GENDER, AGE, AND THE TRAJECTORIES AND TRENDS OF ANXIETY AND ANGER

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ABSTRACT

This chapter addresses two sets of questions about anxiety and anger in adulthood. The first is about trajectories and trends: Do the frequency of anxiety and anger decline within cohorts as they age? Are persons in newer cohorts more anxious and angry? Do the adulthood trajectories and trends differ for men and women? The second set is about gender differences in anger: Do women feel angry more frequently than men, or do they simply lose their tempers and yell more frequently? To what extent does the presence of children in the household account for gender differences in feeling or expressing anger? Overall, the results support the idea that anxiety and anger decrease within cohorts as they age. They do not support the idea that newer cohorts are going through adulthood with higher levels of anxiety and anger. Anxiety shows no trend for either sex. Women are more anxious than men in early adulthood, and the gap grows throughout adulthood. The only trend appears among women in early adulthood, who are less angry in newer cohorts. Women report higher levels of anger than men at all but the oldest and youngest ages, with the largest gap around age 40. Children in the household do not create the gender difference in feeling angry, but they do create the gender difference

in yelling or losing one's temper when feeling angry. Children in the household activate the expression of anger for both sexes, but much more so for women.

Anxiety and anger are two of the most common forms of emotional agitation. As feelings they share the qualities of intensity, disturbance, and unpleasant excitation. Surveys of adults in the United States find that the average level of reported anxiety and anger progressively decrease in successively older age groups (Mirowsky & Ross, 1995; Schieman, 2003; Simon & Nath, 2004). This study examines two possible explanations for that pattern. The "maturity" hypothesis argues that individuals generally become less anxious and angry as they age. Supposedly, individuals adapt to the demands of adult life, accumulating resources and becoming more able, confident, and insightful, thereby avoiding problems and mastering emotional reactions (Birditt & Fingerman, 2005; Carstensen, Fungh, & Charles, 2003; Phillips, Henry, Hosie, & Milne, 2006). By contrast, the "age-of-anxiety" hypothesis argues that individuals born more recently are going through adulthood with greater anxiety and anger at every age than did those of earlier generations (Twenge, 2000). This view contends that life is becoming more hectic, competitive, impersonal, and unforgiving, with rising demands for achievement and productivity yoked to declining assurances of economic and interpersonal security (Bianchi, Robinson, & Milkie, 2006; Mattingly & Sayer, 2006). Either hypothetical phenomenon, or both, could explain the lower levels of anxiety and anger reported by older adults.

Although anxiety and anger share the quality of emotional agitation, they differ in outward orientation. Anxiety is a state of uneasiness and apprehension focused on threatening events or situations. Anxious individuals feel worried, tense, and restless. By contrast, anger is a feeling of displeasure and hostility focused on annoying, irritating, or infuriating things or persons (Averill, 1982; Canary, Spitzberg, & Semic, 1998; Fehr & Baldwin, 1996; Tavris, 1989). The object of anxiety is to be avoided, but the object of anger is to be engaged – or worse, attacked verbally or physically – sometimes yielding unfavourable social and health consequences (Deffenbacher, Oetting, Lynch, & Morris, 1996). Thus, anger is a highly *social* and interpersonal emotion. Moreover, although humans can get angry at things, anger generally attributes sentience, will and responsibility for the agitation to its object (Berkowitz & Harmon-Jones, 2004; Clore, Ortony, Dienes, & Fuijita, 1993; Smith & Kirby, 2004).

Pearlin and Skaff's (1996) argument for an alliance between stress and life course research provides a compelling rationale to expect coherent and persistent life course patterns of anxiety and anger. Some of the most salient forms of chronic stress within major social roles such as the family – especially parenthood – contribute to the experience of emotional agitation, its focus on others as well as on threatening conditions, and its expression in angry outbursts. Gender differences in the sources of stress, combined with greater responsibility for and exposure to children in the household, underscore the importance of exploring gender-linked emotional inequality across the life course.

This chapter is built around two main sections, each dealing with different questions and analytical strategies. In the first part, the *virtual-cohort analysis* addresses three core questions: (1) Do the frequency of anxiety and anger decline as adults age? (2) Does the level or shape of their adulthood trajectories differ for men and women? (3) Are the trajectories changing across cohorts that entered adulthood more recently? To answer these and related questions, we use virtual-cohort analysis to assess changes in anxiety and anger as persons age and compare them to the differences between persons of different ages in a given year (Mirowsky & Kim, 2007). In the second section, the *multi-indicator analysis* addresses subsidiary questions about possible gender differences in feeling or expressing anger: (1) Do women feel angry more frequently than men or do they simply lose their tempers and yell more frequently? (2) To what extent does the presence of children in the household account for gender differences in feeling or expressing anger?

BACKGROUND

Defining Terms: Aging Vectors, Trajectories, and Trends

Before describing the theoretical and methodological framework in detail, it is useful to define some of the central terms that will be used. We define *adulthood* as "ages 18 and older." A *cohort* represents everyone born the same year and reaching the same age in an interview year. A *life course trajectory* is the predicted value of an outcome as a function of age within a cohort. In this case, the trajectories are lines or curves traced by the changing levels of anxiety and anger as cohorts go through adulthood. A *trend* is a change in the level or shape of a trajectory across cohorts; it also is the direction and speed of change across cohorts in the level of an outcome at a

given age. Finally, an *aging vector* is an arrow from the predicted level of an outcome for a cohort at its age in the beginning of a study to the predicted level at its age in the end. Aging vectors trace the level and shape of a life course trajectory. Disjunctions between adjoining aging vectors show the trends across cohorts that pass the same age during the period of a study.

Fig. 1 illustrates the maturity and age-of-anxiety hypotheses as aging vectors (Mirowsky & Kim, 2007). The figure shows the hypothetical aging vectors of every sixth birth cohort over a six-year follow-up period. The upper panel indicates the pattern implied by a pure maturity effect. It shows a downward trajectory with no trend between cohorts. All the arrows point downward. Each one ends where the next one begins. This means that the adjoining cohorts had the same predicted outcome at the same age, which they reached six years apart. The upper panel shows no trend in age-specific levels of the outcome at any age.

The lower panel of Fig. 1 shows the pattern implied by a pure age-of-anxiety trend effect. All the arrows are flat, indicating no decline with age within any cohort. Each one ends above where the next one begins, indicating an increase in younger cohorts in the age-specific level of the outcome.

The maturity and age-of-anxiety hypotheses are not mutually exclusive. Actual results can blend the two patterns, with downward trajectories within cohorts and upward trends between them (all arrows pointing down but with the end of each one above the beginning of the next). In addition, the pattern can shift from pure trajectory in one range of observed cohorts to pure trend in another. For example, the arrows might point downward and line up across the oldest observed cohorts, as in the upper panel, but flatten or even point upward and not line up across the youngest, blending from one pattern to the other in between.

Hypothetical and Reported Trajectories and Trends

Cross-sectional surveys consistently find negative correlations of age with anxiety and anger. In any given survey year, the older the American adults surveyed the less anxious and angry they rate themselves, the fewer days per week they report feeling anxious or angry, and the lower their scores on the anxiety and anger subscales of neuroticism in personality inventories (Mirowsky & Ross, 1995; Schieman, 2000, 2003; Simon & Nath, 2004; Terracciano, McCrae, Brant, & Costa, 2005). Researchers studying the adult life course and aging generally attribute the lower anxiety and anger of
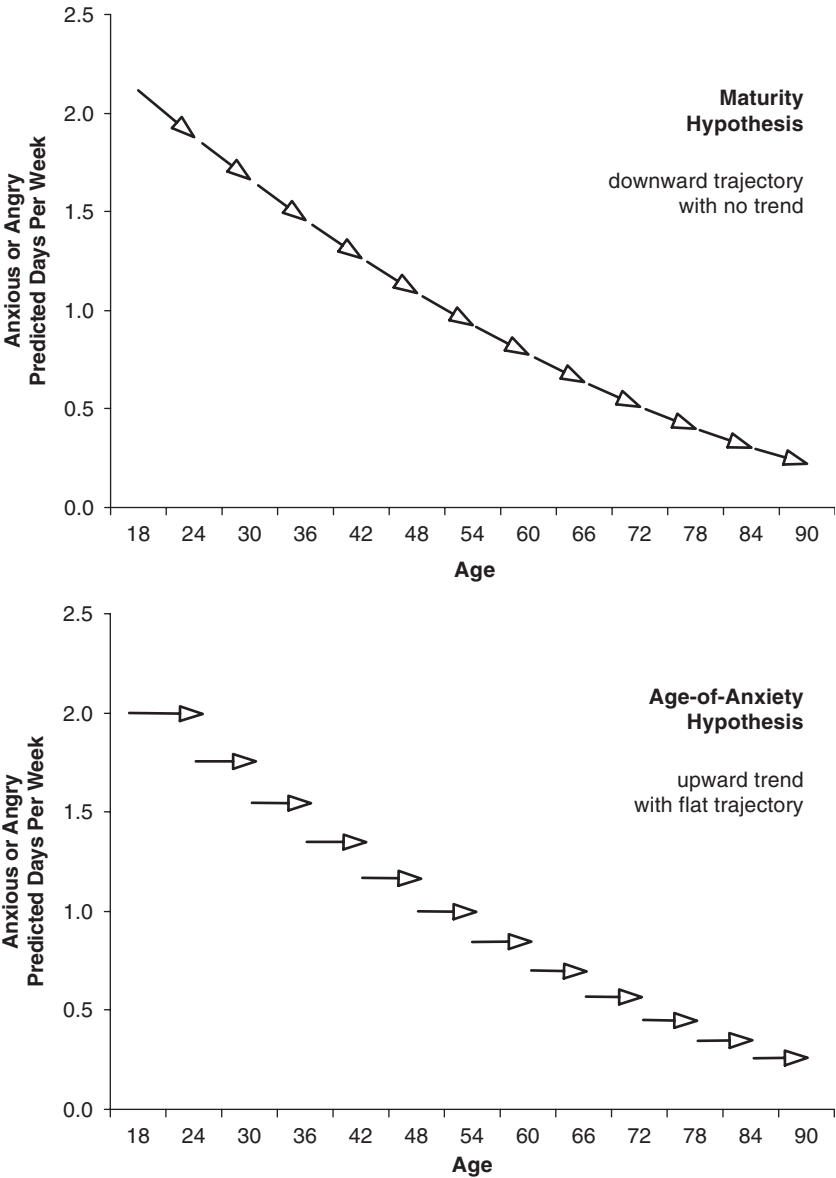
Fig. 1. Hypothetical Vectors of Predicted Level and Slope of Anxiety or Anger over a Six-Year Period, Illustrating a Pure Trajectory (Upper Panel) and a Pure Trend (Lower Panel).

older persons to cumulative mediators such as socio-emotional maturity and increasingly favourable ratios of resources to needs (e.g., Carstensen et al., 2003; Phillips et al., 2006; Mirowsky & Ross, 1995; Schieman, 2000, 2003; Simon & Nath, 2004).

Some scholars who study personality contend that traits stabilize in early adulthood and tend to crystallize by age 30 (e.g., Terracciano et al., 2005; Twenge, 2000). To the extent that anxiety and anger reflect personality traits, their levels may change little throughout adulthood. If individual levels of emotional agitation remain more-or-less stable throughout adulthood, how can older adults be *less* anxious and angry? One possible reason is that older individuals have been less anxious and angry from the time they entered adulthood. A trend toward higher age-specific levels of anxiety and anger in newer, and thus younger, cohorts could produce the observed negative correlations with age in any given survey year.

A number of theorists and researchers argue that trends in technology, jobs, and the work–family interface seem to be generating ever-higher levels of anxiety and neuroticism (Rosen, 1998; Sloan, 1996). The increasing use of communication-based technologies in the workplace has generated new challenges for workers regarding work–life balance (Valcour & Hunter, 2005). Although these technologies enhance some forms of personal and organizational functioning, they also may lead to greater disruptions of individuals' lives outside of the workplace by making them accessible "24/7" (Batt & Valcour, 2003; Chesley, 2005; Schieman & Glavin, 2007). As Coser (1974) observed, work is a "greedy institution" that unceasingly seeks to wring time, energy, and attention from workers (Milliken & Dunn-Jensen, 2005; Schieman, Kurashina, & Karen Van Gundy, 2006). Meanwhile, declining job security and increasing socioeconomic inequality may generate uncertainty and competition that leave adults worried, wary, antagonistic, and ever more ruthlessly acquisitive. Adults might reinforce these feelings in each other, and perhaps raise their children to survive and succeed in what they see as a hostile world.

So far, actual evidence regarding trends in anxiety is rare and the few results are contradictory. One study appears to support the age-of-anxiety hypothesis. A meta-analysis of personality studies from 1952 through 1993 of children, adolescents, and college students found an average increase of almost one standard-deviation in the anxiety and neuroticism scores over the four decades (Twenge, 2000). If true, this is an enormous trend that could completely account for the negative correlations with age observed among adults – assuming those differences apply to the general population and persist throughout adulthood.

In contrast, an analysis by Terracciano and colleagues (2005) of adult follow-up data contradicts the "age of anxiety" hypothesis on two counts. They use Hierarchical Linear Models (HLM) to analyze data from the Baltimore Longitudinal Study of Aging (BLSA) – which covers the period of 1989 through 2004 and includes ages at observation ranging from 20 to 96. Their quadratic models show within-cohort declines in the anxiety component of neuroticism up through age 75. They also show within-cohort declines in the angry-hostility component up through age 87. In addition, their models indicate that year of birth has a *negative* effect on the within-person intercepts. In other words, the average age-specific levels of anxiety and angry hostility are *lower* in the younger cohorts, not higher. Thus, in the BLSA the cross-sectional differences between two age groups actually are flatter than the declines within a cohort going from the younger age to the older one. The BLSA is not a national sample, not representative of the Baltimore population as a whole, and much better educated than either population. It has a mean education of 16.8 years in a sample with mean age near 65. Therefore, it is unclear how well the BLSA results generalize to the U.S. population. However, it may be more applicable and unbiased than the collection of student studies in the meta-analysis described above (Twenge, 2000).

Hypothetical and Reported Gender Differences

Do the trajectories and trends of emotional agitation differ for women and men? Within cohorts, women may feel anxious more often than men at every age, or at most ages. Cross-sectional studies find that women report more frequent anxiety than do men, adjusting for age and emotional expressiveness (Mirowsky & Ross, 1995; Simon & Nath, 2004). There is little prior evidence of gender differences in the rate of decline in anxiety with age, largely due to a lack of studies with relevant data and models. Theoretically, anxiety might decline more rapidly among women because greater attention to emotions speeds emotional maturity. Women might start adulthood with much more frequent anxiety than men, because of greater exposure to stressors in work and family and their interface for example (Bellavia & Frone, 2005), but progressively close the gap by giving more thought to feelings and their causes. In contrast, anxiety may decline more rapidly for men because they accumulate resources and confidence more rapidly. The BLSA HLM, mentioned previously, found a

significant gender difference in the within-cohort level of anxiety but not in the slope, with women more anxious at every age (Terracciano et al., 2005).

With regard to hypothetical trends, it is similarly unclear what to expect. Rising levels of education among women, along with smaller families and delayed first births, suggest possible declines in anxiety for women that apply much less, if at all, to men. However, women's historic shift into full-time employment throughout much of adulthood may have occurred just as jobs are becoming more competitive, impersonal and unforgiving, the commutes longer and more trying, and technologies that make workers more accessible ''anytime, anywhere'' – with the time left at the beginning and end of the day squeezed into smaller and smaller space (Chesley, 2005; Jacobs & Gerson, 2004; Valcour & Hunter, 2005). To our knowledge, however, the BLSA mentioned above apparently did not test for a gender-by-cohort interaction.

With regard to gender and anger, the prior cross-sectional results are mixed. Data from the 1996 U.S. General Social Survey and from the 1981 southwestern Ontario, Canada, survey shows no significant effect of sex on the reported frequency of anger (Schieman, 2000; Simon & Nath, 2004). Women in those surveys report somewhat less frequent anger than do the men, but the difference is not statistically significant. Likewise, the BLSA analysis summarized previously found no significant effect of gender on age-specific levels of angry hostility (Terracciano et al., 2005). In contrast, data from the 1990 U.S. Work, Family and Well-Being survey finds that women report being angry on about 29 per cent more days than men, adjusting for emotional expressiveness (Mirowsky & Ross, 1995). The women are more emotionally expressive than the men, and more likely to yell at someone when annoyed or angry, but the percentage adjusts for those tendencies. Detailed analyses indicate that children in the household, economic hardship, responsibility for child care, and child-care difficulties account for most of the cross-sectional gender difference in anger (Ross & Van Willigen, 1996).

Inconsistent finding about gender and anger could occur because the gender difference depends heavily on the presence or absence of children in the household, and/or on the difference between feeling angry and acting angry. Family conditions provide ample exposure to anger provocation (Carpenter & Halberstadt, 1996; Scherer & Tannenbaum, 1986). The parenthood role, in particular, entails responsibilities that tax energy and time, and increase the likelihood of affective exchange, frustration, and anger provocation (Pearlin & Turner, 1987). Although parenthood provides opportunities for many positive emotions, like love and joy, there are other

elements that likely activate annoyance and anger (Carpenter & Halberstadt, 1996; Scherer & Tannenbaum, 1986). Nagging about chores, disagreement about freedoms, and the highly emotional act of discipline are only a few. Dix (1991) contends that "average parents report high levels of anger with their children, the need to engage in techniques to control their anger, and fear that they will at some time lose control and harm their children" (p. 3).

Gender differences in anger may be partly attributable to the amount of time women spend with children. The division of household labour is often unequal, with women absorbing the bulk of housework and parenthood duties (Bianchi et al., 2006; Bird, 1999; Fuma, 2005). Recent evidence shows that mothers engage in active care with their children an average of 24 hours per week, while fathers average about five weekly hours (Folbre, Jayoung, Finnoff, & Fuligni, 2005). While inequities in household labour generate their own levels of frustration, by simply spending more time with children women may be exposed to a higher level of anger-eliciting events. Women are more likely than men to report that their experience of anger occurs in the family domain (Schieman, 2000). In the 1996 GSS, 40 per cent of women report feeling anger in the family context compared to only 19 per cent of men.

As with anxiety, we know of no prior evidence of gender differences in anger's rate of decline within cohorts as they age, or of gender differences in age-specific trends in anger. The BLSA study reported finding no effect of gender on within-cohort anger slopes, but did not report the estimated coefficients and standard errors (Terracciano et al., 2005). However, gender differences in the shape of the adulthood anger trajectory within cohorts or the trends in it across cohorts might contribute to the inconsistent cross-sectional findings regarding sex and anger. Prior studies tend to measure the average difference in anger between women and men across age groups. Yet, age curvilinearity or its interaction with gender can make the average difference depend on the age distribution of the sample.

In summary, prior studies show lower anxiety and anger in older adults, higher anxiety among women than men, and either no gender difference in anger or women angry more often than men. Current psychological theory argues that regulation of emotions improves with age, which should reduce anxiety and, even more so, anger (Carstensen et al., 2003; Phillips et al., 2006). Those ideas rest mainly on cross-sectional comparisons across age groups, often in non-representative samples. There are few prior attempts to distinguish trajectories within cohorts from trends across them as explanations of the negative cross-sectional correlations of anxiety and anger with age. Likewise, there is little prior evidence about sex differences in the relationship of anxiety and anger to age, even in cross-section.

Virtual-Cohort Models and Methods

A virtual-cohort model describes the trajectory of an outcome as a linear or curvilinear function of age within a cohort with coefficients that may increase or decrease across cohort (Mirowsky & Kim, 2007). Eq. (1) shows the simplest virtual-cohort model that can distinguish the decline in anxiety or anger within cohorts from an increase in them between cohorts

$$\hat{Y}_{it} = [b_0 + c_0(A_{i0} - k)] + b_1(A_{it} - k) \qquad (1)$$

Eq. (1) describes the predicted outcome for person i's cohort at time t as a function of the cohort (measured by age at time zero A_{i0}) and of age (measured as age at the time of an interview A_{it}.) The right side of Eq. (1) has two parts. The part inside the brackets describes the intercept. The value b_0 is the intercept for the reference cohort age k at time zero. The value c_0 is the average change in the intercept across cohorts. The part outside the brackets on the right describes the slope with respect to age within cohorts. The coefficient b_1 represents the average change in the predicted outcome within cohorts as they age over the study period.

The virtual-cohort model can be translated into the linear latent-growth model of Eq. (2). The terms u_{i0} and u_{i1} are individual deviations from the expected level and slope over the period, which may covary. Together they represent relatively stable differences between the individual and others of the same cohort in the level or change in the outcome over the period. The term e_{it} is a within-person-time error uncorrelated with t and the u residuals. In the present model, its variance is largely random measurement error.

$$
\begin{aligned}
Y_{it} &= a_{i0} + a_{i1}t + e_{it} \\
a_{i0} &= \hat{a}_{i0} + u_{i0} \\
a_{i1} &= \hat{a}_{i1} + u_{i1}
\end{aligned} \qquad (2)
$$

The predicted within-person intercept $\hat{a}_{i0}$ is simply the predicted outcome at time zero (when $t = 0$ and $A_{it} = A_{i0}$).

$$\hat{a}_{i0} = (\hat{Y}_{it}|t = 0) \qquad (3)$$

Setting $A_{it} = A_{i0}$

$$
\begin{aligned}
\hat{a}_{i0} &= [b_0 + c_0(A_{i0} - k)] + b_1(A_{i0} - k) \\
\hat{a}_{i0} &= b_0 + [c_0 + b_1](A_{i0} - k)
\end{aligned} \qquad (4)
$$

Eq. (4) describes the cross-sectional predicted outcome at time zero. The value c_0+b_1 in the brackets of the bottom line shows that the cross-sectional effect of age confounds the trend across cohorts with the slope within cohorts. That confounding can be eliminated by subtracting the average change within cohorts as they age over the follow-up period, as described next.

The predicted within-person slope $\hat{a}_{i1}$ equals or approximates the slope of $\hat{Y}_{it}$ with respect to A_{it}, evaluated at $t = 0$, if time is measured from the midpoint of the follow-up study.

$$\hat{a}_{i1} \approx \left(\frac{\partial \hat{Y}_{it}}{\partial A_{it}} | t = 0 \right) \tag{5}$$

In the simple model of Eq. (1) the derivative with respect to A_{it} is b_1, which is a constant: the mean annual change in the outcome within the cohorts as they age.

$$\hat{a}_{i1} = b_1 \tag{6}$$

Comparison of Eqs. (4) and (6) shows that the trend c_0 is measured by the difference between the average annual change over follow-up and the cross-sectional effect of age at mid follow-up.

Eq. (1) describes the simplest virtual-cohort model that can address the core hypotheses. The actual analysis begins with a more complex model that (a) allows the within-cohort trajectory to be a linear, quadratic, or cubic function of age at time t, and (b) allows linear trends across cohorts in all coefficients of the trajectory. The analysis sequentially eliminates the least statistically significant b_j or c_j term until all remaining terms are significant at $p < .10$ (2-tailed). Also, the virtual-cohort analysis predicts the square root of the anxiety and anger indexes, described below, in order to reduce skewness and floor effects.

The virtual-cohort analysis uses data from the survey of Aging, Status, and the Sense of Control (ASOC). It is a national telephone probability sample of 2,592 U.S. households. Sampling, pretesting, and interviewing for the surveys were conducted by the Survey Research Laboratory of the University of Illinois (SRL-UI). The ASOC survey has an 80 per cent over-sample of people aged 60 or older. At baseline (1995), 58 per cent were ages 18 through 59 ($N = 1,496$) and 42 per cent were ages 60 through 95 ($N = 1,097$). All results reported here are for the unweighted sample. The demographic characteristics of the weighted baseline ASOC sample match those for the U.S. adult householder population reasonably well (see Mirowsky & Kim, 2007 or Mirowsky & Ross, 2007 for details).

The ASOC survey has three waves of interviews taken at three-year intervals, in 1995, 1998, and 2001, with 907 respondents who participated in all three interviews, 470 respondents who participated in the first and second interviews, 237 respondents who participated in the first and third interviews, and 978 respondents who participated only in the first. The structural equation models adjust for attrition using partitioned full information maximum likelihood (FIML) estimation, which uses all cases regardless of their follow-up status (Wothke, 2000). The procedure adjusts for data "missing at random" (MAR), meaning random given the observed values in the model.

The *anxiety and anger indexes* each have three questions using the same question stem, response categories and codes. Respondents were asked, "On how many days of the past week did you ..." The anxiety items are "... worry a lot about little thing? ... feel tense or anxious? ... feel restless?" The anger items are "... felt annoyed with things or people? ... felt angry? ... yelled at someone?" All items are scored in days per week, from 0 to 7. Each index takes the mean days per week of its three items. The analyses predict the square root of each index, to compensate for skewness in their distributions. The figures below show squared predicted values, which correspond roughly to predicted medians (rather than means).

Anxiety Results

The virtual-cohort results for anxiety are consistent with the maturity hypothesis and inconsistent with the age-of-anxiety hypothesis. The negative cross-sectional association of anxiety with age in these data is entirely attributable to the *declines within cohorts* as they age. Fig. 2 illustrates the results given in Table 1. Anxiety decreases within cohorts for both males and females. There are no statistically significant trends in any of the trajectory coefficients. As a result, each arrow in Fig. 2 ends where then next one begins. In other words, the anxiety predicted at a particular age is the same for the cohort reaching that age at the end of the study as for the cohort that was that age at the beginning. Put another way, the decrease in anxiety as a cohort goes from one age to another equals the differences in anxiety between cohorts of those two ages in a particular year.

The adulthood trajectories of anxiety differ for men and women in two ways. First, age-specific levels of anxiety are higher for women throughout adulthood. A *t*-test for the difference in the intercept b_0 indicates a highly significant gap at the reference age of 47 ($t = 5.870$, $p < .001$). Second, the
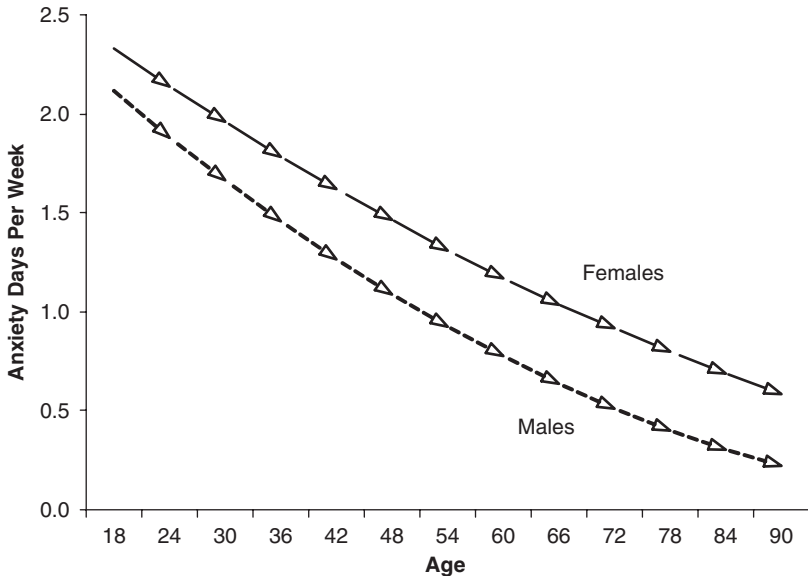
Fig. 2. Aging Vectors of Anxiety by Sex, Shown for Every Sixth One-Year Cohort (U.S. Aging, Status and Sense of Control Survey, 1995, 1998, and 2001.)

rate of decline in square-root anxiety scores, measured by b_1, is significantly slower among females than among males ($t = -2.172$, $p < .05$). The difference implies that the gender gap in anxiety increases throughout adulthood, even though the level of anxiety decreases for both women and men.

Despite the growing gender gap, the expected declines in anxiety across adulthood are substantial for both sexes. Fig. 2 shows the square of the predicted square root of the anxiety index, which is approximately the median number of days per symptom per week. In the 60 years of adulthood between ages 18 and 78 the predicted median number of days of anxiety symptoms drops by around 81 per cent for men ($1 - (.395/2.071) = -.809$) and around 64 per cent for women ($1 - (.838/2.295) = -.635$).

Anger Results

The anger results are similar to those for anxiety in some ways but quite different in others, as illustrated in Fig. 3. As we observed for anxiety, the results are consistent with the hypothesis that anger *decreases within cohorts*

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Table 1. Virtual-Cohort Model of Latent Growth in Anxiety and Anger, by Gender: Unstandardized Third-Order Polynomial Regression on Age (Centered on $k = 47$) at Time t, with Coefficients that May Vary Linearly across Cohort (Indicated by Age at Mid-Followup), Aging, Status and Sense of Control Data (U.S., $t = -3$, 0, and 3, respectively in 1995, 1998, and 2001).

	Anxiety		Anger	
	Males	Females	Males	Females
b_0	1.043[†]	1.209[†]	9.195E–1[†]	1.188[†]
	(50.747)	(62.591)	(50.269)	(43.036)
$c_0 (A_{i0}-k)$	.000[a]	.000	.000	.000
$b_1 (A_{it}-k)$	−1.367E–2[†]	−1.055E–2[†]	−2.061E–2[†]	−2.258E–2[†]
	(−12.536)	(−11.236)	(−12.522)	(−11.062)
$c_1 (A_{i0}-k)(A_{it}-k)$	.000	.000	.000	−5.866E–4[***]
				(2.885)
$b_2 (A_{it}-k)^2$	.000	.000	.000	5.079E–4[**]
				(2.433)
$c_2 (A_{i0}-k)(A_{it}-k)^2$	.000	.000	.000	1.310E–5[†]
				(3.374)
$b_3 (A_{it}-k)^3$	.000	.000	4.533E–6[**]	.000
			(2.347)	
$c_3 (A_{i0}-k)(A_{it}-k)^3$	.000	.000	.000	−2.302E–7[**]
				(2.298)
$R^2 a_{i0}$	.177	.105	.321	.394
$R^2 a_{i1}$	.000	.000	.014	.030
$Var(U_{i0})$	2.844E–1[†]	3.408E–1[†]	2.177E–1[†]	1.839E–1[†]
	(14.557)	(18.265)	(14.265)	(15.564)
$Var(U_{i1})$	4.259E–3[***]	2.209E–3[*]	1.755E–3[*]	1.752E–3[*]
	(2.968)	(1.890)	(1.800)	(1.854)
$Var(e_{it})$	2.345E–1[†]	2.467E–1[†]	1.715E–1[†]	2.024E–1[†]
	(15.327)	(18.398)	(15.514)	(18.523)
r_{UU}	.000	.000	−.239[**]	.000
			(−2.087)	
χ^2	12.814	13.591	11.849	19.855
df	7	7	11	12
p	.077	.059	.403	.070
NFI	.995	.997	.998	.999
CFI	.998	.998	1.000	.999
N	1,073			1,591

Note:

$$\sqrt{Y_{it}} = \sum_{j=0}^{3} \left[b_j + c_j(A_{i0} - k)\right](A_{it} - k)^j + u_{it}$$

where $u_{it} = u_{i0} + u_{i1}t + e_{it}$. It follows that $\sqrt{Y_{it}} = a_{i0} + a_{i1}t + e_{it} = (\hat{a}_{i0} + u_{i0}) + (\hat{a}_{i1} + u_{i1})t + e_{it}$, where a_{i0} is the individual's average level of the outcome over the three waves and a_{i1} the individual's linear slope per year over the interval.
[a]Coefficients shown as .000 were found not statistically significant at $p<.10$ and then fixed to zero (backward stepwise elimination).
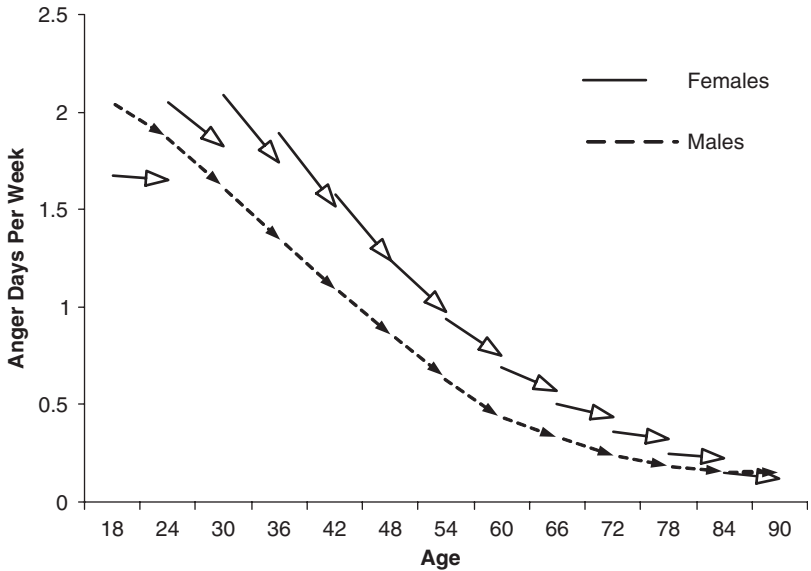*$p<.10$, **$p<.05$, ***$p<.01$, †$p<.001$, 2-tailed test.

Fig. 3. Aging Vectors of Anger by Sex, Shown for Every Sixth One-Year Cohort
(U.S. Aging, Status and Sense of Control Survey, 1995, 1998, and 2001.)

as they age for both women and men, and inconsistent with the hypothesis
that anger is becoming increasingly more common in newer cohorts. The
predicted median frequency of anger drops considerably across adulthood,
by around 90 per cent for both sexes. As with anxiety, the negative cross-
sectional association of anger with age is entirely attributable to the declines
within cohorts as they age. There are no signs of a trend toward a more
harried and hostile adulthood.

The shape of anger's trajectory differs from that of anxiety. This can be
seen most readily for men, who have no significant trend in either outcome
in any part of adulthood. Among men, the predicted frequency of anger and
anxiety are about the same at age 18, a little above 2 days per symptom per
week. Anxiety drops more-or-less steadily throughout adulthood. However,
anger drops much more rapidly in middle age, tabling off in old age. Two
coefficients governing this difference in trajectory shape appears in Table 1.
First, the row for $b_1(A_{ik}-k)$ represents the slope at the reference age of 47.
It implies about a 50 per cent steeper decline for anger than for anxiety at
that age among men $(-2.061/-1.367 = 1.508)$. Second, the row for

$b_3(A_{ik}-k)^3$ shows a significant positive coefficient for anger, representing flattening of the declines in old age.

For women, the results show higher levels of anger than men in middle age, but also steeper declines, with the slopes flattening in old age as levels converge with those of men. The most striking difference, though, is a marked trend toward lower levels of anger, and flatter declines, at the beginning of adulthood. Table 1 shows statistically significant trends in the linear, quadratic, and cubic coefficients for women. This implies that the adulthood trajectory of anger is changing for women. Either women are moving toward lower levels of anger throughout adulthood, or they are delaying the peak level of anger. Either way, the results sharply contradict the idea that the negative correlation between age and anger can be attributed to rising levels of anger in younger cohorts. For women, our observations imply that anger declined within all cohorts as they aged over the period, and that age-specific levels of anger declined substantially across cohorts in early adulthood during the study.

Summary of Virtual-Cohort Results

Overall, the results support the idea that anxiety and anger decrease across adulthood within cohorts as they age. The results do not support the idea that newer cohorts are entering adulthood with higher levels of anxiety and anger that they keep throughout adulthood. Anxiety shows no trend for either sex. Women are more anxious than men in early adulthood, and the gap grows throughout adulthood. Anger shows no trend for men, and little or no trend for women older than age 40 at the time of the study. Women report higher levels of anger than men at all but the oldest and youngest ages, with the largest gap around age 40. Unlike anxiety, however, the gender gap for anger diminishes with age and completely vanishes in old age. For both sexes, anxiety decreases more-or-less steadily throughout adulthood, but anger decreases most rapidly in middle age between 35 and 55. The only trend appears among women in early adulthood, who are less angry in newer cohorts.

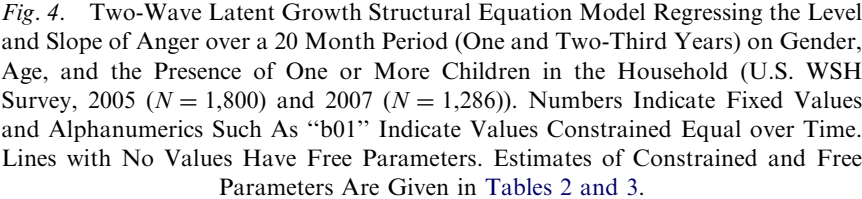## Multi-Indicator Models and Methods

The multi-indicator analysis has two goals. The first is to replicate the basic gender difference in the level and slope of anger in a new sample. The ASOC

survey results above show generally higher levels of anger among women, with the gender gap gradually vanishing with age. One previous cross-sectional study also found more anger among women (Mirowsky & Ross, 1995; Ross & Van Willigen, 1996), but two cross-sectional surveys and one follow-up found no significant gender difference in anger (Schieman, 2003; Simon & Nath, 2004; Terracciano et al., 2005). This raises the question of whether women's higher levels of anger but faster declines over follow-up can be replicated in a new survey. (The anger trend among young women also needs to be replicated. Unfortunately, attempts to fit the virtual-cohort model in 2005–2007 Work, Stress and Health (WSH) data encountered technical problems (non-convergence), perhaps because currently there are only two waves of data only 20 months apart.)

The second goal is to explore the possibility that the gender gap in anger is actually a difference in the *venting* of anger associated with children in the household. One previous cross-sectional study found that women yell more often than men reporting similar levels of angry feelings (Mirowsky & Ross, 1995) and that much of the gender gap in anger scores could be attributed to the presence of children and child-care difficulties (Ross & Van Willigen, 1996).

Drawing upon these ideas, we use the multi-indicator analysis to examine whether women feel angry more frequently than men, or simply lose their tempers and yell more frequently. The multi-indicator analysis also will assess whether the presence of children in the household mediates or activates gender differences in feeling or releasing anger. Mediation would occur if children in the household have similar effects on anger or its release for both sexes, but women are much more likely to have children in the household, thereby producing much or all of the gender gap. Activation would occur if children in the household increase anger or its release much more for women than for men, producing a gender gap in households with children when there is little or none in households without them.

Fig. 4 shows the multi-indicator structural equation model for data from the U.S. survey of WSH. The WSH survey is a nationally representative survey of 1,800 working adults in the United States. In the initial interview, which occurred in 2005, we successfully interviewed 70.8 per cent of all individuals identified as eligible. To be eligible, participants had to be 18 years of age or older and participating in the paid labour force. Interviews were conducted in English, so participants also had to be sufficiently fluent in order to complete the interview. The age range of the initial sample is 18–94, with a mean of 43.511 (S D = 13.205). Approximately 20–22 months after the initial interview, we were able to successfully

Fig. 4. Two-Wave Latent Growth Structural Equation Model Regressing the Level and Slope of Anger over a 20 Month Period (One and Two-Third Years) on Gender, Age, and the Presence of One or More Children in the Household (U.S. WSH Survey, 2005 (*N* = 1,800) and 2007 (*N* = 1,286)). Numbers Indicate Fixed Values and Alphanumerics Such As "b01" Indicate Values Constrained Equal over Time. Lines with No Values Have Free Parameters. Estimates of Constrained and Free Parameters Are Given in Tables 2 and 3.

re-interview 1,286 of the original participants (71.4 per cent). The WSH has the same questions as the ASOC survey about the frequency of feeling annoyed, feeling angry or yelling, plus two additional questions about the frequency of feeling critical and losing one's temper. The two additional WSH questions, one about feeling anger and the other about discharging it, improve the ability to measure effects on the latter and adjust for them.

The diagram in Fig. 4 is the Amos 7 input schematic that, when linked to the data, produced the output in Tables 2 and 3 below (Arbuckle, 2006). The model has two main aspects. First, it is a two-wave latent-growth model predicting both the individual's average level of anger across the two interviews and the difference, or change, between them. Second, the model allows direct effects of gender and child in the home on yelling and losing one's temper, net of their effects through the anger factor itself. The model constrains all measurement parameters (factor loadings, item intercepts, and item error variances) equal over time, allows residual covariance between the level and slope of anger, and allows lagged covariance of item error terms. The analysis also estimates a subset of the model within subpopulations defined by the presence or absence of at least one child in the home, instead of entering it as an exogenous dummy variable.

Structural Model Results

Results for the structural model indicate that gender and children in the household influence the level and slope of anger over time, apart from their effects on releasing anger by yelling or losing one's temper. The first pair of columns of Table 2 show the coefficients estimated for all household. Women have higher levels of anger, but also faster declines (i.e., significantly more negative.) This is similar to the ASOC aging vectors shown in Fig. 3, which show women more angry than men at most ages but also declining in anger more rapidly than men through middle age and the beginning of old age. By contrast, children in the household have positive effects on the slope as well as the level; that is, while the difference in anger between women and men *diminishes* over time, the difference between those with and without children in the household *increases*.

The second and third pair of columns in Table 2 show that the effects of gender on the level and slope of anger do not differ between persons in households with and without children. The estimated effect of gender on the level of anger is similar in both types of household, and not significantly different ($t = .132$, $p = .90$). The faster declines in anger for women

Table 2. Anger Latent Growth Structural Model: Unstandardized Regression of Within-Person Level (a_0) and Slope (a_1) of the Anger Factor Regressed on Age at Baseline and Sex Adjusting for, or within Categories of, the Presence or Absence of Children in the Household, Work, Stress and Health Data (U.S., 2005 and 2007).

	All Households		Children in Household		No Children in Household	
	Level	Slope	Level	Slope	Level	Slope
	a_0	a_1	a_0	a_1	a_0	a_1
Intercept	1.175***	−.045	1.413***	.064	1.184***	−.044
	(18.715)	(−1.004)	(15.096)	(.982)	(17.034)	(−.898)
Age$_{2005}$–45	−.019***	.002	−.016**	−.004	−.020***	.004
	(−6.904)	(.916)	(−2.289)	(−.938)	(−6.359)	(1.736)
Female	.278***	−.105*	.291**	−.099	.272**	−.121
	(3.940)	(−2.066)	(2.602)	(−1.252)	(3.031)	(−1.837)
Child in	.228**	.139**				
household	(3.093)	(2.607)				
R^2	.065	.010	.026	.005	.061	.010
Var(D)	1.617***	.622***	1.800***	.652***	1.424***	.591***
	(20.357)	(15.934)	(13.722)	(10.716)	(14.742)	(11.786)
Implied mean	1.470***	−.047**	1.691***	.026	1.299***	−.104***
	(47.414)	(−2.697)	(35.391)	(.914)	(33.175)	(−4.211)
Implied σ	1.315	.793	1.359	.809	1.232	.772
r_{DD}	−.084*		−.043		−.124**	
	(−2.496)		(−.847)		(−2.733)	
χ^2	660.085		263.858		560.077	
df	62		56		56	
Normed fit	.962		.967		.931	
Confirmatory fit	.965		.974		.937	
N_{t1}	1,800		809		991	
N_{t2}	1,286		568		718	

Note: Baseline interviews were conducted in 2005, follow-up interviews 18–22 months later in 2007. In this 2-wave model, the level equals the within-person mean level of the Anger factor in the two waves, and the slope equals the within-person difference between waves in the level of the Anger factor. Partitioned maximum likelihood estimates use the observed data to adjust for attrition, assuming dropouts are "missing at random" – that is, random given the observed baseline values.
*$p < .05$, **$p < .01$, ***$p < .001$ (2-tailed tests).

compared to men are statistically significant at the .05 level by a one-tailed test in households with no children. In households with children the estimated effect of sex on the rate of decline in anger is not statistically different from zero, but it also is not significantly different from the

Table 3. Anger-Measurement Model: Unstandardized Regression of Item Response on the Latent Common Factor, Allowing Direct Effects of Sex and Child in Household Net of the Anger Factor, Work, Stress and Health data (U.S., 2005 and 2007).

	Felt Annoyed	Felt Angry[a]	Felt Critical	Yelled	Lost Temper
All households					
Intercept	1.428***		.408***	−.253***	−.297***
	(24.604)[b]		(24.604)	(−6.170)	(−6.170)
Anger	1.054	1.000	.718***	.710***	.584***
Factor	[1.782][c]		[11.336]	[11.036]	[21.802]
Female				.225***	.095*
				(3.324)	(1.958)
Child in household				1.003***	.187***
				(14.554)	(3.895)
R^2	.512	.698	.347	.384	.413
β-loading	.716	.836	.589	.534	.628
VAR(e)	2.443***	.997***	2.234***	2.509***	1.169***
r_{ee}[d]	.342***	.090	.314***	.356***	.354***
Mean	3.012***	1.503***	1.491***	1.400***	.723***
Households with children					
Intercept	1.428***		.357***	.357**	−.256**
	(24.604)		(4.568)	(2.935)	(−3.189)
Anger	1.018	1.000	.689***	.820***	.634***
Factor	[.420]		[8.639]	[3.930]	[11.806]
Female				.570***	.201*
				(4.462)	(2.436)
R^2	.503	.708	.338	.323	.398
β-loading	.709	.841	.581	.541	.620
VAR(e)	2.442***	.983***	2.217***	3.700***	1.500***
r_{ee}	.342***	.090*	.314***	.356***	.354***
Mean	3.284***	1.669***	1.507***	2.077***	.925***
Households with no children					
Intercept	1.328***		.411***	.025	−.212***
	(17.510)		(6.379)	(.397)	(−4.147)
Anger	1.071	1.000	.777***	.617***	.556***
Factor	[1.646]		[6.236]	[13.385]	[18.843]
Female				−.054	.005
				(−.765)	(.085)
R^2	.497	.670	.373	.363	.438
β-loading	.706	.819	.610	.604	.662

Table 3. (*Continued*)

	Felt Annoyed	Felt Angry[a]	Felt Critical	Yelled	Lost Temper
VAR(e)	2.499***	1.063***	2.197***	1.428***	.856***
r_{ee}	.374***	.085	.289***	.267***	.323***
Mean	2.801***	1.376***	1.481***	.843***	.555***

Note: The measurement equations are fixed equal over time (equal intercepts, slopes, and error variances). Model fit statistics are given in Table 2.
[a]Days per week felt angry serves as the reference item, with its intercept fixed to zero and its slope fixed to 1.0.
[b]The numbers in parentheses are *t*-values measuring statistical significance of the difference from zero.
[c]The numbers in brackets are *t*-values measuring statistical significance of the difference from 1.0.
[d]r_{ee} is the correlation of the item's residual (error term) between waves.
*$p < .05$, **$p < .01$, ***$p < .001$ (2-tailed tests).

corresponding coefficient in households with no children ($t = .214$, $p = .83$). If the gender effect on the slope is constrained equal across households with and without children, the estimated coefficient and its significance level are essentially the same as in the "All Households" model. Taken together, the structural model results indicate that women generally have higher levels of anger than men that are declining faster as they age. Children in the household increase the level of anger and slow or reverse its decline for both women and men. However, children do not activate gender difference in level or slope of feeling anger.

The presence or absence of children in the household mediates little of the gender gap in anger, and about a fifth of the age-group differences. Children in the household correlate $r = .047$ with being female and $r = -.329$ with age ($p = .047$ and $< .001$, respectively). Removing the statistical adjustment for having children in the household from the "All Households" model increases the gender coefficient by about 2 per cent and the age coefficient by about 20 per cent. Thus, children in the household do not explain the gender gap in anger, either by mediation or activation. They explain more of the age effect, but not most of it.

Measurement Model Results

The measurement model results show significant effects of gender and children in the home on yelling and losing one's temper, adjusting for the

level of anger. The positive coefficients in the "All Households" section of Table 3 indicate that women yell and lose their temper more often than men with similar levels of anger, and that persons in households with children do so more often than those in households without children. Having a child in the household has a much larger direct effect on releasing anger than does gender – about 1.9 times greater for losing one's temper and almost 4.5 times greater for yelling. Both variables have larger direct effects on yelling than on losing one's temper. The direct effect of gender is about 2.4 times greater on yelling than on losing one's temper, and the direct effect of having a child in the household is about 5.4 times greater. Taken together, the measurement model results for all households indicate that the presence of children has a substantial effect on the releasing of anger, particularly *yelling*. However, the estimated direct effects of gender on yelling and losing one's temper remain statistically significant with adjustment for having a child in the household.

Children in the household apparently activate the gender difference in releasing anger. The middle and bottom sections of Table 3 show the measurement model for household with children compared to those without. The middle panel shows that, in households with children, women yell and lose their tempers significantly more often than men at similar levels of anger. The gender effect is about 2.8 times greater on yelling than on losing one's temper, but it is substantial for both and about double the effects estimated for all households combined. In contrast, the bottom panel shows essentially no gender difference in releasing anger among persons in households with no children. The gender-gap coefficient estimated for yelling is actually negative, but both are far from statistically significant ($p = .45$ and $.93$, respectively).

Children in one's household apparently activate the discharging of anger for both women and men, as well as activating the gender gap in it. For example, among men the predicted frequency of yelling given the mean level of the anger factor (around 1.5) is about .95 for those in households with no children and 1.59 for those in households with children (a multiple of about 1.67). By contrast, among women the predicted frequency of yelling is about .90 and 2.16, respectively (a multiple of about 2.4). The impact of children on losing one's temper net of anger is much smaller, but follows a similar pattern. Among men the predicted frequency given an anger factor level of 1.5 is .62 for those with no children in the household and .70 for those with at least one child (a multiple of 1.13). Among women the predicted frequency is .63 and .90, respectively (a multiple of 1.43). These predicted values adjust for the difference in anger levels associated with

gender and children in the household, shown in the previous table. They represent the interacting effects of gender and children on the likelihood of *acting* angry during times when feeling it.

Summary of Multi-Indicator Results

The introduction posed several questions for the multi-indicator analysis. *Do women feel angry more frequently than men?* Our observations indicate that they do. Women also tend to decrease their anger more quickly than men as they age over the follow-up, but on average they are angry more often. *Do women simply lose their tempers and yell more frequently?* Findings suggest that the gender difference in anger is not simply attributable to yelling and losing one's temper. However, we do find that, among persons with children in the household, women are more likely than men to act angry by yelling and losing their tempers. When the multi-indicator models adjust for this tendency we still observe a gender gap in anger. *To what extent does the presence of children in the household account for gender differences in feeling or expressing anger?* Children in the household do not account for the gender differences in feeling angry. They do account for the gender differences in acting angry given one's level of the emotion. Children in the household activate the expression of anger for men too, but much more so for women.

DISCUSSION

Our observations in the virtual-cohort analysis confirm that anxiety and anger are less common the older the adult age group. The negative cross-sectional correlations with age represent decreases within cohorts as they age. There is no evidence of a trend toward higher levels of anxiety and anger in newer cohorts. These findings are consistent with the "maturity" hypothesis and contradict the "age of anxiety" hypothesis. The only observed trend is toward lower anger in young women.

   With respect to anxiety, adulthood in America is not getting worse, but also not getting better. The lack of trends may seem odd given the range of cohorts in the ASOC sample, from persons born in the first quarter of the 20th century to those born in the beginning of its final quarter. It is tempting to think that perhaps a six-year follow-up in a gender sub-sample of a thousand or so persons is not sufficient to measure the trends. However,

Fig. 1 illustrates that stable differences across cohorts should be detectable, and the anger results include statistically significant trends among young women. Other analyses of the ASOC data have found trends in depression (Mirowsky & Kim, 2007; Ross & Mirowsky, 2006), the sense of control over one's own life (Mirowsky & Ross, 2007), self-rated health (Mirowsky & Ross, 2008), and physical impairment (Mirowsky & Ross, 2005), in most cases with the sample broken down by sex or level of education.

The absence of an observed trend in anxiety may mean there simply is no trend, one way or the other. However, the one other large survey of adults to model a possible trend in anxiety, the BLSA, found significant age-specific declines in newer cohorts (Terracciano et al., 2005). The BLSA is a local sample that was not randomly selected from a defined population, and its anxiety measure differs from those in ASOC. Perhaps, though, the relevant difference is that the BLSA sample is unusually well educated, with the average level of education above 16 years. This raises the possibility, for future study, that anxiety has been trending down among persons with high levels of education and up among those with low levels of education, cancelling out for the population as a whole. That pattern would explain the seemingly contradictory results of the ASOC (no trend) and BLSA (downward trend) results. As a caution, though, it is distinctly possible that the differences in trends across levels of education could be just the opposite. For example, the ''stress of higher status'' hypothesis implies that the well educated are increasingly experiencing demanding role conditions that foster anxiety such as the blurring of work–family boundaries, work–family multitasking, and their associated consequences for time pressures and work–family conflict (Schieman et al., 2006; Voydanoff, 2007).

With respect to anger, the ASOC and BLSA surveys both find trends toward less anger in newer cohorts. However, the ASOC finds this only for women in early adulthood. The BLSA analysis did not break the sample down by gender, and did not include a gender-by-cohort interaction term (Terracciano et al., 2005), so the differences are not necessarily contradictory. The anger trend among young women needs to be replicated. Attempts to fit the virtual-cohort model in the 2005–2007 WSH data encountered technical problems (non-convergence), perhaps because currently there are only two waves of data that are one and two-thirds years apart. Future survey waves may provide the needed information. In the meantime, it is worth considering the reasons why there might be a trend toward *less anger* among U.S. women, particularly in early adulthood. Demographically, the major trends for U.S. women are toward much higher prevalence of college education and a related delay of first birth until age 30

or older (Bianchi et al., 2006; Mirowsky, 2005). Future research should examine whether longer schooling and delayed parenting account for the trend toward lower anger scores among young women, particularly for releasing anger by yelling and loosing one's temper. Given that there is no corresponding trend toward lower anxiety, it may be useful to ask if the worries and fears of early adulthood are seen increasingly by women as personal challenges rather than as interpersonal offences, and how this may reflect longer schooling and delayed parenting.

Future research should also scrutinize the distinctions between and the social influences on *feeling* angry and *acting* angry. The multi-indicator analysis found that children in the household increase the frequency of yelling and losing one's temper at any given frequency of angry emotions. Children activate the release of anger for both sexes, *but much more so for women*. Indeed, the gender gap in acting angry – net of the frequency of feeling anger – exists only in households with children. In households with no resident children, men and women are equally likely to yell or lose their tempers given an equal frequency of angry feelings. Of course, those levels are not generally equal. Women tend to report feeling angry more often than men, although their levels of anger also decline faster as they age. Oddly, children in the household apparently do not create much of the gender gap in feeling angry. That gap may reflect a broader sense of unfair treatment even when children are not present. The exit of children may contribute to the rapid middle-age drop-off in angry feelings for both sexes. However, the absence of children in the household is not likely to account for the vanishing old-age gender gap in anger.

CONCLUSION

The good news is that the high anxiety and anger of early adulthood really does decline as individuals age. The aging vectors of anxiety and anger show within-cohort declines consistent with the maturity hypothesis. The other good news is that there is no sign of a trend toward greater agitation in either form, contradicting the age-of-anxiety hypothesis. Indeed, there are signs of a trend toward lower anger in early adulthood for women. The bad news is that there also is no sign of a general trend toward lower anxiety for either sex. Also, women are more anxious than men at the beginning of adulthood, the gap grows across adulthood, and this pattern does not appear to be changing in newer cohorts. Trends toward longer education and delayed motherhood may be giving young women some relief from

early adulthood anger, but the anxieties persist even as the hostilities abate. Despite the downward anger trend in early adulthood, and a convergence with men in old age, women are generally angry in adulthood more often than men. That anger cannot be explained away by the presence of children eliciting outbursts in women more than in men. Perhaps it is rooted in women's perceptions of a work–family interface that often puts them in a bind, particularly in middle age. The personal maturity associated with aging appears to bring much relief from emotional agitation for both sexes. Perhaps the goal for society should be to create favourable trends that flatten the adulthood trajectories of anxiety and anger, bringing an equanimity and composure to early and middle adulthood closer to that of old age.

REFERENCES

Arbuckle, J. L. (2006). *AMOS 7 User's guide*. Spring House, PA: AMOS Development Corporation.

Averill, J. R. (1982). *Anger and aggression: An essay on emotion*. New York: Springer-Verlag.

Batt, R., & Valcour, P. M. (2003). Human resource practices as predictors of work – family outcomes and employee turnover. *Industrial Relations*, *42*, 189–200.

Bellavia, G. M., & Frone, M. R. (2005). Work-family conflict. In: J. Barling, E. K. Kelloway & M. R. Frone (Eds), *Handbook of work stress* (pp. 113–148). Thousand Oaks, CA: Sage.

Berkowitz, L., & Harmon-Jones, E. (2004). Toward an understanding of the determinants of anger. *Emotion*, *2*, 107–130.

Bianchi, S. M., Robinson, J. P., & Milkie, M. A. (2006). *Changing rhythms of American family life*. New York: Russell Sage.

Bird, C. E. (1999). Gender, household labor, and psychological distress: The impact of the amount and division of housework. *Journal of Health and Social Behavior*, *40*, 32–45.

Birditt, K. S., & Fingerman, K. L. (2005). Do we get better at picking our battles? Age group differences in descriptions of behavioral reactions to interpersonal tensions. *Journals of Gerontology: Psychological Sciences*, *60*, P121–P128.

Canary, D. J., Spitzberg, B. H., & Semic, B. A. (1998). The experience and expression of anger in interpersonal settings. In: P. A. Andersen & L. K. Guerrero (Eds), *Handbook of communication and emotion: Research, theory, applications, and contexts* (pp. 189–213). San Diego: Academic Press.

Carpenter, S., & Halberstadt, A. G. (1996). What makes people angry? Laypersons' and psychologists' categorizations of anger in the family. *Cognition and Emotion*, *10*, 627–656.

Carstensen, L. L., Fungh, H. H., & Charles, S. T. (2003). Socioemotional selectivity theory and the regulation of emotion in the second half of life. *Motivation and Emotion*, *27*(2), 103–123.

Chesley, N. (2005). Blurring boundaries? Linking technology use, spillover, individual distress, and family satisfaction. *Journal of Marriage and the Family*, *67*, 1237–1248.

Clore, G. L., Ortony, A., Dienes, B., & Fuijita, F. (1993). Where does anger dwell? In: R. S. Wyer, Jr. & T. K. Srull (Eds), *Advances in social cognition: Perspectives on anger and emotion* (Vol. 6, pp. 57–87). Hillsdale, NJ: Lawrence Erlbaum Associates.

Coser, L. (1974). *Greedy institutions.* New York: Free Press.

Deffenbacher, J. L., Oetting, E. R., Lynch, R. S., & Morris, C. A. (1996). The expression of anger and its consequences. *Behavior Research and Therapy, 34,* 575–590.

Dix, T. (1991). The affective organization of parenting. *Psychological Bulletin, 110,* 3–25.

Fehr, B., & Baldwin, M. (1996). Prototype and script analyses of lay people's knowledge of anger. In: G. J. O. Fletcher & J. Fitness (Eds), *Knowledge structures in close relationships: A social psychological analysis* (pp. 219–246). Hillsdale, NJ: Erlbaum.

Folbre, N., Jayoung, Y., Finnoff, K., & Fuligni, S. A. (2005). By what measure? Family time devoted to children in the United States. *Demography, 42,* 373–390.

Fuma, M. (2005). Macro-level gender inequality and the division of household labor in 22 countries. *American Sociological Review, 69,* 751–767.

Jacobs, J. A., & Gerson, K. (2004). *The time divide: Work family and gender inequality.* Cambridge: Harvard University Press.

Mattingly, M. J., & Sayer, L. C. (2006). Under pressure: Gender differences in the relationship between free time and feeling rushed. *Journal of Marriage and the Family, 68,* 205–221.

Milliken, F. J., & Dunn-Jensen, L. M. (2005). The changing time demands of managerial and professional work: Implications for managing the work-life boundary. In: E. E. Kossek & S. J. Lambert (Eds), *Work and life integration: Organizational, cultural, and individual perspectives* (pp. 43–50). Mahwah, NJ: Lawrence Erlbaum Associates.

Mirowsky, J. (2005). Age at first birth, health and mortality. *Journal of Health and Social Behavior, 46,* 32–50.

Mirowsky, J., & Kim, J. (2007). Graphing age trajectories: Vector graphs, synthetic and virtual cohort projections, and cross-sectional profiles of depression. *Sociological Methods and Research, 35,* 497–541.

Mirowsky, J., & Ross, C. E. (1995). Sex differences in distress: Real or artifact? *American Sociological Review, 60,* 449–468.

Mirowsky, J., & Ross, C. E. (2005). Education, cumulative advantage and health. *Aging International, 30,* 27–62.

Mirowsky, J., & Ross, C. E. (2007). Life course trajectories of perceived control and their relationship to education. *American Journal of Sociology, 112,* 1339–1382.

Mirowsky, J., & Ross, C. E. (2008). Education and self-rated health: Cumulative advantage and its rising importance. *Research on Aging, 30,* 93–122.

Pearlin, L. I., & Skaff, M. M. (1996). Stress and the life course: A paradigmatic alliance. *The Gerontologist, 36,* 239–247.

Pearlin, L. I., & Turner, H. A. (1987). The family as a context of the stress process. In: S. V. Kasl & C. L. Cooper (Eds), *Stress and health: Issues in research methodology* (pp. 143–165). New York: Wiley.

Phillips, L. H., Henry, J. D., Hosie, J. A., & Milne, A. B. (2006). Age, anger regulation and well-being. *Aging and Mental Health, 10,* 250–256.

Rosen, B. C. (1998). *Winners and losers of the information revolution: Psychosocial change and its discontents.* Westport, CT: Praeger.

Ross, C. E., & Mirowsky, J. (2006). Sex differences in the effect of education on depression: Resource multiplication or resource substitution? *Social Science & Medicine, 63,* 1400–1413.

Ross, C. E., & Van Willigen, M. (1996). Gender, parenthood and anger. *Journal of Marriage and the Family*, *58*, 572–584.

Scherer, K. R., & Tannenbaum, P. H. (1986). Emotional experiences in everyday life: A survey approach. *Motivation and Emotion*, *10*, 295–314.

Schieman, S. (2000). Education and the activation, course, and management of anger. *Journal of Health and Social Behavior*, *41*, 20–39.

Schieman, S. (2003). Socioeconomic status and the frequency of anger across the life course. *Sociological Perspectives*, *46*, 207–222.

Schieman, S. & Glavin, P. (2007). *Trouble at the border: Gender, work, and the work – home interface*. Unpublished manuscript.

Schieman, S., Kurashina, Y., & Karen Van Gundy (2006). The nature of work and the stress of higher status. *Journal of Health and Social Behavior*, *47*, 242–257.

Simon, R. W., & Nath, L. E. (2004). Gender and emotion in the United States: Do men and women differ in self-reports of feelings and expressive behavior? *American Journal of Sociology*, *109*, 1137–1176.

Sloan, T. (1996). *Damaged life: The crisis of the modern psyche*. New York: Routledge.

Smith, C. A., & Kirby, L. D. (2004). Appraisal as a pervasive determinant of anger. *Emotion*, *4*, 133–138.

Tavris, C. (1989). *Anger: The misunderstood emotion*. New York: Simon and Schuster.

Terracciano, A., McCrae, R. R., Brant, L. J., & Costa, P. T., Jr. (2005). Hierarchical linear modeling analyses of the NEO-PI-R scales in the Baltimore Longitudinal Study of Aging. *Psychology and Aging*, *20*, 493–506.

Twenge, J. M. (2000). The age of anxiety? Birth cohort change in anxiety and neuroticism, 1952–1993. *Journal of Personality and Social Psychology*, *79*, 1007–1021.

Valcour, M. P., & Hunter, L. W. (2005). Technology, organizations, and work-life integration. In: E. E. Kossek & S. J. Lambert (Eds), *Work and life integration: Organizational, cultural, and individual perspectives* (pp. 61–84). Mahwah, NJ: Lawrence Erlbaum Associates.

Voydanoff, P. (2007). *Work, family, and community: Exploring interconnections*. Mahwah, NJ: Routledge.

Wothke, W. (2000). Longitudinal and multigroup modeling with missing data. In: T. D. Little, K. U. Schnabel & J. Baumert (Eds), *Modeling longitudinal and multilevel data: Practical issues, applied approaches and specific examples* (pp. 219–240). Mahwah, NJ: Lawrence Erlbaum Associates.