THE ECOLOGICAL CONTEXT OF UNION FORMATION AND INSTABILITY IN EMERGING ADULTHOOD: DO SEX RATIOS MATTER?

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ABSTRACT

Research has linked the local area sex ratio with the likelihood of marriage and divorce. However, it remains unknown whether the ecological context similarly influences transitions into and out of dating or cohabiting relationships. Utilizing data from the Toledo Adolescent Relationships Study (TARS) and the 2000 Census, this study adds to the research on marriage markets by assessing the effect of imbalanced sex ratios on the formation and instability of romantic relationships among young adults. Analyses indicate that females are more likely to form unions and less likely to break up with partners in markets with more alternatives, and males have more dating partners in favorable markets. Both males and females report cheating in imbalanced markets. It appears that the ecological context is not only influential for transitions into and out of marriage, but is also important for the process of searching for and evaluating partners prior to marriage.

EXTENDED ABSTRACT

Prior studies have found the sex ratio to be associated with both the likelihood of marriage and the risk of divorce. These behaviors are the end result of a matching process whereby individuals search for, find, and evaluate both current and potential partners—what Cherlin (2009) refers to as a coming and going of partners that is characteristic of intimate relationships in America. However, prior studies have yet to thoroughly examine the effect of sex ratios on behaviors that precede the decision to marry or divorce. Research assessing contextual influences on intimate relationships frequently focuses on how marriage market characteristics influence entry into and dissolution of marriage (e.g., Blau, Kahn, and Waldfogel 2000; Guzzo 2006; South and Lloyd 1992). For example, a shortage of men relative to women in the marriage market is associated with lower rates of marriage, higher rates of divorce, and higher rates of nonmarital child-bearing (Lichter, McLaughlin, Kephart, and Landry 1992; South and Lloyd 1992). The underlying explanation for these findings is that the sex ratio represents the availability of opportunities for individuals to form relationships (Fossett and Kiecolt 1991; South, Trent, and Shen 2001). Marital search models (Becker 1981; Oppenheimer 1988) posit that individuals search for mates in specific areas, and the probability of marriage is highest when the number of potential partners is greatest. Similarly, the sex ratio represents spousal alternatives in couples' local geographic context and is positively associated with the risk of divorce (South et al. 2001). Imbalanced sex ratio explanations (Guttentag and Secord 1983), however, focus on conflicting goals between men and women, suggesting greater dyadic power among the gender in short supply. According to this perspective, when sex ratios are imbalanced in favor of men, that is, when men have more available partners, they tend to delay marriage, believing it unnecessary to commit to a single partner (Guttentag and Secord 1983; Harknett 2008; Lloyd and South 1996; Wilson 1996).

Despite this evidence, it remains unknown whether the ecological context, measured by the sex ratio, influences transitions in to and out of dating or cohabiting relationships in a manner similar to marriage. The current study adds to the existing research on marriage markets by analyzing the effect of imbalanced sex ratios (alternative partners) on the formation and instability of romantic relationships among young adults. This question is particularly relevant for this population since "[e]stablishing satisfying, long-term intimate relationships is one of the main challenges of early adulthood" (Amato and Booth 1997:84; see also Arnett 2004). Because many of the determinants of union formation and instability vary between men and women (South and Crowder 2000), we explore differential effects of sex ratio imbalance by gender. It is important to assess if the availability of alternative partners influences the behavior of unmarried individuals similarly to that of the married, given the role of dating (Longmore, Manning, and Giordano 2001) and even cohabitation (Manning, Longmore, and Giordano 2007) in the normal progression of intimate unions.

DATA AND METHODS

The current study utilizes survey data from the latest wave of the Toledo Adolescent Relationships Study (TARS) merged with 2000 Census data. TARS is a longitudinal study exploring the nature and meaning of adolescent relationship experiences (e.g., family, peers, and dating partners) in an effort to discover how experiences associated with age, gender, and race and ethnicity influence the meaning of dating, cohabitating, and marital relationships in adolescence and emerging adulthood. A stratified, random sample was drawn from the enrollment records of registered students in the 7^{th}, 9^{th}, and 11^{th} grades in Lucas County, Ohio (n = 1,321), a largely urban metropolitan area that includes the city of Toledo. Respondents were ages 17-24 at Wave 4 (2006). Contextual data from the 2000 U.S. Census was appended to the

TARS data by geocoding respondents' addresses (matching corresponding block group and tract number). An advantage of TARS over other datasets is the inclusion of measures capturing actual cheating perpetration and respondents' perceptions of available alternatives. The latter measure is important given that imbalanced sex ratios are presumed to operate through this mechanism (see South et al. 2001). The final analytic sample is fairly evenly split by gender (51% female [n=352], 49% male [n=366]).

Measures. We analyze several behavioral indicators of union formation (currently dating, currently cohabiting) and instability (number of dating partners, breaking up with dating partners, and cheating/sexual infidelity). Our key independent variable of interest is the proportion of available partners in respondents' immediate market. Based on both the age of our sample and the range of dating partner ages (as reported by TARS respondents), we created a modified sex ratio to represent the availability of partners among all 18-34 year olds. For men, partner availability was calculated as the ratio of 18-34 year old females in the census tract to 18-34 year old males, multiplied by 100. The inverse of this formula was used to estimate available partners for females. This resulting indicator is directionally consistent across gender, where high scores represent greater alternatives for both men and women. We also control for several individual-level characteristics: age, race/ethnicity, employment status, presence of children, family structure, and family socioeconomic status.

Analyses. We use logistic regression to model current relationship status (dating, cohabiting) and cheating, and a negative binomial model for the number of respondents' dating partners in the past two years and the number of times respondents have broken up with a partner. All analyses are stratified by gender. We estimate an ecological model (sex ratio only) and a model combining sex ratio and individual-level factors. Preliminary analyses tested for nonlinear effects of the sex ratio—this squared term is retained only where it is significantly associated with the outcome.

PRELIMINARY FINDINGS

The modified sex ratio, prior to mean-centering and z-scoring, has a mean of 93.0 for females (SD 15.9), and 106.2 (SD 16.9) for males, indicating more favorable markets for males, in general. After mean-centering and z-scoring (separately by gender), the modified sex ratio for females ranges from 3.6 standard deviations below the mean to 2.6 deviations above; for males, the range is 2.2 standard deviations below the mean to 4.5 deviations above. The majority of respondents report currently being in a relationship.

The multivariate analyses assess the effect of young adults' ecological context, specifically the availability of potential partners as represented in a modified sex ratio, on union formation and instability. We explore two measures of union formation: currently being in a romantic relationship and, if in a relationship, whether dating or cohabiting. For females, there is a nonlinear effect of sex ratio on current relationship status, suggesting that females are more likely to be in relationships when they are in favorable markets, and that partner availability exerts an exponential effect on odds of being in a relationship. Once individual-level variables are introduced, the significance of the effect decreases, but a trend remains ($p=0.068$, see Table 2). The sex ratio is not significantly associated with relationship status for males, nor does it distinguish between dating and cohabitation for males and females.

Our three measures of union instability include: the number of dating partners during the past two years, the frequency of breaking up with the current/most recent partner, and cheating (sexual infidelity). First, for female respondents, the ecological model showed no significant effect of sex ratio on number of dating partners; however, sex ratio is negatively associated with breaking up among female respondents. Female respondents break up less often when in markets that are actually more favorable to them. The effect remains negative but is no longer significant

after controlling for individual-level factors. Second, among male respondents, the effect of sex ratio imbalance is linear, positive, and significant. Males have a greater number of dating partners in markets more favorable to them. The significance of this effect remained even after controlling for individual-level measures, but sex ratio is not associated with breaking up for males. Finally, for both males and females, cheating is highest when sex ratios are imbalanced—that is, when alternative partners are extremely plentiful, or extremely scarce. The figure below illustrates the curvilinear effect of sex ratios on cheating. The odds of cheating are lowest when the sex ratio is closest to its mean, and increase exponentially as the imbalance increases. Consistent with past research (e.g., South et al. 2001), the effect of this imbalance is not significantly different between males and females; however, in the model combining ecological and individual-level predictors, the effect of sex ratio is no longer significant for females, but retains significance among males (see Table 6).

CONCLUSIONS

The present study explores the effect of ecological context, measured in terms of sex ratio imbalance, on the formation and instability of romantic relationships among young adults. Females are influenced by the sex ratio in that they are more likely to form unions and less likely to break up with their partners in markets where they have more alternatives. The negative relationship between sex ratio imbalance and breaking up may indicate selectivity among females—that is, they may be choosing the best partner among many choices. Males, on the other hand, have more dating partners in favorable markets. Both males and females report cheating in imbalanced markets. Therefore, it appears that the ecological context is not only influential for the transition in and out of marriage, but is also important for the process of searching for and evaluating partners prior to marriage. While the results reported here are based on sex ratios computed from all individuals ages 18-34, we also analyzed sex ratios of unmarried 18-34 year-olds; the results are similar, with the exception of the relationship between sex ratio and cheating, which is not significantly associated with this more refined sex ratio. We are currently in the process of exploring the anomaly that the availability of any 18-34 year-olds is associated with cheating while the availability of unmarried individuals is not. Perhaps this illustrates the notion that all individuals, regardless of marital status, are perpetually on the market (Farber 1987). Additionally, we are also exploring the role of perceiving alternatives in the association between the ecological context of availability and the individual behavior of cheating in an effort to further explicate the mechanism linking partner availability and sexual infidelity.

REFERENCES

Amato, Paul R. and Alan Booth. 1997. *A Generation at Risk: Growing up in an Era of Family Upheaval*. Cambridge, MA: Harvard University Press.

Arnett, Jeffrey Jensen. 2004. *Emerging Adulthood: The Winding Road from the Late Teens through the Twenties*. Oxford, England: Oxford University Press.

Becker, George S. 1981. *A Treatise on the Family*. Cambridge, MA: Harvard University Press.

Blau, Francine, Lawrence Kahn, and Jane Waldfogel. 2000. "Understanding Young Women's Marriage Decisions: The Role of Labor and Marriage Market Conditions." *Industrial and Labor Relations Review* 53:627-647.

Cherlin, Andrew J. 2009. *The Marriage-Go-Round: The State of Marriage and the Family in America Today*. New York: Alfred A. Knopf.

Farber, Bernard. 1987. "The Future of the American Family: A Dialectical Account." *Journal of Family Issues* 8:431-433.

Fossett, Mark A. and K. Jill Kiecolt. 1991. "A Methodological Review of the Sex Ratio: Alternatives for Comparative Research." *Journal of Marriage and Family* 53:941-957.

Guttentag, Marcia and Paul F. Secord. 1983. *Too Many Women? The Sex Ratio Question*. Beverly Hills, CA: Sage Publications.

Guzzo, Karen Benjamin. 2006. "How Do Marriage Market Conditions Affect Entrance into Cohabitation Vs. Marriage." *Social Science Research* 35:332-355.

Harknett, Kristen. 2008. "Mate Availability and Unmarried Parent Relationships." *Demography* 45:555-571.

Lichter, Daniel T., Diane K. McLaughlin, George Kephart, and David J. Landry. 1992. "Race and the Retreat from Marriage: A Shortage of Marriageable Men?" *American Sociological Review* 57:781-799.

Lloyd, Kim M. and Scott J. South. 1996. "Contextual Influences on Young Men's Transition to First Marriage." *Social Forces* 74:1097-1119.

Longmore, Monica A., Wendy D. Manning, and Peggy C. Giordano. 2001. "Preadolescent Parenting Strategies and Teens' Dating and Sexual Initiation: A Longitudinal Analysis." *Journal of Marriage and Family*:322-335.

Manning, Wendy D., Monica A. Longmore, and Peggy C. Giordano. 2007. "The Changing Institution of Marriage: Adolescents' Expectations to Cohabit and Marry." *Journal of Marriage and Family*:559-575.

Oppenheimer, Valerie Kincade. 1988. "A Theory of Marriage Timing." *American Journal of Sociology* 94:563-591.

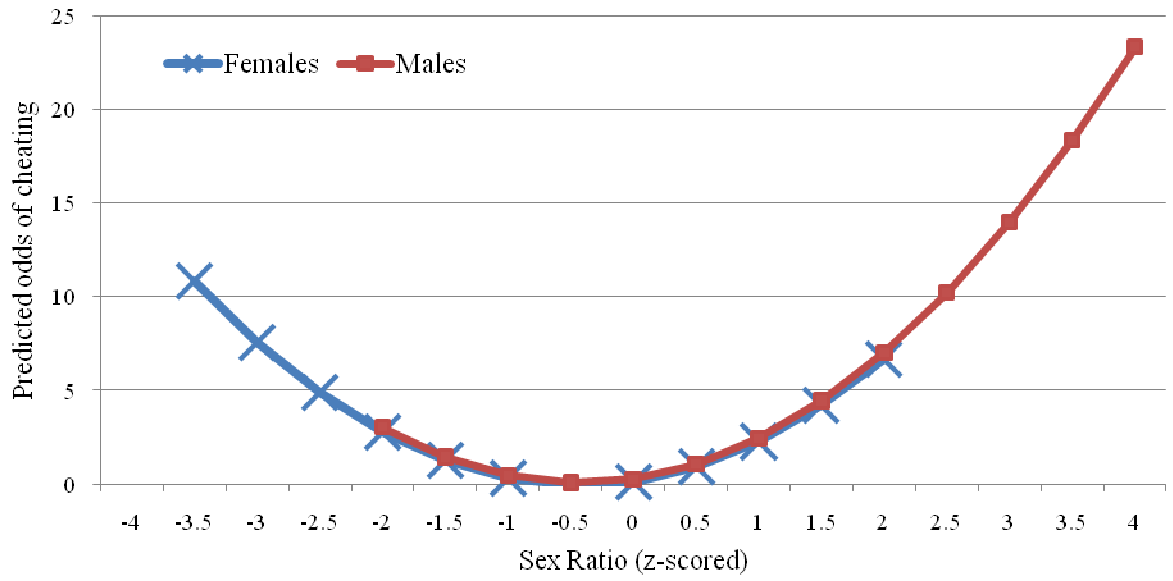
South, Scott J. and Kyle D. Crowder. 2000. "The Declining Significance of Neighborhoods? Marital Transitions in the Community Context." *Social Forces* 78:1067-1099.

South, Scott J. and Kim M. Lloyd. 1992. "Marriage Opportunities and Family Formation: Further Implications of Imbalanced Sex Ratios." *Journal of Marriage and Family* 54:440-451.

South, Scott J., Katherine Trent, and Yang Shen. 2001. "Changing Partners: Toward a Macrostructural-Opportunity Theory of Marital Dissolution." *Journal of Marriage and Family* 63:743-754.

Wilson, William Julius. 1996. *When Work Disappears: The World of the New Urban Poor*. New York: Alfred A. Knopf.

Figure 1: The Association between Sex Ratio Imbalance and the Odds of Cheating among Young Adults, by Gender



Note: Difference between the predicted lines for females and males is not statistically significant ($p. < 06$)

SELECTED TABLES

Table 2. Ecological Context and Union Formation: Currently in a Romantic Relationship, Logistic Regression

	Females (n=366)		Males (n=352)	
	Exp(β)	Exp(β)	Exp(β)	Exp(β)
Intercept	2.632***	0.091	1.744***	0.058*
Ecological-Level Factors				
Sex ratio	1.203	1.183	1.085	1.033
Sex ratio squared	1.246*	1.214†	1.004	0.988
Individual-Level Factors				
Age		1.201*		1.182*
Black		0.957		1.886†
Hispanic		0.923		2.392*
Has child		0.888		1.878
Employment status				
Working		0.523†		1.009
School		0.618		0.854
Family Structure				
One parent biological		1.557		0.829
Stepparent		1.582		1.587
Other family structure		1.307		0.398
Family Socioeconomic Status				
Mother < high school education		0.450*		0.647
Mother > high school education		0.536†		0.853
Total parent income		1.004		0.998

Notes: † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 6. Ecological Context and Union Formation: Cheated on Current/Most Recent Romantic Partner, Logistic Regression

	Females (n=366)		Males (n=352)	
	Exp(β)	Exp(β)	Exp(β)	Exp(β)
Intercept	0.143***	0.007*	0.266***	0.027*
Ecological-Level Factors				
Sex ratio	0.974	1.050	0.996	0.797
Sex ratio squared	1.150*	1.090	1.191**	1.164*
Individual-Level Factors				
Age		1.123		1.133
Black		2.744*		2.165*
Hispanic		1.893		1.585
Has child		0.380*		3.023**
Employment status				
Working		1.166		0.720
School		0.889		0.264**
Family Structure				
One parent biological		2.900*		1.423
Stepparent		2.504*		1.319
Other family structure		1.287		5.774*
Family Socioeconomic Status				
Mother < high school education		1.383		0.757
Mother > high school education		0.515		0.798
Total parent income		1.002		0.993

Notes: † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$