n = 64)AC**	**NORM (n = 118)**	**AG (n = 41)**
Current Age of G2 Respondent			
< = 30	26.6	18.6	0.0
31-40	21.9	40.7	61.0
41-50	26.6	20.3	26.8
> 50	25.0	20.3	12.2
D_{yx}			**0.002**
Age of G1 mother			
< = 55	28.1	19.5	0.0
56-65	18.8	39.8	56.1
> 65	53.1	40.7	43.9
D_{yx}			**0.03**
Age of G2 Respondent at First Marriage			
< 21	64.1	16.9	9.8
21-25	9.4	66.9	34.1
26 +	26.6	16.1	56.1
D_{yx}			**0.36*****
Education			
< High school diploma	31.7	45.0	5.0
High school diploma	27.0	14.7	7.5
Post-secondary education/training	41.3	15.5	87.5
D_{yx}			**0.31*****
Family Size			
One child	31.3	19.5	48.8
2-3 children	51.6	66.1	48.8
>= 4 children	17.2	14.4	2.4
D_{yx}			**-0.12~**
Living Arrangements			
Alone	10.9	9.3	7.3
With spouse	31.3	11.9	0.0
With spouse & child/other	32.8	56.8	75.6
With child	21.9	22.0	17.1
With parents	3.1	0.0	0.0
V			**0.27*****
Closeness of G1-G2 Relationship			
Close	76.6	80.9	77.5
Not close	23.4	19.1	22.5
V			**0.05**

G2 is a Grandmother			
Yes	35.9	22.0	4.9
No	64.1	78.0	95.1
V			**0.25*** **

~ <= .10 * <= .05 **<=.01 *<=.001**

D_{yx} = Somers' D
V = Cramer's V

Summary for G1-Normative:

There is a strong positive relationship between G1-G2 age structure and G2 age at first marriage.

There is a strong positive relationship between G1-G2 age structure and G2 educational status.

There is a moderate negative relationship between G1-G2 age structure and G2 family size.

There is a moderate relationship between G1-G2 age structure and G2 living arrangements.

There is a moderate positive relationship between G1-G2 age structure and G2 being a grandmother.

Table 6: Percentage in G1-Age-Gapped Category For Each G2 Age Structure Group by Selected Socio-Demographic Measures (N = 52)

	G1-AG		
G2 Age Structure	**AC (n = 15)**	**NORM (n =33)**	**AG (n = 4)**
Current Age of G2 Respondent			
< = 30	20.0	6.1	0.0
31-40	13.3	42.4	50.0
41-50	40.0	36.4	25.0
> 50	26.7	15.2	25.0
D_{yx}			**-0.06**
Age of G1 mother			
< = 55	0.0	0.0	0.0
56-65	20.0	12.1	25.0
> 65	80.0	87.9	75.0
D_{yx}			**0.04**
Age of G2 Respondent at First Marriage			
< 21	66.7	21.2	0.0
21-25	20.0	60.6	25.0
26 +	13.3	18.2	75.0
D_{yx}			**0.43*** **
Education			
< High school diploma	53.3	9.1	0.0
High school diploma	13.3	21.2	0.0
Post-secondary education/training	33.3	69.7	100.0
D_{yx}			**0.44*** **
Family Size			
One child	13.3	18.2	25.0
2-3 children	60.0	78.8	50.0
>= 4 children	26.7	3.0	25.0
D_{yx}			**-0.17**
Living Arrangements			
Alone	20.0	3.1	0.0
With spouse	20.0	9.4	0.0
With spouse & child/other	53.3	65.6	75.0
With child	6.7	18.8	25.0
With parents	0.0	3.1	0.0
V			**0.27**
Closeness of G1-G2 Relationship			
Close	66.7	87.9	100.0
Not close	33.3	12.1	0.0
V			**0.28**

G2 is a Grandmother			
Yes	46.7	9.1	25.0
No	53.3	90.9	75.0
V			**0.41****

~ <= .10 * <= .05 **<=.01 *<=.001**

D_{yx} = Somers' D
V = Cramer's V

Summary of G1-AG:

There is a strong positive relationship between G1-G2 age structure and G2 age at first marriage.

There is a strong positive relationship between G1-G2 age structure and G2 educational status.

There is a strong positive relationship between G1-G2 age structure and G2 being a grandmother.

Table 7: Summary Table Percentage in G1 Age Condensed and Age Gapped Categories For Each G2 Age Structure Group By Selected Socio-Demographic Characteristics

NOTE: AC-AG and AG-AC categories have been removed from this tabular analysis.

	G1-AC (N= 118)		G1-AG (N = 37)	
G2 Age Structure	**AC (n =48)**	**N (n = 70)**	**N (n = 33)**	**AG (n = 4)**
Current Age of G2 respondent				
<=30 years	33.3	24.3	6.1	0.0
31-40	22.9	40.0	42.4	50.0
41-50	20.8	18.6	36.4	25.0
>50	22.9	17.1	15.2	25.0
D_{yx}		**-0.01**		**0.03**
Age of G1 Mother				
<=55 years	52.1	52.9	0.0	0.0
56-65	14.6	24.3	12.1	25.0
>65	33.3	22.9	87.9	75.0
D_{yx}		**-0.05**		**-0.12**
Age of G2 Respondent at First Marriage				
<21 years	62.5	14.3	21.2	0.0
21-25	14.6	48.6	60.6	25.0
26 +	22.9	37.1	18.2	75.0
D_{yx}		**0.36*** **		**0.31***
Education				
<High School Diploma	47.9	9.0	9.1	0.0
High School Diploma	14.6	26.9	21.2	0.0
Post-Secondary Education/Training	37.5	64.2	69.7	100.0
D_{yx}		**0.34*** **		**0.19***
Family Size				
One Child	18.8	34.3	18.2	25.0
2-3 children	52.1	55.7	78.8	50.0
>=4 children	29.2	10.0	3.0	25.0
D_{yx}		**-0.24** **		**0.08**
Living Arrangements				
Alone	8.3	12.9	3.1	0.0
With Spouse	20.8	8.6	9.4	0.0
With Spouse & Child/Other	37.5	60.0	65.6	75.0
With Child	57.1	17.1	18.8	25.0
With Parents	0.0	1.4	3.1	0.0
V		**0.30***		**0.14**

Closeness of G1-G2 Relationship				
Close	72.3	80.0	87.9	100.0
Not Very Close	27.7	20.0	12.1	0.0
V		**0.09**		**0.11**
G2 is a Grandmother				
Yes	27.1	17.4	9.1	25.0
No	72.9	82.6	90.9	75.0
V		**0.11**		**0.16**

~ <= .10 * <= .05 **<=.01 *<=.001**

Summary:

For G1-AC:

There is a strong positive relationship between G1-G2 age structure and age of G2 respondent at first marriage.

There is a strong positive relationship between G1-G2 age structure and G2 educational status.

There is a moderate negative relationship between G1-G2 age structure and G2 family size.

There is a moderate positive relationship between G1-G2 age structure and G2 living arrangements.

For G1-AG:

There is a strong positive relationship between G1-G2 age structure and age of G2 respondent at first marriage.

There is a moderate positive relationship between G1-G2 age structure and G2 educational status.

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