

Chapter 3

Female Autonomy and Demographic Behavior

Using the EDHS data we now examine whether two important demographic outcomes, the current use of contraception by women and the survival of their young children, are associated systematically with the three defined indices of autonomy. Note that the current use of contraception is highly correlated with fertility in Egypt (Sayed et al., 1989). Although causality between the indices of autonomy and the two demographic outcomes cannot be determined, we try to detect differences in the sensitivity of the demographic variables to each of the three autonomy indices.

The overall expectation is that women with greater autonomy are more likely to use modern contraception and have a higher survival rate of their young children. More specifically, we believe that women who are in favor of women having some control over decisions that affect their lives, as well as women who do have control over such decisions, are more likely to adopt modern contraception and less likely to experience child mortality. There are two main arguments supporting such an expectation: one concerns the empowerment of women and another follows from the correlates of autonomy.

Where women are empowered to make vital decisions concerning their lives and circumstances they are, by definition, in a better position to take care of their own interests. When decisions are being made by men for women, women's interests may be totally ignored or they may not be given the same weight as those of men. To the extent that the net costs (the benefits minus the costs) of demographic events such as the birth of another child or the death of an infant are different for men and women (Caldwell, 1979, 1986; Ware, 1981) it will matter whether women's interests are fully represented or not when vital decisions are being made.

Further, the effective prevention of pregnancy and child mortality needs innovative action in an environment such as that of Egypt where both fertility and infant mortality are relatively high. Women have the responsibility of bearing children and looking after their health and welfare. Not allowing them control over decisions that directly and indirectly bear on this role is likely to limit their options and hinder them from taking actions they deem more appropriate. Thus, we expect that autonomous women, who are used to the responsibility of making and carrying out decisions regarding the welfare of their children and households, will also be more likely to have the capability of taking innovative action than women who have no direct control over their lives (Knodel et al., 1990; Dyson and Moore, 1983).

Women who are more educated, who have some financial independence, and who live in households in which kinship structures promote gender equality are likely to be the ones who are also more autonomous (Mason, 1987; Dyson and Moore, 1983). Higher education and work outside the home have the two-pronged effect of raising the opportunity cost of the time spent having and rearing children (Standing, 1983), on the one hand, and of increasing awareness and exposure to new ways of thinking and doing things on the other (Lerner, 1958; Inkeles and Smith, 1974; Levine et al., 1987). In addition, the aspiration structure that affects the demand for children (Mason and Palan, 1981) is also likely to be altered in more educated households: raising the quality of children (in terms of health and education) is likely to be emphasized in favor of increasing the quantity of children. Kinship systems that generate greater gender equality have been found to be associated with lower infant mortality and fertility (Dyson and Moore, 1983).

Thus, women who are more autonomous are not only more likely to have the power and the freedom to take innovative action, but also, we believe, are more capable of taking such action. Further, the opportunity cost of having another child or having a child who then dies is likely to be higher for autonomous women since they are also likely to be the ones who are educated and working outside the home. Together these arguments imply that greater autonomy of women should be associated with lower child mortality and higher contraceptive use.

3.1 Autonomy Indices and the Use of Contraception

In order to determine whether there is an association between contraceptive use and the autonomy of women we examine two sets of statistics for each of the three indices: the mean autonomy by contraceptive use and the percent of women using modern contraception at each value of the index. This allows us to determine not only how a woman using contraception differs in autonomy, on average, from one who is not currently using contraception, but also whether women at higher levels of autonomy are more likely to be using modern contraception than those at lower levels of autonomy. This two-pronged approach is especially justified given the non-normal distributions of the indices of noncustomary autonomy and customary autonomy noted earlier.

Examining the autonomy level by contraceptive use in Table 3.1, we find that the mean autonomy index value for each of the three indices is always greater among women using modern contraception than among those using no contraception at all. The difference in autonomy between users of modern contraception and nonusers is greatest when autonomy is measured by the noncustomary autonomy index. On average, women using modern contraception have a noncustomary autonomy index value 34% higher than those using no contraception. The corresponding differences when autonomy is measured by the customary autonomy index and by the realized autonomy index are 24% and 22%, respectively. These differences are all statistically significant.

The higher mean autonomy of women using contraception persists even when controlling for the number of children ever born (i.e., reading down the columns in the main body of Table 3.1). At each parity, and for all three indices, women using contraception have a significantly higher mean autonomy level (the z-scores are significant at a probability of .01 or less) than women not using contraception. In passing, it is worth noting that at higher parities, the mean autonomy of women using traditional methods of contraception is consistently higher than that of women using modern contraceptives for all three indices. A possible explanation for this result is that women using traditional contraceptives may be those that live in a cultural milieu in which contraception is not acceptable and modern contraception is totally ruled out. Under these circumstances, to use any method at all would be innovative and associated with much higher levels of autonomy. However, not only does such speculation need a multivariate analysis to verify, but the result we are explaining may itself be an artifact of the small sample sizes involved. Women using traditional contraceptives are only 2% of all women and 6% of those using any contraceptives.

Figure 3.1 reveals that the higher the index of autonomy, the higher the percent share of women using modern contraception. Women scoring the maximum value on either the customary autonomy index or the noncustomary autonomy index are twice as likely to be using modern contraceptives than women scoring 0 on either of the two indices. The difference in the proportion using modern contraceptives among women at the two ends of the realized autonomy scale is even greater: women scoring 4 are two and a half times more likely to be using modern contraception than women scoring 0.

Table 3.1 Mean values of customary autonomy, noncustomary autonomy, and realized autonomy by contraceptive method and number of children

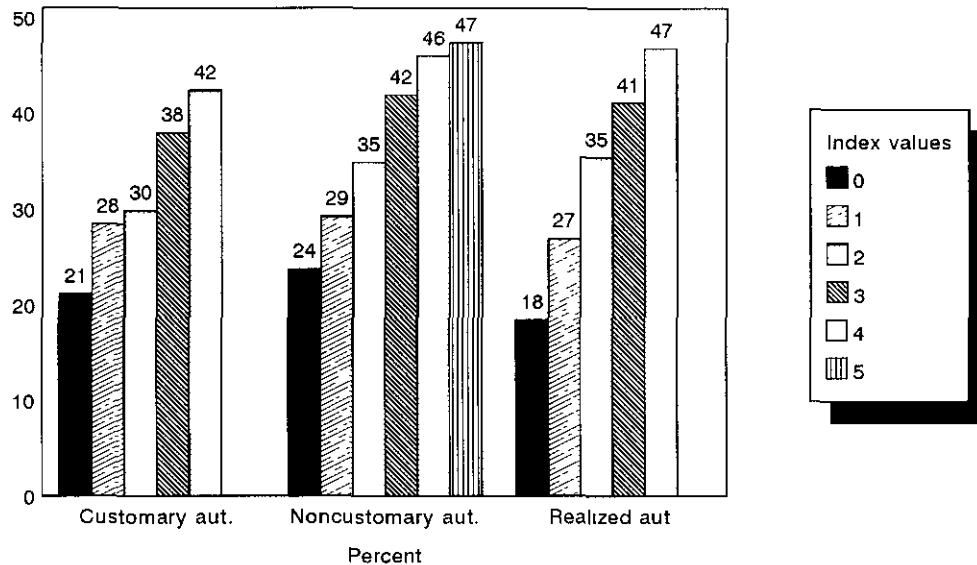
Contraceptive method	Children ever born						Number	Total mean
	0	1	2	3	4	5+		
MEAN VALUES OF THE INDEX OF CUSTOMARY AUTONOMY								
No method	2.94	2.80	2.69	2.44	2.50	2.16	5085	2.50
Traditional	-	3.13	3.53	3.39	3.34	2.93	195	3.22
Modern	4.00 ^a	3.43	3.46	3.28	3.15	2.80	2935	3.11
$Z_{(M_m-M_{nm})}$ ^b	1.36	5.32*	9.03*	9.54*	6.70*	10.40*		16.62*
MEAN VALUES OF THE INDEX OF NONCUSTOMARY AUTONOMY								
No method	2.18	2.18	2.09	2.02	1.86	1.70	5087	1.94
Traditional	-	2.67	2.75	3.14	3.06	2.60	195	2.82
Modern	4.25 ^a	3.09	3.08	2.86	2.66	2.14	2935	2.60
$Z_{(M_m-M_{nm})}$ ^b	2.44*	7.23*	10.51*	8.62*	7.71*	7.48*		17.36*
MEAN VALUES OF THE INDEX OF REALIZED AUTONOMY								
No method	2.31	2.33	2.26	2.10	2.06	1.78	5087	2.06
Traditional	-	2.53	2.56	2.75	2.86	2.30	195	2.55
Modern	3.50 ^a	2.81	2.84	2.68	2.52	2.23	2935	2.51
$Z_{(M_m-M_{nm})}$ ^b	1.92	5.27*	8.71*	8.63*	6.21*	10.56*		16.48*
N	751	917	1225	1212	1040	3072	8217	2.24

^aOnly 4 cases

^b M_m is the mean for women using modern contraceptive methods, M_{nm} is the mean for women not using any contraceptive method and $Z_{(M_m-M_{nm})} = (M_m - M_{nm}) / \sigma_{(M_m-M_{nm})}$

*Significant at $p \leq 0.01$

Figure 3.1
Percent of women using modern contraception* at
each value of the three autonomy indices



Note: Women using modern contraceptives comprise 36% of all currently married women.

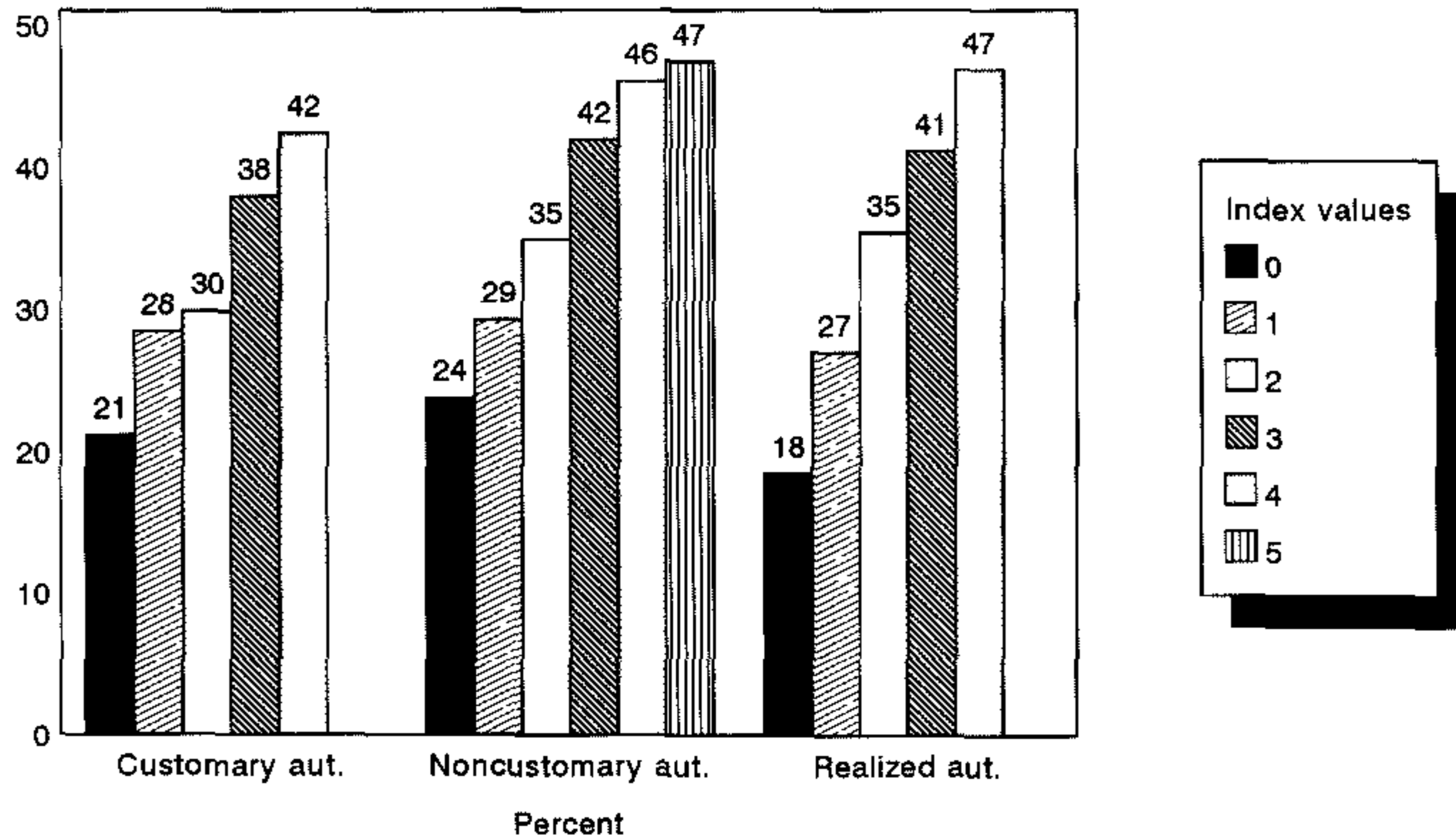
Thus the evidence suggests a positive bivariate association between the use of modern contraceptives by women and all three measures of autonomy. Although customary autonomy appears to have the weakest association with modern contraceptive use, no one index emerges as having the strongest association with it. The difference in mean autonomy between users of modern contraception and nonusers is greatest when autonomy is measured by the noncustomary autonomy index. Also, those who have the highest score on noncustomary autonomy are the ones most likely to be using modern contraceptives. However, the difference in percent using modern contraception between women with the lowest scores and those with the highest scores is greatest for the realized autonomy index.

3.2 Autonomy Indices and Numbers of Children Dead by Age 5

As a first step to determine whether the mortality of young children and the autonomy level of their mothers are correlated, women were categorized according to their net parity and the number of their children who had died between the ages of 0 and 5. The net parity of each woman is the number of children ever born to her *minus* the number of her currently surviving children between the ages of 0 and 5. Net parity rather than number of children ever born is used as the control variable in order to eliminate the bias due to censoring of the mortality experience of children who have not yet completed 5 years of age. Two separate measures within each net-parity-by-number-of-children-dead category for all autonomy indices were then calculated: the mean autonomy level of women in each category and the percent of women in each category that had the highest levels of autonomy. The results are given in Tables 3.2 and 3.3.

Looking across the rows of Table 3.2 we find that at each net parity, women who have no children dead have a higher mean autonomy level than women who have one or more children dead. Also, when autonomy is being measured by the customary autonomy index and the noncustomary autonomy index, the mean autonomy level of women with 0 children dead is always greater than the mean autonomy level

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Table 3.2 Mean levels of the indices of customary, noncustomary, and realized autonomy by number of children dead and number of children ever born who are not currently between the ages of 0 and 5

Net parity ^d	Number of children dead between the ages of 0 and 5						$Z_{(M_0-M_x)}$ ^b	Number
	0	1	2	3	4	5+		
MEAN VALUES OF THE INDEX OF CUSTOMARY AUTONOMY								
0	2.93						-	2535
1	2.93	2.34					5.04*	887
2	2.96	2.39	1.83				5.76*	946
3	3.09	2.66	2.13	2.14			3.08*	897
4	2.98	2.55	2.57	2.45	-		2.11*	777
5+	2.68	2.62	2.30	2.18	2.02	1.85	5.35*	2172
MEAN VALUES OF THE INDEX OF NONCUSTOMARY AUTONOMY								
0	2.32						-	2535
1	2.38	1.62					6.30*	887
2	2.56	1.83	1.26				5.99*	947
3	2.60	2.24	1.39	1.41			3.19*	897
4	2.44	2.00	2.06	1.58	-		3.11*	777
5+	2.09	2.09	1.85	1.68	1.76	1.61	3.06*	2174
MEAN VALUES OF THE INDEX OF REALIZED AUTONOMY								
0	2.39						-	2535
1	2.42	2.05					4.10*	887
2	2.54	2.01	1.72				5.64*	947
3	2.42	2.07	1.77	2.09			1.31	897
4	2.30	2.12	1.86	2.03	-		1.35	777
5+	2.10	2.09	1.94	1.87	1.69	1.66	3.88*	2174
N	5334	1531	700	357	153	142	-	8217

^d See text for definition

^b M_0 is the mean when number of children dead is 0, and M_x is the mean when number of children dead is the maximum possible for that parity and $Z_{(M_0-M_x)} = (M_0 - M_x) / \sigma_{(M_0-M_x)}$

*Significant at $p \leq 0.01$

of women with the maximum number of children dead that is possible at each net parity. The difference in means of these two categories of women is also statistically significant (eighth column). In the case of the realized autonomy index, the difference in the mean autonomy of women with 0 children dead and those with the maximum possible dead at each parity is also positive and significant, but only for women who had a net parity of less than 3 or more than 4. For women with net parity 3 or 4, there is no significant difference in realized autonomy among women with no children dead and those with 3 children dead. (Note that there were no women in the sample with a net parity of 4 with 4 children dead between ages 0 and 5.)

Interestingly, the difference in mean autonomy of women with 0 children dead and those with the maximum number possible dead is greatest for women at parity two for each of the three indices. Women with a net parity of 2 who have 0 children dead have a mean customary autonomy index value 38% higher, a mean noncustomary autonomy index value 51% higher, and a mean realized autonomy index value 32% higher than women who have both children dead. This difference is greatest at all other parities for autonomy measured by the noncustomary autonomy index and least for autonomy measured by the realized autonomy index.

Similarly, looking across the rows of Table 3.3 we find that the share of women scoring the highest possible scores on each index is higher among women who have no children dead than those who have experienced at least one child death. Further, if we measure the difference in likelihood of being in the highest autonomy group among women with zero children dead and women with the maximum number of children dead possible at each net parity, the difference is greatest for autonomy measured by the noncustomary autonomy index. Thus, although child survival appears to be associated with autonomy as measured by all three indices, the analysis suggests that it is especially sensitive to noncustomary autonomy.

We conclude that both contraceptive use by women and the relative survival of children are positively associated with the level of autonomy of women. Women using modern contraception and experiencing no child deaths are likely, on average, to have a higher autonomy score on all dimensions of autonomy than those who use no contraception and do experience child deaths. Although not conclusive, this analysis further suggests that the different aspects of autonomy do not have an equal and identical association with demographic outcomes. Believing that women should have autonomy in matters not related specifically to children (noncustomary autonomy) is more consistently and positively associated with desired demographic behavior than are the other two dimensions of autonomy.

Table 3.3 Percent of women who have the highest scores on customary autonomy, noncustomary autonomy, and realized autonomy by the number of children dead, at each net parity level

Net parity ^a	Number of children dead between the ages of 0 and 5						Ratio of col. 2 and col. x ^b
	0	1	2	3	4	5+	
PERCENT OF WOMEN WHO SCORE 4 ON INDEX OF CUSTOMARY AUTONOMY							
0	60.99						-
1	60.03	47.96					1.25
2	60.20	45.56	26.15				2.30
3	63.08	51.53	32.79	45.45			1.39
4	58.13	47.56	45.35	50.00	-		1.16
5+	51.13	47.78	40.45	43.77	33.99	30.28	1.69
PERCENT OF WOMEN WHO SCORE 4 OR 5 ON INDEX OF NONCUSTOMARY AUTONOMY							
0	28.48						-
1	30.90	13.75					2.25
2	35.47	21.11	12.31				2.88
3	35.55	30.13	11.48	18.19			1.95
4	30.71	22.35	19.77	13.16	-		2.33
5+	24.02	23.06	17.83	14.81	16.34	16.20	1.48
PERCENT OF WOMEN WHO SCORE 3 OR 4 ON INDEX OF REALIZED AUTONOMY							
0	49.51						-
1	50.00	37.17					1.35
2	55.41	36.67	24.62				2.25
3	49.92	38.43	26.23	45.46			1.10
4	45.95	40.65	22.09	42.10	-		1.09
5+	39.84	38.55	33.20	30.64	22.23	26.06	1.53

^aSee text for definition

^bAt each net parity column 2 is the column corresponding to 0 children dead and column x is the column for the maximum possible number of children dead.

- Indicates no cases

