

## Membership in a Religious Commune: The Shakers, 1850–1870<sup>1</sup>

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Membership decisions in a religious commune can be influenced by religious, social, and economic factors. Using the theories of religious behavior proposed by economists and sociologists of religion and the data from the enumeration schedules of the U.S. Population censuses, we focus on the Shakers during the period between 1850 and 1870 to examine membership decisions in a religious commune. We identify trends in the changing distribution of communal membership, factors affecting the likelihood of persisting as a Shaker, and the contributions of these factors to the numerical decline of the Shakers. © 2001 Academic Press

Recent developments in the economics of religion have fueled a new debate within the social-scientific study of religion. Although religious phenomena had previously been considered as being outside of the domain of economics, a large body of literature has recently emerged that seeks to explain the nature and consequences of religious behavior and institutions from an economic perspective (Iannaccone, 1998). Contrary to explanations of religious behavior that have emphasized cultural and sociological factors, economic explanations have typically applied economic concepts and models by viewing believers as rational consumers and religious organizations as clubs or firms that collectively constitute a religious market. These insights have also been applied to explain religious behavior and institutions in history, as can be seen in such wide ranging applications as the explanations of the comparative productivity of the Amish, the organization of the Medieval Catholic Church, and changing trends in American church membership rates (Coşgel, 1993; Ekelund *et al.*, 1996; Finke and Stark, 1992).<sup>2</sup>

One of the forms in which religious ideals have found expression throughout American history has been religious communalism. A religious commune can be

<sup>1</sup> We thank Ken Couch, Bill Lott, Steve Miller, Subhash Ray, the Editor, and three referees of this journal for helpful comments and suggestions.

<sup>2</sup> See also Kuran (2000) and Berman (2000) for examples of economic explanations of behavior and institutions in Islamic societies and among ultra-Orthodox Jews.

viewed as a collection of individuals united under a common religious belief, living, working, and worshipping together and seeking to benefit from the joint pursuit of prescribed goals. Because the members of a religious commune share not only a religious belief but also income and various social phenomena, a peculiar mixture of religious, social, and economic factors can affect membership decisions. For example, an individual might stay in a religious commune for spiritual reasons, to find a sense of belonging, or to avoid unemployment.

This paper will use the theories of religious behavior proposed by economists and sociologists of religion to study the history of a religious commune called the United Society of Believers, commonly known as the Shakers. Three issues guide the inquiry. The first is to examine the trends in the changing characteristics of the Shakers. For a quantitative analysis of Shaker membership, we use the information in the enumeration schedules of the decennial federal censuses of population. Focusing on the period between 1850 and 1870, we first identify Shaker membership in the schedules and examine its distribution by age, sex, birthplace, occupation, and kinship ties. Our results show that the Shaker population changed toward more females, elderly, foreign born, and unskilled individuals during this period. The proportion of those with kinship ties decreased.

The second issue is to examine the factors that determined the persistence of individuals in Shaker communities. Identifying individuals who stayed in Shaker communities between two consecutive censuses and others who left for outside opportunities, we use regression analysis to examine factors that affected the likelihood of staying a Shaker. We find that various personal characteristics (age, gender, leadership, and veteran status within the community) were significant influences on Shaker persistence. In addition, the presence of kinship relationship with other Shakers, the size of one's community and its status within the Shaker hierarchy, and the availability of religious and secular alternatives affected the likelihood of staying a Shaker.

The last issue is to examine the changes in the total population of the Shakers over time. What caused the decline in the population of the Shakers during this period, having reached a peak around 1850? Although previous authors have sought to explain the numerical decline of the Shakers by proposing a relationship between Shaker population levels and external economic conditions, rarely have they supported these explanations with satisfactory evidence (Murray, 1995a, p. 44). Neither have they distinguished between the effects of changing behavior and characteristics on the declining Shaker population.<sup>3</sup> By decomposing declining Shaker persistence into components, we find that changes in the structure of the relationship between explanatory variables and Shaker persistence, rather than changes in the characteristics of the Shakers or their external

<sup>3</sup> We thank an anonymous reviewer for alerting us to the distinction between the effects of changing characteristics and behavior (coefficients).

environment, were primarily responsible for the numerical decline of the Shakers.

## THE SHAKERS AND THEIR MEMBERSHIP

The Shakers began in 1774 when founder Ann Lee and a handful of followers emigrated from England to the United States. After organizing its first commune in 1787 near Albany, New York, the movement soon expanded by establishing 10 new communities in New York and New England by 1800. Within 10 years of the missionary expedition of 1805, the Shakers added five more settlements in Ohio and Kentucky, eventually reaching a total of 21 communities by 1830. Altogether, the Shakers maintained seventeen communities that lasted more than 75 years, spread through a crescent from Maine to western Kentucky. Although many of the Shaker communities gradually dissolved during the first half of the 20th century, there are a handful of Shakers who now live at the Sabbathday Lake, Maine, community.

The Shakers have had a profound effect on American society and culture even though their numbers never reached beyond a very small fraction of the American population. As a contemporary sign acknowledging the importance of Shakerism among American religions, the Census Bureau allocated a separate entry (as one of 27 entries) to the Shakers in 1872, in a summary table of the "Statistics of Churches in the United States at the Censuses of 1870, 1860, and 1850" (U.S. Bureau of the Census, 1872, Tables XVII-A and XVII-B). Widely recognized as one of the most successful religious communes in American history, the Shakers have been well known for their commitments to celibacy, communalism, and sexual equality (Stein, 1992). In addition, they have enjoyed a national reputation for some of their products like furniture, brooms, garden seeds, and medicinal herbs and roots. Recently, there has been a resurgence of interest in the Shakers and their history, as can be observed in the increasing attention they receive from both the general public and also scholars in a variety of disciplines (Stein, 1992, pp. 422–432).

Information in the enumeration schedules of the federal censuses of population makes it possible to estimate the changes in Shaker population in 10-year intervals. Each census year, enumerators combed the nation, recording detailed information about each household on standardized forms. Shaker settlements are generally easy to identify in the census schedules because most of these settlements were clearly labeled as "Shakers" by the enumerators. When they were not labeled, one can identify Shaker "households" by searching for large households in the manuscript schedules of towns that are supposed to contain a Shaker community and then comparing recorded names with the lists of Shaker names from other sources.<sup>4</sup> Using this procedure, Brewer (1986, p. 215) found that

<sup>4</sup> See Bainbridge (1982, p. 354) for a more detailed description. We thank William Bainbridge for providing us information about the location of Shaker settlements in microfilms.

TABLE 1  
The Size and Distribution of Shaker Membership

		All shakers			Members aged 16–66		
		1850	1860	1870	1850	1860	1870
SIZE	Number of members	3827	3520	2645	2337	2171	1549
SEX	Proportion female	58%	59%	61%	60%	61%	62%
		(3827)	(3520)	(2645)	(2337)	(2171)	(1549)
AGE	Average age	36	36	38	38	39	41
	Proportion ages 0–15	25	27	24			
	ages 16–24	15	16	14	25	26	21
	ages 25–49	30	25	26	49	41	45
	ages 50–66	16	20	20	27	33	35
	ages 67+	14	12	15			
		(3827)	(3520)	(2645)	(2337)	(2171)	(1549)
BIRTHPLACE	Proportion born in the same state as the Shaker community	49	47	49	46	45	46
	Born in other states	43	41	38	44	41	36
	Foreign born	8	12	13	10	14	18
		(3769)	(3511)	(2607)	(2296)	(2167)	(1538)
OCCUPATION	Proportion mobile skilled	29	25	15	30	25	16
	Shaker-specific skilled	11	13	6	10	13	6
	Unskilled	57	55	74	56	54	73
	Leader	4	7	5	4	8	5
		(1112)	(1770)	(1750)	(870)	(1484)	(1201)
KINSHIP	Proportion with shared last names	59	53	42	57	51	40
		(3827)	(3520)	(2645)	(2337)	(2171)	(1549)
PERSISTENCE	Proportion that remained Shakers until the next census	48	37		58	47	
		(3827)	(3520)	(2645)	(2337)	(2171)	(1549)

*Source.* U.S. Bureau of the Census, (1850–1870), Enumeration Schedules of the Federal Population Censuses.

*Note.* Figures in parantheses are the total number of observations for which census schedules provide complete information about the corresponding variable.

Shaker membership consisted of 538 individuals in 1790 and increased to 1373 in 1800. As Table 1 shows, however, having reached a peak of 3,872 individuals in 1850, the total population of the Shakers started to decline thereafter.<sup>5</sup> In 1860,

<sup>5</sup> While the number of Shakers was declining during this period, the population of towns surrounding Shaker communities was rising (about 13% between 1850 and 1860 and about 10% during the next decade). As a result, the proportion of the Shakers declined from about 7% of the population of surrounding towns to about 6% in 1860 and 4% in 1870.

the U.S. census recorded a total of 3,520 members, which fell sharply to 2,645 members in 1870, and to 855 by 1900.<sup>6</sup>

Although there are no precise estimates of the total membership of all American religious communes, the evidence indicates that other “successful” (i.e., long-lived) religious communes also experienced a trend similar to that of the Shakers during the 19th century—an initial rise, followed by a fall in membership.<sup>7</sup> The list of American communes compiled by Oved (1988) includes a total of 39 religious communes that began during the first half of the 19th century. Although 14 of these communes were dissolved within 5 years, the remaining 25 lasted for an average of about 42 years. Even the relatively long-lived religious communes, however, invariably disappeared or saw their membership decline significantly by the end of the century. The trends in overall Shaker membership thus appear to be representative of other religious communes in the United States during the 19th century.

## ECONOMICS AND SOCIOLOGY OF RELIGIOUS BEHAVIOR

Economists and sociologists of religion have proposed theories of religious behavior that can be used to examine membership decisions in a religious commune. As Iannaccone (1998) surveyed, recent developments in the economics and sociology of religion have adopted insights from rational choice theory to view religion as the outcome of purposive behavior. The writers in the new paradigm typically favor economic metaphors, as can be seen in the frequent use of economic concepts like cost and benefit in analyzing religious behavior. For example, a key axiom of Stark and Bainbridge’s (1987, p. 27) influential theory of religion stated, “Humans seek what they perceive to be rewards and avoid what they perceive to be costs.” Rather than view religious behavior as being less rational or outright irrational, choice of religious goods and services is thus viewed simply as part of an individual’s optimization of overall welfare.<sup>8</sup>

When applied to analyzing religious communes, these developments provide a fresh perspective that can help us overcome some of the limitations of earlier contributions. For example, in her well-known study of American communes, Kanter (1972, p. 1) viewed a commune as “the imaginary society in which humankind’s deepest yearnings, noblest dreams, and highest aspirations come to fulfillment.” She then went on to search for the elements of a successful

<sup>6</sup> The membership estimate for 1900 is from Bainbridge (1982, p. 355). Note also that these figures slightly underestimate the total population of the Shakers, because there were also a small number individuals who were not yet fully committed and lived outside of these communities.

<sup>7</sup> The only exceptions to this trend were immigrant groups, such as the Hutterites, who were established late in the century and experienced some growth. Those established early in the century, however, generally experienced a decline.

<sup>8</sup> For a critical evaluation of the rational choice theory of religion, see Young (1997) and the contributions to the symposium published in the *Journal for the Scientific Study of Religion*, 1995, 34(1).

commune by examining what she calls “commitment mechanisms.”<sup>9</sup> By focusing solely on organizational considerations, however, she overlooked individual determinants of commitment. The members of those communes she considered most successful were probably not equally committed individuals with identical yearnings, dreams, and aspirations. Given the commitment mechanisms of a certain commune, what determined the differences among members in their levels of commitment (for example, as expressed in the length of their stay), and how did their commitments change over time? For a more satisfactory account of communal membership, Kanter’s emphasis on organizational considerations needs to be complemented by studies that examine the role of personal characteristics.

According to rational choice theory, long-term membership in a religious commune might simply be a matter of costs and benefits, rather than religious commitment. Although applications of the rational choice theory have varied, the strongest and most controversial versions sought to explain religious phenomena solely through variations in individual opportunities. As a leading contributor to this literature, Iannaccone (1995, p. 77) argued that “the rational choice theorist is almost never content to explain [changes in religious behavior] with reference to changed tastes, norms, or beliefs.” Preferences are assumed to be stable across time and individuals, so that any observed differences in choice among individuals or over time are to be explained only by variations in opportunities (e.g., prices and endowments).

Although this approach provides new insights, it fails to provide a complete account of membership decisions in a religious commune. Which individuals would stay in a religious commune? Assuming no variations among individuals in needs and preferences, this approach would predict that only those with the poorest opportunities would stay. But this does not explain why only a small minority of such individuals actually stay and why there are known cases of other individuals with rich opportunities who also stay. It seems unsatisfactory to explain these phenomena without appealing to factors other than prices and endowments (Kuran, 1994). In particular, one needs to consider social influences on individual behavior. As Ellison (1995, p. 90) also noted, “some rational choice models of religious behavior may unduly extract individual decision making and behavior from its social and cultural context.”

## QUANTITATIVE STUDIES OF SHAKER MEMBERSHIP

Membership decisions of the Shakers have been the subject of various quantitative studies. Some look at a single community, using the information available about members to examine the community’s microhistory over a long period of

<sup>9</sup> About a century before Kanter, John H. Noyes (1870), the founder of the Oneida community and a contemporary observer of the 19th century American communes, had argued that religion was one of the essential requisites of commitment and success in communes. See Bainbridge (1997, pp. 134–143) for a discussion of commitment.

time. For example, Foster (1981), Brewer (1984), and Murray (1995a) focused on the Second and Church families of the New Lebanon community and examined membership levels and duration in these communities during the 19th century.<sup>10</sup> Although these studies have provided valuable insights, their results need to be interpreted with some caution, as the communities examined may not have been representative of Shaker membership as a whole. Despite the rich historical records for single communes, Foster (1981, p. 54) noted that “[e]ven these detailed records may not do justice to the full range of Shaker membership, since Shaker communities varied greatly in size, sex ratios, and degree of cohesiveness.”<sup>11</sup> Other studies have focused on the characteristics of overall membership at fixed points in time, permitting comparison of Shaker communities. Using the enumeration schedules of the federal censuses of population as his source, Bainbridge (1982) examined the size and distribution of total Shaker membership at 20-year intervals between 1840 and 1900, while Brewer (1986) explored the demographic characteristics of the eastern communities at 10-year intervals between 1790 and 1900. However, these studies are limited in their examination of individual membership decisions over time. Comparisons of the size and distribution of aggregate membership can only yield limited conclusions about influences on individual decisions, which can only be studied by following individuals over time. Bainbridge (1982) took this approach and tabulated recruitment and defection patterns of the Shakers between 1880 and 1900 by age and sex.<sup>12</sup> Although much can be learned from the distribution of retention by age and sex, these statistics do not provide a complete account of influences on the membership decisions of the Shakers.

### THE SIZE AND COMPOSITION OF SHAKER MEMBERSHIP

For a quantitative analysis of Shaker membership, this study uses the enumeration schedules of the 1850, 1860, and 1870 federal censuses of population as the primary sources of data. Whereas until 1840 enumerators recorded each household as a single entry, from 1850 onward they entered information about each individual separately. Census schedules provide information about each individual's name, age, sex, occupation, and birthplace, making it possible to identify each Shaker recorded in these schedules and to examine changes in the distribution of overall Shaker membership over time.

Table 1 reports the size and distribution of Shaker membership by sex, age, birthplace, occupation, kinship ties, and continuity between censuses. Because our analysis of influences on Shaker membership will use a more restricted

<sup>10</sup> Similarly, Murray (1995b) examines the relationship between human capital and lifetime membership in South Union, KY, and North Union, OH, communities.

<sup>11</sup> See also Stein (1992, pp. 149–165) for various differences among Shaker communities.

<sup>12</sup> Bainbridge (1984) does the same for some of the Massachusetts Shaker Communities in five-year intervals between 1850 and 1870. The 1855 and 1865 Massachusetts censuses were state projects, not federal ones.

sample of those between the ages of 16 and 66, the table reports the distribution of all Shakers and the restricted sample separately. Focusing on all Shakers for the moment, the table shows that, in addition to a sharp decline in total population, the composition of Shaker membership also changed systematically during this period. The changing sex and age distribution confirms the observations of Bainbridge (1982, 1984) and Brewer (1986) that Shaker membership underwent a gradual change toward more females and elderly. The proportion of foreign-born members also increased.

To put these findings in perspective, changes in the distribution of the Shakers can be compared with those in the general population. We used state-level summary statistics published by the Census Bureau to calculate the proportions of females, elderly, and foreign-born in the states that included Shaker communities. Whereas females constituted a significantly greater proportion among the Shakers and the proportion was rising between 1850 and 1870, the proportion of females remained stable around 50% in the general population during the same period. Similarly, whereas the elderly constituted a significantly high and increasing proportion of Shaker population between 1850 and 1870, they constituted a much lower and more stable proportion of the general population during the same period. For example, the proportion of those over the age of 60 remained around 5% of the population as a whole. Although the proportion of foreign-born was consistently higher in the general population, the rise in the proportion appears similar between the Shakers and the population as a whole. The proportion of foreign-born individuals in the general population rose from about 13% in 1850 to about 18% in 1860 and 19% in 1870. When compared to the general population, distinct features of the communal Shaker population emerge—a lower proportion of foreign-born individuals and greater and ever increasing proportions of females and elderly.<sup>13</sup>

Unfortunately, the census schedules did not always record complete and detailed information about the occupations of all Shakers. For example, the occupations of females were mostly omitted in the 1850 census, and the enumerator simply wrote “Shakers” in the occupation column for Alfred, Maine, Shakers in 1860. Similarly, enumerators frequently used general terms like “farm worker” for men and “housekeeper” for women as default descriptions for those employed in rural and domestic occupations. Despite such omissions and generalizations, however, census records contain complete and detailed information about occupations in a large number of cases. We divided all listed occupations into four general categories. The leader category consists of all religious and business leader positions (e.g., “elder,” “minister,” “trustee,” “deaconess”). In the Shaker-specific category are the occupations like “hatter,” “broom-maker,” and “herb packer” that require skills specific to Shaker industries. The third is the

<sup>13</sup> Unfortunately, we cannot offer similar comparisons for other variables included in Table 1 because the Census Bureau did not report information on kinship or persistence, and the reported information about occupations is not based on comparable categories.

general-skilled category, which includes highly mobile occupations like “machinist” and “shoemaker” that require a high level of training and skill. Finally, the unskilled category consists of all other occupations, such as “housekeeper” and “farmer,” that typically do not require much training.<sup>14</sup> As Table 1 shows, the distribution of Shaker work force changed significantly between 1850 and 1870 toward a lower proportion of (mobile and Shaker-specific) skilled members.

To trace other significant transformations of Shaker membership during this period, we used the information from census schedules to generate other variables. Noting the dominance of extended families in the early history of the Shakers, Brewer (1986, p. 23) argued that kinship networks provided considerable stability as a “key factor in the early success of the sect.”<sup>15</sup> Information in census records makes it possible to estimate the changing proportions of kinship networks between 1850 and 1870. Because the records identified each individual by both first and last names, shared last names within a community can be used as an estimate of kinship ties (Foster, 1981, p. 55; Bainbridge, 1982, 1984). There are some obvious elements of potential bias and imperfection in this procedure: shared last names could be purely accidental, there could be kinship ties that were not reflected in last names (e.g., cousins), and there could be missed matches because of hard-to-read names in some of the schedules.<sup>16</sup> When dealing with large numbers, however, one would expect some of these biases to cancel each other out and the number of problematic cases to be only a small fraction of total membership. Taken as an approximate measure of kinship ties, one can see a clear pattern of decline in the proportion of those with shared names during this period. The dominance of kinship networks in early Shaker history was thus rapidly disappearing after 1850.

Information about name, age, sex, occupation, and birthplace can also be used to determine the continuity of Shaker membership between censuses. We compared the lists of Shaker membership between two consecutive censuses in order to identify those who remained Shakers. For example, if an individual was listed in census schedules as a member of a Shaker community in 1850, we used various sorting techniques to locate the same individual on the list of all individuals recorded as members of Shaker communities in 1860. Because two individuals could share the same first and last name, or because mistakes could be made in the recording or deciphering of names in the schedules, we also used age, sex, occupation, and birthplace to decide on the small number of questionable cases. If we were able to locate the same individual in the 1860 census within Shaker communities, we considered this individual as maintaining his or

<sup>14</sup> For an example of other ways of categorizing the occupations listed in census schedules, see Galenson (1991) and Herscovici (1998).

<sup>15</sup> See also Foster (1981, p. 55) for discussion of the dominance of kinship ties in the New Lebanon Second family.

<sup>16</sup> In addition, we cannot differentiate between immediate family members and more distant relatives. Although these relationships could have affected membership decisions (examined below) differently, we cannot test this difference based on census records.

her membership. Otherwise, we considered him or her as having left the Shakers for outside opportunities.

As Table 1 shows, the proportion of members who remained Shakers between two consecutive censuses declined significantly after 1860: whereas about half of all Shakers in 1850 were still members in 1860, the proportion fell to 37% between 1860 and 1870. Despite this decline, Shaker persistence rates compare favorably with those calculated for ordinary American communities during the same period. Using similar procedures of matching names between censuses, researchers have generally found much lower rates of persistence between 1850 and 1860, ranging from 14% in Chicago, to 31% in rural Iowa, to 39% in Boston (Galenson, 1991, p. 584).<sup>17</sup> The Shakers were more likely than other Americans to stay in their communities.

### INFLUENCES ON MEMBERSHIP DECISIONS

For a quantitative analysis of influences on the decision to stay a Shaker, we restricted the overall sample to those between the ages of 16 and 66, inclusive. Because the entry and exit decisions of children included factors other than their own choices, it is necessary to avoid potential biases in the data by restricting the overall sample to adults only. For example, the children who joined the Shakers with their parents or were adopted from orphanages (and sometimes legally bound to the community as apprentices) were not free to leave before reaching adulthood. The Shakers regarded age 16 as the beginning of adulthood; thus we restricted the sample to those aged 16 and older.<sup>18</sup> Because we are unable to differentiate between death and apostasy, we also restricted the sample to those aged below 66. Murray (1993) estimated an average life expectancy of about 75 among the Shakers. We thus omitted observations for those aged over 66, who were more likely than others to die between censuses. Although the probability of exiting through death is still likely to increase with age even in the restricted sample, we believe that excluding those over the age of 66 would significantly reduce the potential bias.

Table 1 shows some of the systematic differences between the restricted sample and all Shakers. The restricted sample consisted of a lower proportion

<sup>17</sup> One has to be careful, however, in comparing persistence studies, because of differences in, for example, the legibility of manuscript schedules and the restrictions imposed on the sample (e.g., some samples consist of adult males only). See Galenson (1991, Appendix) for a discussion of difficulties in persistence rate calculations. In addition, our sample includes a small number of individuals who remained Shakers but moved geographically to another Shaker community. We considered these individuals as staying in their Shaker communities. As Bainbridge (1984, p. 23) also reported, however, intercommunity movement was rare among the Shakers and can be assumed away in interpreting the proportion of members who stayed Shakers as a rough measure of geographic stability for comparative purposes. At any rate, the differences in persistence rates between the Shakers and other communities are too large to be attributed to these factors alone.

<sup>18</sup> Brewer (1986, p. 207) similarly considered age 16 as the beginning of adulthood, and Murray (1995a, pp. 37–38) restricted the sample to adults for the same reasons.

individuals with kinship ties and higher proportions of females and foreign-born members. In addition, compared to those in the full sample, a significantly higher proportion of those in the restricted sample stayed in Shaker communities between consecutive censuses. Despite these differences, however, the regression results do not systematically differ from those obtained from the full sample.<sup>19</sup>

To test for the significance of different influences on membership decisions suggested in the literature, we used probit regression analysis. A dummy variable (1 if stayed in Shaker communities between two consecutive censuses, 0 otherwise) represents the decision to stay a Shaker as the dependent variable. We constructed four sets of independent variables. The first set consists of different dimensions of personal characteristics. The only quantitative information that the census schedules provide about an individual is his or her age. Because the effect of age might be nonlinear, however, we also included an age-squared term into the regression analysis. We transformed the information about sex and birthplace into two dummy variables, sex (1 if female, 0 if male) and nativity (1 if born in the same state as the community, 0 otherwise). We also traced each individual present in the 1850 census not only to the 1860 census but also to the 1870 census to generate another variable (1 if also stayed between 1850 and 1860, 0 otherwise) for inclusion in the 1860–1870 regression to test for veteran effects, that is, whether those who have stayed during the previous decade are more likely to keep on staying in the next decade.

To examine the effect of occupations, we generated four dummy variables that correspond to the categories of occupations listed in Table 1. For example, the “Mobile Skilled” dummy variable (1 if mobile skilled, 0 otherwise) corresponds to the first category. In addition, we generated a fifth dummy variable (1 if no occupation specified, 0 otherwise) to recover the missing observations that result from incomplete information about occupations. As discussed earlier, census enumerators failed to record the occupations of a large numbers of Shakers. As the number of complete observations for occupation (Table 1, in parentheses) make clear, including occupation variables without modification would have resulted in a potentially biased estimation with a significant number of missing observations (about two-thirds of all observations in 1850 and one-half in 1860). The fifth dummy

<sup>19</sup> We ran separate regressions to compare the results from the two samples. Although the coefficients and the levels of significance obtained from the full sample differ from those reported in Table 2, the results are generally consistent. The significance levels of most of the coefficients remain comparable between the two samples, and none of the coefficients that are consistently significant (at conventional levels) between the two samples reverse signs. As the only instances of inconsistent levels of significance when compared to results reported in Table 2 (based on the restricted sample), the coefficients of “Eastern Communities” (negative and significant at the 4% level) between 1850 and 1860 and “Nativity” (positive and significant at the 8% level) and “Distance to Nearest Major City” (negative and significant at the 7% level) between 1860 and 1870 become more significant in the regression results obtained from the full sample. For reasons explained above, Table 2 reports only the regression results obtained from the restricted sample.

variable simply amounts to converting missing information into a value of zero for all other occupation dummies, making it possible to include all observations into the analysis by retaining the information about other (nonoccupation) variables in those observations. The “No Occupation Specified” variable would then be the omitted category to which other occupation variables would be compared.

The second set of independent variables tests for the effects of other individuals in a community. The relevant unit of interaction for each Shaker was the subdivision of each community called the “family,” a unit ranging in size from about 10 to more than 100 persons. Census enumeration schedules typically recorded families within a Shaker community separately, making it possible to generate variables that summarize influences from other members of the family that were likely to affect membership decisions. As discussed above, the presence of kinship within a family could be a significant factor. We generated a dummy variable (1 if there are others within the Shaker family sharing the same last name, 0 otherwise) to examine the effect of kinship ties. In addition, we calculated the total number of individuals in a family to test for the effect of the community’s size on the stay decisions of its members.

In the third set are the variables that test for the effect of differences among Shaker communities in terms of their status within the organizational structure of the Shakers. One such variable is the status of a family within the local Shaker organization. Within each Shaker society, consisting of two or more families, one of these families, usually called the “Church” (or “Center”) family, typically had the leadership position. Because the Church family thus presumably consisted of spiritually advanced members, one would expect these members to be more likely than others to stay Shakers between censuses. We included a variable (1 if member of Church family, 0 otherwise) to test for this expectation. Similarly, one might also expect the status of each Shaker society within the overall Shaker organization to be a factor. The central ministry at New Lebanon was the head of all Shaker societies, and the ministry at Union Village emerged as the lead ministry among the western societies during the 19th century. Although this hierarchical system was designed to facilitate the cooperation of villages and the administration of financial and spiritual affairs of the Shakers, the limited transportation and communication methods of the 19th century often made the task quite difficult. As Stein (1992, pp. 106–134) recounted, the central administration faced numerous difficulties in resolving conflicts in distant societies. One might thus expect the distance from the central ministries to be a factor affecting membership decisions in a society. We test for this possibility by including a variable that measures a society’s approximate distance to New Lebanon (for eastern societies) or Union Village (for western societies). In addition, we included another dummy variable (1 if the community is in Maine, New Hampshire, Massachusetts, Connecticut, or New York; 0 other-

wise) to test for the effect of differences between the eastern societies and the western societies of the Shakers.<sup>20</sup>

The fourth set of variables controls for differences among Shaker communities in terms of the local availability of secular and religious alternatives.<sup>21</sup> For example, one might expect individuals who are members of a Shaker society in an urban or growing location to be more likely than others to leave the society for outside job opportunities. As an estimate of the urbanization of the surroundings of a Shaker community, we included the population (in the first census, in thousands) of towns in which Shaker communities were located as a variable. In addition to opportunities in the immediate surroundings, urbanization and economic growth in nearby urban centers could also be factors. To test for the effect of the growth in urban centers, we identified major cities (with populations of more than 6,000 in 1850 and 8,000 in 1860) near Shaker communities and included two variables for each Shaker community, the distance of the community from the closest major city and the population growth of this city between two consecutive censuses. Finally, we used the information about church accommodations published in the summary statistics of the federal population censuses to test for the effect of the availability of religious alternatives. Because these statistics are reported for counties, we calculated the number of per capita church accommodations (in the first census) in the counties surrounding Shaker communities as a standardized variable.

Table 2 shows the results of the probit analysis separately for the periods 1850–1860 and 1860–1870. Other than the falling significance of the church family, per capita church accommodations in the county, and the population growth in the nearest major city in the 1860–1870 regression, the direction and significance of the effect of variables are generally consistent between the two time periods. The variables with systematically insignificant coefficients (at conventional levels) are nativity, occupation variables other than leadership position, distance to central ministry, eastern location, and distance to nearest major city, indicating that, all else being equal, these variables had no significant effect on the decision to stay a Shaker between two consecutive censuses. Among personal characteristics, age, sex, leadership position, and veteran membership had consistently significant and positive effects on the decision to stay. Other individuals also played an important role in an individual's membership deci-

<sup>20</sup> See Murray and Coşgel (1999) for differences between the eastern societies and the western societies of the Shakers.

<sup>21</sup> In addition to observed differences that the fourth set of variables aims to control, there could be unobserved differences across Shaker communities. Another way to deal with the differences across Shaker communities would thus be to run a fixed effects regression (by adding dummies for each Shaker community and dropping those variables that do not vary within the same community to avoid multicollinearity), which assumes that differences across communities can be captured in differences in the constant term (Greene, 1993, p. 466). The *F*-tests performed to choose between the two alternative formulations indicate that the model chosen here has more explanatory power in both regression periods.

TABLE 2  
 Probit Analysis of Influences on the Decision to Stay a Shaker between Two Consecutive Censuses

Source of influence	Independent variable (characteristics in the first census)	1850–1860		1860–1870		
		Coefficient estimate	Level of significance	Coefficient estimate	Level of significance	
Personal characteristics	Age	0.12	<0.001	0.045	<0.001	
	Age-squared	-0.001	<0.001	-0.00005	<0.001	
	Female	0.47	0.010	0.18	<0.001	
	Nativity	-0.03	0.66	-0.01	0.38	
	Unskilled	0.14	0.44	0.06	0.40	
	Mobile skilled	0.19	0.32	0.07	0.96	
	Shaker-specific skilled	0.14	0.57	0.06	0.50	
	Leader	0.97	0.0046	0.36	0.007	
	Veteran member	0.28	<0.001	0.11	0.07	
	Kinship	0.002	0.002	0.0007	0.01	
	Size of the commune					
Other individuals	Church family	0.29	<0.001	0.11	0.76	
	Distance to central ministry	0.0003	0.60	0.0001	0.47	
	Eastern location	-0.09	0.31	-0.03	0.95	
Characteristics of Shaker community	Distance to nearest major city	-0.003	0.33	-0.001	0.13	
	Rate of population growth in the nearest major city	-0.52	0.005	-0.19	0.82	
	Population of surrounding town (in thousands)	-0.03	0.02	-0.01	<0.001	
	Number of church accommodations (per capita) in the county	-0.56	0.08	-0.21	0.15	
	Constant	-2.16	<0.001	-0.84	<0.001	
	Sample size	2296		2167		
	Percentage predicted correctly	67		70		
	Likelihood ratio	350.3		448.8		
	Availability of religious and secular alternatives					

Source. U.S. Bureau of the Census (1850–1870), Enumeration Schedules of the Federal Population Censuses. U.S. Bureau of the Census (1870), The Statistics of the Population of the United States, Ninth Census.

Note. The dependent variable equals one for individuals who stayed a Shaker between censuses, zero otherwise. Omitted category is “No Occupation Specified.” See the text for the description of independent variables.

sions, as seen in the significant and positive effects of the presence of kinship and the size of Shaker communes. Except for the positive effect of membership in the Church family between 1850 and 1860, differences among Shaker communities generally had an insignificant effect. The availability of religious and secular alternatives generally affected membership decisions negatively, as seen in the negative and consistently significant coefficient of town population in both regressions and the negative and significant coefficients of the number of church accommodations in the county and the growth rate of population in the nearest major city in the 1850–1860 regression.

These results show the complexity of membership decisions in a religious commune. They provide some support to the implication of rational choice theory that those with relatively more restricted alternative opportunities would stay longer than others in a religious commune. For example, the positive (and declining) effect of age might reflect such issues as the declining availability of job opportunities (caused by, for example, eroding skills and age-discrimination) or the increasing difficulty of finding a suitable spouse.<sup>22</sup> In such cases, increasing age would reduce the expected benefits from leaving the Shakers, making an older individual more likely than a younger individual to stay a Shaker between censuses. Similarly, our findings show that females were more likely than males to stay, reflecting fewer employment opportunities available to women caused by factors like sex-discrimination and lower or nonmarketable skills.

Our results also support the implication of rational choice theory regarding the influence of the local availability of secular and religious alternatives. Although the effects of the number of per capita church accommodations and the population growth in the nearest major city fell somewhat in magnitude and significance in the 1860–1870 regression, the coefficients of these variables remain consistently negative, and the coefficient of the population of towns surrounding Shaker communities is consistently negative and significant in both regressions. These results confirm one of the implications of rational choice theory, that the availability of alternative local opportunities affected the decision to stay Shaker negatively: individuals who lived in Shaker communities that had greater religious and secular opportunities outside were less likely than others to stay Shakers.

Some of the other findings, however, highlight the importance of phenomena underemphasized by rational choice theorists. The positive and significant effect of having a leadership position and being a veteran member both suggest that some individuals may have stayed Shakers because of their commitment to the

<sup>22</sup> Murray (1995b) similarly finds a positive relationship between age and the probability of lifetime Shaker membership. The direction of the effects of age and its square are consistent with the results of other studies of persistence. See, for example, Galenson (1991). Our results are also consistent with Azzi and Ehrenberg's (1975) more general conclusion that religious activity should increase with age and with Whitworth's (1975, pp. 236–238) observation about the way communes become a place of refuge from the world. See Bainbridge (1984, pp. 26–27) for alternative explanations of why the children and younger members had higher rates of defection among the Shakers.

Shaker religion.<sup>23</sup> For example, the positive effect of past stay shows that those who had been members at least since the previous census were more likely than new joiners to stay until the next census, suggesting a high level of commitment from veteran members. Religious leaders and veteran members may have been the type of individuals who remained Shakers not because they had more limited alternative opportunities than other members but because they were more committed to Shakerism. Religious communes depend on committed membership for the creation of a stable community and to attract new members. Our results show that the Shakers were able to maintain a core-group of individuals with strong long-term commitments, which also helps to explain how the Shaker communities managed to survive despite continually declining membership after the middle of the 19th century.

Moreover, some of the phenomena emphasized as significant by rational choice theorists turn out to be insignificant. The statistical insignificance of "Unskilled," "Mobile Skilled," and "Shaker-Specific Skilled" variables indicates that skill and occupational mobility were not important factors in membership decisions. According to rational choice theory, one would expect those with highly mobile skills to leave sooner and those with Shaker-specific skills to stay longer (and, by implication, those with no skill also to stay longer) in Shaker communes. Other than the positive influence of having a leadership position, however, occupation had no significant effect on the decision to stay in Shaker communes.

Our results also show that interpersonal relationships played a significant role in membership decisions, a phenomenon insufficiently emphasized by rational choice theorists. As noted above, the unit of social and economic interaction for each member was the Shaker family. "It was as a member of a particular family within a specific village that the Believer established primary social identity as a Shaker," wrote Stein (1992, p. 149). Because the members of a family worked, worshipped, and consumed together, they had an important role in each other's life. The presence of kinship and the size of a Shaker commune both had consistently positive and significant effects on membership decisions, indicating that an individual's decision to stay a Shaker was not entirely a personal matter. Those with kinship ties were more likely than others to stay Shakers, showing the interdependence of membership decisions among those within kinship networks.<sup>24</sup> The positive coefficient of the size of a family indicates that larger

<sup>23</sup> The positive and significant effect of veteran membership is consistent with Bainbridge's (1984, pp. 28–29) finding that the retention rates were higher among veteran members in a controlled sample of Massachusetts Shakers, and it contradicts Zablocki's (1980, p. 135) opposite argument based on contemporary urban communes.

<sup>24</sup> The positive effect of kinship can also be considered in light of arguments that view high proportions of members with kinship ties as being a sign of the Shakers serving as a refuge for broken families (Bainbridge, 1984, p. 32). Consistent with rational choice theory, the presence of kinship might thus have affected membership decisions indirectly by reducing the benefits of alternatives to membership. The two explanations are not necessarily contradictory, and both factors might have

families were more likely than smaller ones to retain members between censuses. The larger the size of a family, the greater could be the general commitment and "satisfaction" among the members of that family, because of such reasons as the economies of scale in the provision of religious and other services and increased chances of each individual finding others with which to form lasting relationships.

Except for the effect of membership in the Church family between 1850 and 1860, differences among Shaker communities in terms of their status within the organizational structure of the Shaker society appear to have had a generally insignificant effect on the membership decisions of their members. Because the characteristics in our analysis do not distinguish the Shakers from other communes, our results do not directly contradict Kanter's emphasis on the commitment mechanisms of communes. In fact, the positive and significant effect of the Church family between 1850 and 1860 provides some support for her arguments, because it suggests that the Church families may have implemented more effective commitment mechanisms during this period.

### THE NUMERICAL DECLINE OF THE SHAKERS

These results can also be used to examine the numerical decline of the Shakers after the middle of the 19th century. Membership in an organization declines either because the organization fails to recruit new members or because it fails to retain existing members. It is easy to calculate from the information presented in Table 1 that the new recruits (i.e., those who joined since the previous census) consisted of 48% of total membership in 1860 and 51% in 1870. Judging these figures in relation to total membership, the Shakers were thus less successful in retaining existing members than in recruiting new ones: whereas the proportion of new recruits remained somewhat stable during this period, the proportion of members who stayed Shakers between consecutive censuses declined from 48 to 37% of the total membership (a similar comparison applies to those in the restricted sample).

There could be several sources of the decline in Shaker persistence during this period, and these sources can be separated into two categories, characteristics and behavior. For example, personal characteristics of the Shakers could have changed during this period toward a distribution of membership that was less likely to persist. Similarly, changes in the characteristics of Shaker communities or alternative secular and religious opportunities outside could have reduced Shaker persistence. Such changes in the values of factors affecting Shaker persistence can be grouped as changes in *characteristics*. In addition, the structure of the relationship between these factors and Shaker persistence could have

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been operating as applicable to different individuals or kinship networks. See also Brewer (1986, p. 23), Coşgel (2000, 2001), Foster (1981, p. 55), and Kanter (1972, pp. 89–92) for the role of kinship in religious communes.

changed. That is, even though the characteristics of the Shakers or their environment may have remained the same, changes in their persistence *behavior* could have caused total membership to decline.

Although the literature on the decline of the Shakers does not explicitly distinguish between the effects of characteristics and behavior, explanations typically appear to emphasize changing characteristics as being primarily responsible for the decline. For example, as a commonly accepted explanation of the Shaker decline, Andrews (1963, p. 228) argued that “[a] new America was growing up around the isolated Shaker domains, luring forth its members, keeping for itself many who might, under other circumstances, have joined the order.” Bainbridge (1984, p. 28) similarly wrote that “[b]y the 1850’s, the Shaker colonies were surrounded by ordinary farms and businesses, and young people willing to work might have found easy routes out of the colonies.” These comments seem to suggest that it was not a change in the persistence behavior of the Shakers but changes in their external environment that caused their numbers to decline.<sup>25</sup> Those emphasizing factors internal to the Shakers seem also to have identified the changes in characteristics as being primarily responsible for the decline of the Shakers. For example, Brewer (1984) found the declining proportion of those in age groups that could serve as leaders and role models as being responsible for the numerical decline.

For a quantitative assessment of declining Shaker membership, we used the probit regression results to decompose the persistence gap between the two regression periods into portions caused by changes in characteristics and coefficients (behavior).<sup>26</sup> Using the estimated probit coefficients and the mean values of explanatory variables, we calculated for each regression period the predicted proportion of Shakers likely to persist between censuses and also the predicted change between the two regression periods in the proportion of the sample deciding to persist as Shakers.<sup>27</sup> We decomposed the predicted gap in persistence between the two regressions into portions due to characteristics and coefficients as follows. Taking the sample of Shakers included in the first regression (1850–1860) as the reference group, the portion of the gap due to characteristics can be estimated as the change in persistence that would have resulted if the 1850

<sup>25</sup> As Murray (1995a, p. 44) also pointed out, however, these earlier claims were generally made without any quantitative support. Based on a quantitative analysis of membership in the Church family at the New Lebanon Shaker Community, Murray (1995a) found a strong positive correlation between the population of this family and a recessionary economy.

<sup>26</sup> The procedure is similar to the standard Oaxaca (1973) type of decomposition. We employed a technique developed by Even and Macpherson (1993) to deal with the complications caused by the nonlinearity of the probit estimation procedure. We also ran the regressions as linear probability models and performed a standard decomposition, which produced results consistent with those reported here.

<sup>27</sup> To have an identical set of variables between the two regressions, we re-ran the 1860–1870 regression by dropping the “Veteran Member” variable for decomposition purposes. There were no significant alterations in the signs or significance of the coefficients of other variables.

sample had the characteristics of the Shakers in the 1860 sample. That is, the portion of the gap due to characteristics equals the difference between the persistence rate calculated by using the coefficients and characteristics from the first regression and the rate calculated by using the coefficients of the first regression but the characteristics of the Shakers in the 1860–1870 regression.

Applying a similar logic and again taking the sample of Shakers included in the first regression as the reference group, we estimated the portion of the persistence gap due to coefficients as the change in persistence that would have resulted if the probability of persistence of the Shakers in the 1850–1860 sample was calculated by using the coefficients of the 1860–1870 regression. The portion of the persistence gap due to coefficients thus equals the difference between the persistence rate calculated by using the coefficients and characteristics from the first regression and the rate calculated by using the characteristics of the Shakers in the first regression but the coefficients of the 1860–1870 regression.

In addition to portions due to coefficients and characteristics, a third part of the persistence gap involves their interaction (Even and Macpherson, 1993, p. 82). For example, if the characteristics more common to the Shakers in the 1860 sample accentuate the probability of persistence, then there will be a positive interaction effect. The sum of the interaction effect and the portions due to coefficients and characteristics is equal to the total persistence gap.

Table 3 reports the decomposition of the decline in Shaker persistence between the two regression periods, based on taking the 1850 sample as the reference group. The results show that the persistence gap can be attributed almost entirely to changing coefficients. In fact, had the 1850 Shakers possessed the characteristics of those in the 1860 sample, all else being equal, the probability of persistence would have increased between the two periods.<sup>28</sup> These findings thus suggest that it was not the changing characteristics of the Shakers or their environment but changes in their persistence behavior that primarily caused their numerical decline.

Table 3 also reports the partial decompositions of the persistent gap due to changing values and coefficients of the constant term and explanatory variables.<sup>29</sup>

<sup>28</sup> These findings, based on taking the 1850 Shakers as the reference group, are consistent with those obtained from a decomposition based on taking the 1860 Shakers as the reference group. In the latter case, the portion of the total gap ( $-12.06$ ) due to characteristics equals  $-0.44$ , the portion due to coefficients equals  $-15.64$ , and the portion due to interaction equals  $4.02$ . The results of partial decompositions are also consistent. For example, the partial effects of age, age-squared, and the population growth in the nearest major city are  $-41.5$ ,  $23.6$ , and  $9.3$ .

<sup>29</sup> We used the method detailed in Even and Macpherson (1993) to calculate the partial decompositions due to differences in characteristics associated with each variable. We modified and used the same method to calculate the portions due to the changing coefficients of variables between the two regressions. To determine the statistical significance of the difference in characteristics between the two samples, we calculated a simple statistic that tests for the significance of the difference between the means of two samples. To determine the statistical significance of the difference in

As the significance levels of changing characteristics show, the mean values of several of the explanatory variables changed significantly between the two samples. The magnitudes of the partial effects of these changes on the total persistence gap, however, were generally low.

The coefficients of age and its square, kinship, membership in Church family, and the rate of population growth in the nearest major city changed significantly (at conventional levels) between the two regressions. The most noteworthy result is that the changing relationship between age and membership persistence more than accounts for the decline in Shaker persistence. Despite the high and positive effects of age-squared and population growth rate in the nearest major city, the negative partial effect of age was high enough to more than offset their combined effect and to cause persistence to decline over time. The inclusion of age and age-squared terms into the probit analysis also makes it possible to estimate the age at which persistence probability was maximized.<sup>30</sup> Our results show that this age fell significantly between 1850 and 1860, from about 60 to about 50. Whereas the proportion of those over the age of 50 was rising significantly between 1850 and 1860 (Table 1), their probability of persisting as Shakers between 1860 and 1870 was declining.

## CONCLUSION

Individuals might join a religious commune for a variety of reasons and forego a variety of alternative opportunities by continuing to be a member. Using the information recorded about the Shakers in the enumeration schedules of the U.S. Population censuses between 1850 and 1870, we examined changes in the distribution of the Shakers during this period and tested for the significance of various factors in influencing the decision to stay a Shaker between two consecutive censuses.

Our results provide a framework for considering some of the competing hypotheses about decision making in a religious commune. The significance of age and sex in the decision to stay a Shaker supports the implication of the rational choice theory that individuals with more restricted alternative opportunities would stay longer than others in a religious commune. The significance of the local availability of alternative opportunities also supports this theory: individuals who lived in those Shaker communities that had greater religious and secular opportunities outside were less likely than others to stay Shakers.

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coefficients between the two regressions, we pooled the two samples and created a dummy variable (1 if the observation is in the 1860–1870 sample, 0 otherwise) that was used to generate differential coefficients corresponding to intercept and each explanatory variable. The differential coefficients thus show the change in the coefficients of variables between the two regressions, and their statistical significance, reported in Table 3, shows the significance of the portion of the persistence gap due to the changing coefficients of corresponding variables.

<sup>30</sup> That is,  $-\beta/2$  in the  $I = \alpha \text{ Age} + \beta \text{ Age}^2 + \varphi$  format, where  $I$  is the index used in the probit estimation procedure. We thank an anonymous reviewer for suggesting this calculation.

TABLE 3  
Decomposition of Decline in Shaker Persistence

Decomposition of persistence change between the 1850–1860 and 1860–1870 regression periods				
Due to characteristics				3.58
Due to coefficients				-11.62
Due to interaction				-4.02
Total change				-12.06
	Partial decompositions			
	Characteristics		Coefficients	
Portion due to	Partial effect	Level of significance	Partial effect	Level of significance
Age	4.84	0.02	-40.64	0.01
Age-squared	-5.61	0.001	22.15	0.02
Female	0.15	0.58	-0.69	0.73
Nativity	0.01	0.57	2.36	0.36
Unskilled	0.89	<0.001	-0.69	0.73
Mobile skilled	0.72	<0.001	-0.95	0.35
Shaker-specific skilled	0.06	0.04	-0.01	0.93
Leader	1.60	<0.001	-0.27	0.11
Kinship	-0.63	<0.001	-2.54	0.03
Size of the commune	-0.39	0.02	4.95	0.77
Church family	0.23	0.13	-2.83	0.001
Distance to central ministry	0.01	0.77	-2.61	0.42
Eastern location	0.08	0.09	4.82	0.65
Distance to nearest major city	-0.02	0.93	-0.43	0.74
Rate of population growth in the nearest major city	1.60	<0.001	11.37	0.05
Population of surrounding town	-0.21	0.05	-1.98	0.32
Number of church accommodations (per capita) in the county	0.25	0.003	0.85	0.88
Constant			-4.48	0.82
	3.58		-11.62	

*Note.* The reference group is the Shakers in the 1850–1860 regression sample. The decompositions show the change in persistence that the reference group would have realized if they had the characteristics or probit coefficients of the Shakers in the 1860–1870 sample. Change due to interaction results from the interaction between characteristics and coefficients and guarantees the adding up condition. Partial decompositions show the partial effects of changing values or coefficients of each variable to total persistence change between the two regressions. See footnote 29 for an explanation of the calculation of partial decompositions and significance levels.

Skill and occupational mobility, however, had insignificant effects on membership decisions, contradicting the importance that rational choice theory attaches to the availability of alternative job opportunities. Moreover, community leaders and veteran members were more likely than others to stay, indicating that

factors other than the availability of alternative opportunities were also important. The presence of kinship and the size of one's community were also significant influences in an individual's decision to stay a Shaker. Membership decisions in a religious commune were significantly influenced by personal commitment and interpersonal relationships, phenomena that are typically dismissed or insufficiently emphasized by rational choice theorists. In general, our analysis shows the relative merits of economic and sociological explanations of religious behavior. Clearly, it was a mixture of religious, social, and economic factors that affected persistence in a religious commune. Although the economic view of believers as rational consumers provides powerful insight into why individuals chose to stay in a religious commune, religious commitment and social interdependence were also important factors.

Using regression results to decompose declining Shaker persistence, we were able to gain insight into the causes of the numerical decline of the Shakers during this period. Whereas previous authors identified changes in the composition of Shaker membership or improvements in external economic conditions as being responsible for the declining Shaker membership, our results indicate that changes in the persistence behavior of the Shakers were more important. In particular, the changing structure of the relationship between age and Shaker persistence more than accounts for the fall in the persistence rate.

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