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Outcome Correlates of Parent-Child Bedsharing: An Eighteen-Year Longitudinal Study

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ABSTRACT. We report results of the first longitudinal study of outcome correlates of parent-child bedsharing. Two hundred five families in nonconventional and conventional family lifestyles have been followed since 1975. A target child in each family was followed from the third trimester of mother's pregnancy through age 18 years. Bedsharing in early childhood was found to be significantly associated with increased cognitive competence measured at age 6 years, but the effect size was small. At age 6 years, bedsharing in infancy and early childhood was not associated with sleep problems, sexual pathology, or any other problematic consequences. At age 18 years, bedsharing in infancy and childhood was unrelated to pathology or problematic consequences, nor was it related to beneficial consequences. We discuss these results in light of widespread fears of harm caused by parent-child bedsharing. We suggest that such fears are without warrant if bedsharing is practiced safely as part of a complex of valued and related family practices. *J Dev Behav Pediatr 23:244–253, 2002.* Index terms: *bedsharing, cosleeping, adolescence, family practices, outcomes.*

One consequence of the increasing diversity in family and household arrangements over the past half-century has been a lessening of parents' certainty regarding norms for child-rearing practices. Indeed, the novel question "How shall we rear our children?" is being asked implicitly with each of millions of copies sold of three generations of child-rearing advice volumes,[1–3] in parent education seminars and self-help groups, and in the offices of therapists, school counselors, and pediatricians.

A particular area of concern for parents and professionals has been infant and child sleeping arrangements. A number of clinicians and child-rearing experts have advocated purposeful parent-child bedsharing, or "the family bed" as it has come to be known in the popular literature.[3–5] Adherents of this family practice have claimed a number of long-range benefits to the child, generally stressing psychological variables, such as attachment security and the development of a capacity for trust and intimacy.[5]

Parent-infant bedsharing also has been promoted in some of the biomedical literature for its potential health benefits, for example, increased likelihood and duration of breast-feeding and protection from sudden infant death syndrome (SIDS).[6,7–10] These commentators observe that the very large majority of the world's children share a room and/or bed with their parents, even when space constraints do not mandate it.[11–18]

Yet many—perhaps most—experts do not advocate bedsharing, and the American Academy of Pediatrics cautions against "routine" bedsharing.[19] In addition to expressed concerns about the psychosexual implications of bedsharing[20–22] and the physical dangers posed by overlying (smothering), detractors argue that the practice may occasion sleep disorders, interfere with parents' conjugal privacy, reflect family pathology, and, in contradiction of the views of family bed advocates, interfere with the process of individuation.[2,23–28]

Review of the Literature on the Outcome of Parent-Child Bedsharing

What is the current research status of parent-child bedsharing and other forms of cosleeping relative to outcome? In two qualitative reviews, Medoff and Schaefer[29] and Okami[11] attempted to synthesize findings from the sporadic empirical and cross-cultural literatures then available. A number of tentative generalizations may be drawn from the results of these reviews and from the current authors' updated review of the biomedical literature on infant sleep physiology, cosleeping, and SIDS.

1. Some form of cosleeping, particularly mother-infant bedsharing, appears to be a human "near universal."[12–18,30,31] The same is true in a broader phyletic context, "...direct, continuous mother-infant contact during infant sleep is characteristic of all non-human higher primates" (p 97).[32]

2. Prevalence of bedsharing has not been determined reliably in the United States. However, although *routine*

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bedsharing appears to be relatively rare among middle-class white Euro-Americans,[33] it is a fairly common practice, at least among African-American, Latin-American, and white Appalachian families,[34–36] and *intermittent* bedsharing is also common among middle-class white Euro-Americans.[37,38] Data on Asian-Americans are not available, but given the high prevalence of routine bedsharing in Asian societies, we will assume that routine bedsharing among Asian American families is not uncommon.

3. Bedsharing is most usefully thought of as part of an interrelated set of family beliefs and practices that share some common meanings and goals, a culture complex, rather than as a discrete and isolated practice.[17]

4. There is sound evidence that bedsharing in infancy *under conditions of maternal obesity or tobacco use* increases infant morbidity or mortality.[39–43]

5. No consistent harmful correlates of bedsharing as a general practice have been found for children in domains other than sleep disturbance, and the temporal direction of sleep disturbance has not been established.[20,29,44] Moreover, some investigations have failed to find any association between bedsharing and sleep disturbance.[45] Indeed, correlational evidence, i.e., high rates of infant sleep disturbance in non-bedsharing nations relative to bedsharing nations, suggests the possibility that bedsharing may prevent, rather than exacerbate, sleep disturbance.[46] Interviews with bedsharing parents are consistent with the notion that sleep problems are antecedent to bedsharing rather than the reverse.[45]

6. Isolated reports of family pathology or behavioral disturbances associated with bedsharing[16,47] are balanced by conflicting isolated reports of positive family characteristics and behavioral outcomes.[48,49]

7. Compared with societies where solitary sleep is the norm, bedsharing societies report fewer SIDS deaths, providing that other risk factors such as bed smoking and parent obesity are not present.[6,50–52] Epidemiological data suggest that infants sleeping alone in a separate room are more likely to die of SIDS than those infants who cosleep with breastfeeding mothers, provided that the mothers are nonsmokers.[53]

8. Concerns have recently been voiced over the danger of infant suffocation as a consequence of overlay by parents.[23] However, because no data are available regarding the extent of bedsharing in the United States, no conclusions can be drawn regarding the relative risk of the practice. On the other hand, solitary sleep is the norm in the United States.[20,29] Therefore, the risk of death for *solitary sleepers*—as typically occurs in SIDS, or which might result from a child being trapped in her room during a fire or suffocating as a result of oronasal obstruction—is somewhat easier to broadly characterize, and it is useful to do so as a contrast. For example, United States Fire Administration data[54] report that children under age 2 years are 1 1/2 times more likely to die in fire than others, and that most such fires originate in the sleeping area. Because the number of fire deaths of children under age 2 surpass by a factor of approximately 20 the number of annual suffocation deaths by overlay (approximately 15 per year), it is clear that many more children die during solitary sleep by fire than die by overlay during bedsharing. Moreover, fire is only one of a number of possible mortal threats to the infant related to solitary sleep, whereas overlay appears to be the single threat to infant mortality specific to bedsharing that does not also exist in solitary sleep (e.g., inappropriate bedding, entrapment). Indeed, one of the very few controlled studies in this area found a greater risk for infants who slept in a separate room from parents (odds ratio [OR] 10.49; 95% confidence interval [CI] 4.26–25.81) than for infants who slept with their parents (OR 9.78; 95% CI 4.02–23.83).[55,56] Moreover, this (smaller) risk for bedsharing infants was accounted for in the study primarily by those bedsharing with parents who smoke, a known risk factor as described above.

9. Bedsharing facilitates breastfeeding in infants, whether or not they are routine cosleepers.[57]

10. Parent-infant bedsharing alters the physiology of infant sleep so that bedsharing infants experience higher levels of neurological arousals (often synchronously linked with those of the mother). It has been hypothesized that these arousals may protect against premature maturation of deep sleep patterns before the infant has developed efficient mechanisms to deal with physiological crises, such as those that may precipitate SIDS.[8,9,46,58–60]

11. Solitary sleeping infants and toddlers are more prone to use complex rituals at sleep time and to rely on transitional objects.[15,45,61]

The Present Study

In this report, we analyze data on 154 parents and their children with "nonconventional" family lifestyles (many of whom self-defined as "countercultural") and a comparison sample of 51 "conventional" two-parent couples in conjugal nuclear families. We have followed this cohort, known as the UCLA Family Lifestyles (FLS) sample, since the birth of the children in 1975, and reinterviewed and assessed the parents and the children when the children were age 6 years, and again at adolescence in 1994.[62–65] Countercultural parents in the 1970s did bedshare with their infants and young children much more often than did the comparison sample and the general United States population at that time, when the practice was not at all common in white Euro-American families. Bedsharing was typically part of an interrelated set of beliefs and practices we describe as *pronatural.* Pronatural values include deemphasis on materialism, use of long breastfeeding periods and "natural" foods, use of toys made from natural materials, the importance of open and free emotional and bodily expression, and the practice of more "natural" kinds of child care (i.e., often meaning, for these parents, their perceptions of practices common to preindustrial peoples), including bedsharing.[66] Hence, our nonconventional family sample provides an unusual opportunity—many parents practicing bedsharing—and we have longitudinal data on children from birth through age 18 years.

Research Questions and Predictions

The FLS project, which is in its 27th year (in 2001), has collected data on literally thousands of variables in a

cross-disciplinary, but intrinsically ethnographic and exploratory, endeavor. Therefore, we will state our expectations in terms of research questions rather than formal hypotheses.

Given the overall lack of evidence that the actual risks of bedsharing are high, we did not expect that children or adolescents in our sample would show harmful correlates of bedsharing, even though many of these families intentionally and actively practiced bedsharing with their children. Indeed, in keeping with the observations of Scarr, Phillips, and McCartney[67] regarding the general lack of robustness of long-term findings of outcomes of isolated incidents and practices of childhood, we did not expect strong findings to emerge for bedsharing, either in beneficial or harmful directions. Moreover, we held the following expectations.

- We expected there to be significant correlations between bedsharing and values such as pronaturalism and liberal social and sexual attitudes.
- We thought that sleeping problems (trouble with children sleeping through the night, for instance) and breastfeeding might influence bedsharing, but that it would not by itself account for bedsharing.
- We did not expect that bedsharing would temporally precede sleep problems in early childhood.
- We did not expect child gender or socioeconomic status (SES) to mediate associations between bedsharing and child outcomes.

METHOD

Sample

The Family Lifestyles Project (FLS) has followed a sample of 205 Euro-American families since 1974.[62] One hundred and fifty-four families were in nonconventional family lifestyles, including 47 single mothers by choice (not divorced or widowed), 53 social contract couples (not legally married but living together), and 54 in various forms of communes and collective living situations, including creedal and noncreedal communes, as well as informal groups of adults. All the families were living in California when recruited, and all the mothers were in their third trimester of pregnancy when first interviewed. Participants came from all over the state and were located through community organizations, countercultural organizations and informal networks, doctors who often saw countercultural women, and advertisements. We used snowball or referral sampling; however, not more than two referrals came from any one participant to insure a wide range of participants. We also followed a comparison group of 51 two-parent conventionally married couples selected from nominations from a random sample of obstetricians contacted in major urban areas of California. Further detailed information on the FLS study and sample is available.[62,63,65]

The sample ranges from lower working- to upper middle-class and ranged between the 20th and 90th percentile on a standard socioeconomic scale when selected. Average age was 23 years for mothers and 27 years for fathers. When children were age 6 years, mothers had completed an average of 14 years of formal schooling and fathers had completed 16 years, so, like many (but certainly not all) countercultural adherents, this is a relatively well-educated group. The conventional comparison sample had higher monthly family incomes in 1975 ($2400, or $8749 in 1999-adjusted dollars) compared to the countercultural group ($1500, or $5468 in 1999-adjusted dollars), but in most other respects—age, formal education, grandparents' SES (e.g., the children's parents' parents)—the conventional and nonconventional samples are similar.

There was very low attrition throughout the periods surveyed, ranging from 2% to 10% depending on the assessment contact and averaging approximately 5%. The participants provided data at nearly all assessment points, with the total sample size for the present analysis ranging from 181 to 189 out of 205. Naturally, the family arrangements of our participants changed as the years of the study went by. The nonconventional families changed more than the comparison sample. At 18 years, 39% of the original single mothers, 36% of the social contract couples, 14% of those in communes, and 73% of the comparison sample were still in their original family arrangements.[68]

Sixteen waves of longitudinal data were collected between 1974 to 1994, including home observations, child assessments, school grades, and parent and adolescent questionnaires and interviews. For the present study, we concentrate on data from three time periods: (1) infancy/early childhood parental reports and observations on sleep troubles, sleeping arrangements, and breastfeeding; (2) age 6 child assessments; and (3) age 18 adolescent assessments.

Measures

Family Arrangements and Demographic Data. SES was assessed using the four-factor Hollingshead scale (1975) and direct FLS interview and questionnaire items that elicited information on annual income, occupation, and years of formal education at each time period. Information on family and household arrangements was gathered from home visits and FLS interviews.

Family Value Orientations and Attitudes. FLS questionnaires were used to assess value orientations and attitudes (pronatural values, sexual liberalism/conservatism).[69] Pronaturalism was assessed using a seven-item scale ($\alpha = .91$), and included items such as preferences for natural/organic foods, support for breastfeeding and natural childirth, use of nonplastic or artificial products, support for environmentalism and developing feelings for nature, open expression of feelings, a relaxed and tolerant orientation towards others. Sexual liberalism was assessed with items measuring parents' attitudes toward homosexuality, nonmarital sex, childhood sex play, sex education, nudity, and gender equality. Adolescents' values orientations were assessed with the same scales used for parents.

Bedsharing. Bedsharing was measured through face-to-face or questionnaire interviews with mothers at children's age 5 months and 3, 4, and 6 years (asking about ages 5–6 years). A standardized composite score was created from responses to four items that asked mothers directly to indicate where the child regularly slept. Mothers were

offered a choice of nine responses, of which *parent's room/parent's bed* was one. Other choices included *own room/own bed, siblings' room/own bed, parent's room/own bed,* and so forth. For each of the 4 years that cosleeping was measured, subjects received 1 point for each period that the parent said the child slept in the parent's bed on a regular basis (sum score = 0–4). Children were thus classified on a 5-point continuum from (0) *no exposure to bedsharing* to (4) *frequent exposure* based on aggregate responses over the four assessments.

Child Status at Age 6. Early childhood adjustment was defined broadly in terms of behaviors observed by teachers, school psychologists, parents, and FLS staff observers, as well as inferences drawn by independent psychologists who were blind to the family lifestyle, on the basis of objective and projective tests. The 6-year assessments included a battery of widely used, standard assessments of children's intellectual, emotional, and developmental status in use at the time (1980) including the full Wechsler Intelligence Scale for Children-Revised (WISC-R), the Primary Visual Motor Test (PVM), the Children's Apperception Test (CAT), the Peabody Individual Achievement Test (PIAT) (reading recognition), the Peabody Picture Vocabulary Test (PPVT-A), the Embedded Figures and Puzzle Barrier Tests, the Sex Role Preference Test, the Moral Judgment test, Draw-A-Person test, and the Torrance Creativity test. School behavior was assessed specifically on the basis of play observations at school by FLS investigators and staff psychologists and by administration of the Lambert Pupil Behavior Rating Scale to teachers.[70]

Summary factor analyses using oblique rotation were done for each of these overall assessments using the summary scores derived from each scale. Six factors were extracted, labeled *Cognitive Competence, Emotional Maturity, Behavioral (play) Maturity, Mood and Affect, School Adjustment,* and *Creativity.* A higher score for each dimension indicates more competence, maturity, more positive affect, and so forth.[71]

In addition, sleep problems were assessed through FLS interviews with mothers at the 2- and 6-year periods. Parents were asked if their children had any problems getting to sleep or staying asleep. Data were also collected and interpreted by school and independent psychologists (who were unaware of the values and lifestyles of the families) regarding (1) any possible sexual concerns evidenced by the child; (2) any possible pathological sexual fantasies or preoccupations; and (3) sexual provocativeness evidenced by the child during play. Sexual concerns, fantasies, and preoccupations were measured by projective tests: the CAT and the Rorschach. Sexual provocativeness also was observed and rated by staff psychologists during structured play periods in the project offices at UCLA. The rating was based on adult dress, makeup for girls, and clearly clinically inappropriate displays of eroticism by the child.

Adolescent Behavior and Drug Measures. Self-acceptance; relations with peers, parents, and other adults; antisocial behavior; suicidal ideation; and substance use were all measured using subscales created for the UCLA Adolescent Growth study,[72] as well as items drawn from the FLS interview battery. In the case of substance use and antisocial behavior items, separate sets of orthogonal principal components were used to reduce the overall number and redundancy of the analyses. Additional information on these measures, including means and SD and factor loadings where relevant, is available.[63–65,68,71]

There is always the possibility that nonconventional parents might have underreported troubling behaviors in their children and/or overreported positive behaviors, compared with the conventional family sample. In addition, when families came for their visits, staff of course knew the lifestyles and family circumstances of the participants, and this knowledge could potentially have influenced assessments. However, several aspects of study procedures were designed to minimize possible unwitting staff bias in one or another direction. Our measures provide assessments of children and parents in addition to parental self-reports. For example, 11 standardized child assessments were done by staff psychologists (WISC-R, PVM, CAT, PIAT, PPVT-A, the Embedded Figures and Puzzle Barrier Tests, the Sex Role Preference Test, the Moral Judgment test, Draw-A-Person test, and the Torrance Creativity test). These are uninfluenced by parents and, because of their routinized administration across the 200 children in our study, unrelated to staff knowledge of family backgrounds. In addition four psychologists who did not know the families and children, and were blind to their family lifestyles, completed the play behavior ratings of children. Ten percent of these children were also rated by another psychologist with interrater agreement over 80% on all ratings. Furthermore, staff researchers were assigned to meet with and assess families at random, as they came for their visits; hence, staff researchers who may have developed a positive or negative bias towards a particular family or child would not have been more likely to have seen, or avoided seeing, the same families over the years of the study. Although, by the very nature of such a longitudinal study, where rapport and continuity of participation is essential, researchers could not (and should not) all be blind to family characteristics, any bias would be minimal because of the use of the four outside blind raters, the standardized nature of assessments, and the fact that researchers were unaware of the hypotheses regarding long-term impacts of bedsharing explored in this report.

Data Analysis

To assess the effects of bedsharing on the various outcome measures, multiple regression analysis was the primary analytical approach. Covariates (i.e., variables in addition to bedsharing) were selected either for their inherent importance for developmental issues (gender, SES), as a statistical control for generalized practices (sexual liberalness, pronaturalism), or for family contexts (troubled family climate). Initially, a variable that dichotomized the traditional from nontraditional families was included; however, the model was simplified when it was clear that the other variables were far more important than this distinction. The interaction (product) of bedsharing and gender was also included as a predictor; this interaction term was appropriate in terms of statistical properties (e.g., no

excessive multicollinearity: $r = .80$ with bedsharing and $r = .26$ with gender). Dependent variables were selected based on an attempt to cover a wide range of possible effects given their availability within the FLS dataset. Secondary analyses were executed to examine the relationship of bedsharing to the covariates and other child-rearing issues (e.g., breastfeeding and sleep problems) to further elucidate the placement of bedsharing within the constellation family environment variables.

RESULTS

Thirty-five percent of parents reported having their infants in the same room or bed with them at age 5 months (this often included intermittent bedsharing), 7% at age 3 years, 10% age 4 years, and 4% at ages 5 and 6 years. Nine percent of the parents in this sample reported *regularly* sharing their beds with their 5-month-old infants, 6% at 3 and 4 years, 6% at 5 years, and 3% at age 6 years. Only 2% of the conventional parents, compared with 13.2% of the countercultural families, reported any bedsharing before age 6 years. The prevalence of bedsharing among those countercultural families characterized as "pronatural" was 20%.

The bivariate correlations indicated that bedsharing was more likely to occur in sexually liberal environments ($r = .17$; Table 1). Bedsharing is associated with sexually liberal values in our sample. We examined ethnographic and case material for these families and found that most of these were single mothers, who were more likely than married or coresident couples to cosleep with their children. Single mothers were also likely to have lower incomes and lower socioeconomic status (SES) scores, which accounts for this pattern of relationship.

Girls were about 50% more likely to bedshare than boys; for example, 10% of parents reported bedsharing with boys after age 3 years, compared with over 16% with girls (n = 196). Bedsharing also varied considerably according to the countercultural commitments of the parents. Only 2% of the conventional comparison sample families reported bedsharing beyond age 3 years, for instance, compared with 9% to 20% of highly committed countercultural families, depending on the family lifestyle (the household composition and extent of countercultural, pronatural values commitments) of the parents.

A multiple regression was calculated, with bedsharing as the criterion and the remaining variables as predictors, because the distributional qualities of the data were deemed appropriate for multiple regression. The multiple correlation was .22 ($F[5,188] = 1.97$; $p < .09$), indicating that approximately 5% of the variance in bedsharing was accounted for by the predictors and that 95% was unique and error variance. Of the explained variance, 35.3% was uniquely due to family sexual liberalness, another 18.7% to gender of the infant/child (females were more likely to cosleep), and 13.8%, 2.8%, and 0.2% uniquely to SES, pronatural climate, and troubled family climate, respectively; 29.2% was due to variance in common to one or more of these variables. Our conclusion is that single-parent status, along with pronatural values orientations, accounts for only a modest amount of the variance in bedsharing—less than we had expected.

We then looked at two other circumstances discussed in the literature that might account for variance in bedsharing: the presence of infant/child sleep problems and breastfeeding. First, did sleep problems lead to greater likelihood of bedsharing and/or vice versa? We tested the association of bedsharing at 5 months with measures for any sleep problems at 2 and 3 years. There were no significant associations (age 2: $\chi^2[1] = .02$, NS; age 3: $\chi^2[1] = .00$, NS). Likewise, sleep problems at age 2 and 3 years did not predict bedsharing from ages 3 to 6 years (age 2: $\chi^2[1] = .24$, NS; age 3: $\chi^2[1] = .00$, NS). One reason is that there were rather few reports of any sleep problems beyond age 3 years; less than 3% of all families reported any sleep problems at ages 4 and 6.

Next, we examined associations with breastfeeding. Of the 181 families with complete data on breastfeeding frequency, 89.5% indicated that they breastfed at least some of the time. The average duration of breastfeeding was 11.6 months. Like bedsharing, breastfeeding and relatively late weaning were not as widespread in the mid 1970s as they are currently and were much more common in our sample. Bedsharing was not significantly correlated with the binary measure ($r = .04$, $F[1,179] = .34$, NS) but was related to the duration of breastfeeding ($r = .17$, $F[1,179] = 5.26$, $p \leq .05$). Adding breastfeeding as a variable in a multiple regression that included the variables in Table 2 marginally improved the prediction of bedsharing (R^2 increase from .050 to .071).

Main Findings

We then turned to associations between bedsharing and child and adolescent outcomes. Table 2 provides the

Table 1. Correlations of Demographics and Family Characteristics with Bedsharing

	Demographics		Family Climate		
	SES	Gender	Pronatural Values	Troubled Family Circumstances	Parental Sexual Liberalness
Gender	−.02				
Pronatural values	−.09	.04			
Troubled family circumstances	**−.45**	−.06	−.01		
Parental sexual liberalness	−.13	−.04	**.35**	**.18**	
Bedsharing	−.12	.09	.10	.07	**.17**

Correlations in bold are significant, $p < .05$, two-tailed; n = 190.
SES, socioeconomic status.

Table 2. Standardized Regression Results: Demographics, Family Characteristics, Child Gender, and Bedsharing by Age 6 Outcomes

	Demographics		Family Climate			Bedsharing	
	SES	Gender[a]	Pronatural Values	Troubled Family Circumstances	Parental Sexual Liberalness	Main Effect	Gender Interaction[b]
Cognitive competence	**.23**	.07	.03	**−.22**	.10	**.33**	−.20
Behavioral maturity	.06	.11	.02	−.10	−.10	.14	−.11
Emotional maturity	−.06	**.23**	.01	−.10	−.02	.11	−.02
Mood and affect	−.03	.13	−.05	.05	.08	−.03	.06
School adjustment	−.03	.14	**.22**	**−.23**	−.10	.22	−.16
Parental sexual concerns	.06	−.03	−.15	−.00	.10	−.12	.11
Creativity	−.10	.10	−.01	.00	.00	.09	−.02

SES, socioeconomic status.
Significant betas: bold and underlined $p < .01$, two-tailed.
[a]Positive betas indicate females score higher.
[b]Positive betas indicate that the bedsharing relationship for females is closer to +1.0 (i.e., more positive or less negative).

complete regression results for age 6 years. Bedsharing was significantly associated with increased cognitive competence as measured at age 6 ($p < .01$). Otherwise, only a small number of other coefficients were significant, and there was no strong pattern in the results. Troubled families predicted poorer cognitive competence ($p < .01$) and school adjustment in children. Higher SES predicted greater cognitive competence. Girls tended to show greater emotional maturity, and a pronatural environment yielded better adjustment to school.

There were no trends of any kind in the data linking bedsharing with positive or negative outcomes related to sexual fantasies, concerns, preoccupations, or provocativeness. Thus, the overall results do not show strong patterns of associations between bedsharing and either positive or negative outcomes at age 6.

Tables 3 and 4 display, respectively, the standardized and logistic regression results for the 18-year follow-up. Just as for age 6 data, there were no indications of any strong negative or positive correlates of childhood bedsharing and

Table 3. Standardized Regression: Demographics, Family Characteristics, Gender, and Bedsharing by Age 18 Outcomes

	Demographics		Family Climate			Bedsharing	
	SES	Gender[a]	Pronatural Values	Troubled Family Circumstances	Parental Sexual Liberalness	Main Effect	Gender Interaction[b]
Positive sexual experiences[c]	.10	.20	.06	.05	−.02	.09	−.23
Sexual liberalness (teen)	**.16**	.13	.03	.11	**.42**	−.03	.07
Sex "problems"[d]	.00	.05	−.03	.19	−.00	−.13	.08
Relations w/parents	.11	.09	.11	−.05	.11	.12	−.00
Relations w/family	.08	.05	.06	−.04	.07	.09	−.04
Relations w/other adults	.00	.08	.13	.01	−.02	.11	.04
Relations w/peers	−.12	**.19**	.10	−.04	−.00	.17	−.19
Self-acceptance	−.15	**−.23**	**.20**	**−.04**	−.06	−.01	.07
Theft	.05	−.14	**.11**	.03	.10	−.14	.08
Vandalism	.02	−.06	.04	−.05	.08	−.05	−.02
Serious crimes	−.00	−.14	−.11	.01	.04	−.09	.09
Fighting	−.10	−.07	−.06	−.03	−.02	−.15	.10
Tobacco use	−.02	**.15**	.07	.16	.10	−.09	−.11
Alcohol use	.05	**.17**	.03	−.03	**.19**	.03	−.12
Hard drug use 1[e]	.10	.09	.06	.10	.07	−.06	.01
Hard drug use 2[e]	.03	−.03	.07	**.18**	**.18**	−.24	.16
Hard drug use 3[e]	.02	−.07	−.11	−.07	.08	−.02	.08
Hard drug use 4[e]	−.02	.03	.04	−.04	−.09	−.00	−.03
Hard drug use 5[e]	−.11	.08	.02	−.02	−.11	.03	−.06

SES, socioeconomic status.
Significant betas: bold $p < .05$ two-tailed, bold and underlined $p < .01$, two tailed.
[a]Positive betas indicate females score higher.
[b]Positive betas indicate that the closing bedsharing relationship for females is closer to +1.0 (i.e., more positive or less negative).
[c]Of those reporting sexual experiences; n = 105.
[d]"Problems" is in quotation marks because, in the case of pregnancy, at least half of the female (and half of the male) participants who had experienced this event considered it to have been a positive experience and not a problem.
[e]Hard drug use 1: sedatives, minor tranquilizers; hard drug use 2: marijuana, hashish, psychedelic mushrooms, LSD, "Ecstasy"; hard drug use 3: PCP, major tranquilizers, other psychedelics, inhalants; hard drug use 4: amyl nitrate, amphetamines, other narcotics; and hard drug use 5: heroin, barbiturates, cocaine, inhalants.

Table 4. Logistic Regression: Demographics, Family Characteristics, Gender and Bedsharing by Age 18 Outcomes

	Demographics		Family Climate			Bedsharing	
	SES	Gender[a]	Pronatural Values	Troubled Family Circumstances	Parental Sexual Liberalness	Main Effect	Gender Interaction[b]
Sexually active?	−.18 (−1.18)	.05 (0.43)	−.18 (−0.75)	.09 (0.20)	**.42** (2.25)	−.38 (−0.71)	.28 (0.43)
Suicidal thoughts?	−.24 (−0.99)	−.01 (−0.01)	−.58 (−1.62)	−.11 (−0.17)	.39 (1.47)	−.51 (−0.53)	.88 (0.82)
Accident/alcohol/drug	.26 (0.88)	.37 (0.60)	.18 (0.40)	1.33 (1.84)	.45 (1.34)	.56 (0.75)	−.89 (−0.79)

Significant coefficients: bold $p < .05$ two-tailed. Coefficients divided by standard errors appear in parentheses.
[a]Positive coefficients indicate females score higher.
[b]Positive coefficients indicate that cosleeping bedsharing relationship is more positive for females.

adolescent outcomes. Gender of the adolescent was predictive of relations with peers (better for females), self-acceptance (better for males), tobacco use (greater for females), and alcohol use (greater for females). Families with a pronatural family-values climate had better teen self-acceptance, whereas a troubled family climate brought greater likelihood of sexual problems and use of marijuana and hallucinogens for teens. A sexually liberal family climate led to adolescents adopting similar attitudes to those their parents had shown ($p < .001$) and was also associated, to some degree, with more alcohol and marijuana/hallucinogen use. These findings parallel those reported in Garnier and Stein[68] regarding behavior problems in adolescence. They found associations between tolerant/humanistic/egalitarian values in the Family Lifestyles Project sample and higher rates of adolescent drug use.

Of the adolescents, 41.3% reported they were sexually active, 11.5% reported some suicidal ideation, and 7.4% said that they had had at least one accident involving alcohol or drugs (Table 4). Family sexual liberalness yielded a greater likelihood that the adolescent was sexually active. Again, there were no associations with bedsharing, either directly or moderated by child gender.

Table 5. Variance in Common (VIC) Between Bedsharing and Child/Teen Outcome Measures

	Outcome	
VIC	Socially Beneficial Direction	Socially Detrimental Direction
> 1%	**Cognitive competence**	Sexual liberalness
	Relations w/other adults	
	Relations w/parents	
	Tobacco use	
	Emotional maturity	
	School adjustment	
.5–1%	**Fighting**	**Positive sexual experiences[a]**
	Relations w/family	
.10–.5%	**Relations w/peers**	Hard drug use 3
	Self-acceptance	
	Hard drug use 2	
	Theft	
	Sex problems	
	Vandalism	
	Mood and affect	
	Sexual concerns	
	Hard drug use 4	
	Serious crime	
	Hard drug use 1	

Bold type indicates those variables where greater than .25% of VIC was found in the multiple regression results, i.e., VIC after controlling for the effects of SES, gender, and pronatural values, troubled family circumstances, and sexually liberal family climates.
[a]This variable has simple bivariate relationship indicating that a socially undesirable outcome is predicted by bedsharing. However, once the other predictors (SES, etc.) are taken in account, the relationship is socially beneficial.

Effect Size Assessment

We next calculated effect sizes for the bivariate correlations between the bedsharing variable and each of the outcome measures. This represents the maximum direct and indirect causal impact (though it does not take into account moderation by other variables). Table 5 lists the variables loosely categorized into socially beneficial and socially detrimental groupings (sexual liberalness has been put into the negative category, but depending on the circumstances, this particular variable could also be considered socially neutral or even beneficial) and ranked by variance in common (VIC = r^2) values for the bivariate correlations. The largest bivariate correlation was $r = .15$ between bedsharing and Cognitive Competence representing VIC of 2.4%. Most VIC values were much smaller but, on the whole, fit toward a positive effect of bedsharing. This pattern is maintained for the unique main effect of bedsharing when the effects of the demographic and family climate variables are taken into account. The statistical significance of effect sizes for bedsharing are small and scattered.

Finally, we examined the effect sizes for the bedsharing × gender of child interaction from the multiple regression results. In those cases where the interaction term accounts for at least .25% VIC (a small magnitude effect overall), males seem to "benefit" more from bedsharing. This is true for most of the situations where bedsharing has a potential social benefit (e.g., greater cognitive competence, school adjustment, positive sexual experiences, relations with peers, fighting). The exception is for tobacco and alcohol use, where substance use increases for males exposed to bedsharing early in life.

DISCUSSION

In this first longitudinal study of correlates of infant and early childhood bedsharing, 154 countercultural and 51

conventional two-parent families were followed from the third trimester of the mother's first pregnancy in 1975 for 18 years. We found that many families in the sample intentionally elected to bedshare as part of lifestyle and value choices favoring free and expressive interpersonal relationships, open emotional and bodily expression, pronaturalism, and generally more liberal attitudes towards sexuality. Many parents believed that these lifestyle and value choices would have important salutary effects on their children. With the single exception of significantly elevated scores in cognitive competence at age 6 years, our data suggest that bedsharing as a practice had no such effects.

On the other hand, our data also do not support fears that bedsharing would lead to psychosexually troubled relationships later in childhood and adolescence, behavior problems and difficulties in peer and intimate relationships, or early childhood sleep problems. If anything, there are mildly positive associations in early childhood and adolescence between bedsharing and psychosexual and affect-related variables, although effect sizes are small. Our lack of findings of negative outcomes is in accord with previous cross-sectional research from the cross-cultural literature, and it fits with our expectations from theory.

Although our findings of increased cognitive competence at age 6 years are interesting and certainly warrant attention in future research, there is no theoretical rationale for such findings of which we are aware. From an evolutionary perspective, the benefits of bedsharing ought to be found primarily in "primitive" brain development in early infancy rather than higher-order cognitive development in early childhood. If anything, one might have expected benefit in early childhood to accrue to affect-related variables such as emotional maturity. Therefore, we think it likely that findings of elevated cognitive competence are epiphenomenal—perhaps artifacts of some uncontrolled third variable.

It is possible that our study may have failed to detect other effects of bedsharing as a consequence of the most serious limitation of the study: the lack of the sort of precise measurement of bedsharing that is characteristic of biomedical investigations.[57,73] The kind of detail reported by McKenna and Mosko[6] were unavailable in the Family Lifestyles Project (FLS) study. Therefore, questions of frequency, duration, proximity, and so forth in bedsharing and cosleeping situations could not be addressed in detail. Further, although associations between pronaturalism, social attitudes, and bedsharing were significant, they were not as strong as we had expected and were clearly not the only reasons for the practice. Gender differences were small and very few, slightly favoring boys in benefits where they were found.

Although bedsharing did not have strong impacts on child and adolescent outcomes, other variables did. It is not the case that bedsharing does not have strong impacts simply because there are no predictors of adolescent outcomes at all. In other studies of the FLS longitudinal sample, we have found associations of teen and child behavior problems with parental and adolescent values; with troubled family circumstances, such as drug, alcohol, or mental health problems of the parents; and with lower socioeconomic status (SES), especially downward-tending income over time.[63–65,68,71] Garnier and Stein[68] found that parents with higher scores on conventional achievement, materialistic, and future-oriented values over the years had adolescents with fewer behavior problems, net of other factors. Humanistic, pronatural, and egalitarian values also were associated with a reduction in a range of delinquent behaviors, but they also were correlated with a somewhat higher risk of drug use, particularly for girls. Bedsharing viewed for analytical purposes as an isolated practice did not have deleterious consequences in our sample. But embedded as part of a wider set of pronatural child-rearing practices and framed by humanistic/egalitarian values, bedsharing could be seen as associated with fewer delinquent behaviors in adolescence. In all, it appears that long-term patterns in family life and peer relationships, not particular early practices such as bedsharing, were associated in the FLS sample with important outcomes in adolescence.[65]

Future research should include accurate and detailed comparisons of solitary sleep and bedsharing for neuroanatomical and physiological development, attempts to elucidate psychological mechanisms associated with bedsharing and cosleeping, and exploration of interrelationships of meanings and values associated with various types of sleeping arrangements. In this latter regard, parents in our study did not look back on bedsharing with particular regret or concern, nor did the children we interviewed at adolescence. Bedsharing is not different in this respect from other pronatural practices. Additionally, we believe that it is important to treat child and infant bedsharing independently, given that much of the biomedical literature promoting the practice of bedsharing stresses the benefits to infants.

We further believe that we are justified in urging professionals to be cautious about issuing warnings to parents regarding bedsharing. There is at present no evidence linking this practice, when engaged in responsibly, with any sort of problematic outcome. We question the assumption that solitary sleep is safer and more beneficial to children's well-being. Rather than issuing warnings to parents about bedsharing practices, our empirical evidence and review suggest that a conversation with parents about the meanings and contexts of bedsharing—its advantages and disadvantages as parents see them—would be far more helpful.

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