INTRODUCTION: The use of cemeteries as a data source for sociological research has been largely unnoticed by the discipline until relatively recently. The studies that have been done, however, show the promise that this branch of sociology has in the future. As modern technological developments such as global positioning systems, digital photography, personal computers, and ground penetrating radar continue to proliferate, different and more efficient strategies for data collection in cemeteries will be enacted (Foster and Hummel 2000, p. 112). Personal computers and software developed to instantly analyze massive collections of data have proven most revolutionary. These advancements will allow for much a more in-depth analysis than was possible using the conventional method of visually inspected and manually transcribing headstone data.

As this branch of sociology continues to grow, we will gain a greater understanding of what life was like prior to the systematic recording vital statistics beginning in the early twentieth century (Foster, Hendrickson, and New-Freeland 2002, p. 259). The information on gravestones provides valuable insight into the demographics and social patterns of the community over time. Using cemetery data, it is possible to determine
birth, death, and conception patterns, gain greater appreciation of infant mortality figures, and see how homogenous the population was (Eckert and Foster 2003, p. 469). In compiling and analyzing the data, a picture of the community as a whole develops, and its growth/decline over time becomes apparent. It is in this way that cemeteries act as proxies of the communities in which they serve (Foster and Hummel 1995, p. 93-94). The following study of Bellair Cemetery, located in east-central Illinois, is intended to provide a greater understanding of the social experiences of those living in the area over one hundred and fifty years ago.

**BACKGROUND**

The town of Bellair is located in the northwest corner of Crawford County, Illinois, approximately eleven miles north of Oblong. While today it is little more than a few dilapidated buildings and an old church, it once served as the principle trading center for residents of Licking Township. The first deed in the town was issued in April 1839 to George Jenuine. He operated a grist mill and distillery, later adding a roller mill for flour and a saw mill (Matheny 1945, p. 1). The town grew substantially in the first few decades of its existence, but has declined in size until today it is only a few old buildings near an intersection.

Bellair Cemetery is a typical rural cemetery that was created to serve the town adjacent to it. It sits ¾ of a mile east of Main Street at the north end of town, situated on a small hill and surrounded by woods on the south, west, and north, with farmland to the east. The graveyard is thought to be the final resting place of hundreds of people, though time has caused many stones to deteriorate past recognition. Today, there are approximately six hundred discernable marked graves (Miller, 2000). The first recorded burial was Benjamin Tharp on February 22, 1841, and the most recent noted in the study is Vena Harris, who died on July 28, 2001. The cemetery is
still in operation, although as the study demonstrates, the number of people interned has declined steadily, and it can be expected that the graveyard will accept its last residents within the next decade.

METHOD/ SAMPLING

A transcription of Bellair Cemetery was compiled by Norman Miller, a member of the Crawford County Genealogical Society, as part of the ILGenWeb Project. It was completed in 2000, and done primarily by visually inspecting each monument, supplemented by a plot chart prepared by Lucile Randoph from the Pilliam Funeral Home in Oblong (Miller, 2000). Included in that transcription were notes for unreadable or unmarked graves. For the purpose of analysis within this study, a total of 507 headstones yielded sufficient information to be of use and were coded. 376 (74.2%) of the markers were inscribed with data identifying exact date of both birth and death, providing for analysis of seasonal patterns within the community. Ten variables were coded. The following chart of possible values for the variables is as summary of the code book. Asterisked variables were utilized in hypothesis testing:
<table>
<thead>
<tr>
<th>Variable</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.) SEX*</td>
<td>1= male, 2= female</td>
</tr>
<tr>
<td>B.) AGE*</td>
<td>expressed in years</td>
</tr>
<tr>
<td>C.) AGE STATUS*</td>
<td>1= infant (0), 2= toddler (1-3), 3= child (4-12), 4= teen (13-19), 5= young adult (20-29), 6 = adult (30-64), 7= elder (65+)</td>
</tr>
<tr>
<td>D.) YEAR OF BIRTH</td>
<td>1= winter (Dec, Jan, Feb), 2= spring (Mar, Apr, May), 3= summer (Jun, Jul, Aug), 4= fall (Sep, Oct, Nov)</td>
</tr>
<tr>
<td>E.) DECADE OF BIRTH</td>
<td>1= winter (Dec, Jan, Feb), 2= spring (Mar, Apr, May), 3= summer (Jun, Jul, Aug), 4= fall (Sep, Oct, Nov)</td>
</tr>
<tr>
<td>F.) YEAR OF DEATH*</td>
<td>1= winter (Dec, Jan, Feb), 2= spring (Mar, Apr, May), 3= summer (Jun, Jul, Aug), 4= fall (Sep, Oct, Nov)</td>
</tr>
<tr>
<td>G.) DECADE OF DEATH*</td>
<td>1= winter (Dec, Jan, Feb), 2= spring (Mar, Apr, May), 3= summer (Jun, Jul, Aug), 4= fall (Sep, Oct, Nov)</td>
</tr>
<tr>
<td>H.) SEASON OF BIRTH</td>
<td>1= winter (Dec, Jan, Feb), 2= spring (Mar, Apr, May), 3= summer (Jun, Jul, Aug), 4= fall (Sep, Oct, Nov)</td>
</tr>
<tr>
<td>I.) SEASON OF CONCEPTION</td>
<td>1= winter (Dec, Jan, Feb), 2= spring (Mar, Apr, May), 3= summer (Jun, Jul, Aug), 4= fall (Sep, Oct, Nov)</td>
</tr>
<tr>
<td>J.) SEASON OF DEATH*</td>
<td>1= winter (Dec, Jan, Feb), 2= spring (Mar, Apr, May), 3= summer (Jun, Jul, Aug), 4= fall (Sep, Oct, Nov)</td>
</tr>
</tbody>
</table>

This study is intended to analyze the role of the cemetery as a proxy community of the town. The analysis was not done on a sample of headstones within the graveyard, but rather on the entire population of the cemetery. As such, the findings are not inferential but rather descriptive of Bellair Cemetery and consequently, the community surrounding it (Foster and Hummel 1995, p. 97). In this sense, we get an almost complete history of the town’s development, with any inferences being applicable to other towns in the region with similar colonization patterns in both time, location and magnitude.

HYPOTHESES AND FINDINGS

By applying theories developed by sociologists to explain human behavior and the relationships between individuals, we can derive from the data valuable insights about the
society it represents. The following hypotheses function to frame these theoretical ideas in the context of the historical community of Bellair:

Hypothesis #1- There will be a decline in the number of burials per decade after 1880.

A visitor to Bellair would be surprised to see the town’s position relative to its surroundings. It is located along a nondescript country road, and is not particularly close to any major source of water or heavy commercial traffic. The town’s first inhabitants were attracted to the location because it was situated in the relative center of the settlements in the area, which made it especially well suited for economic trade. In the 1880’s however, a railroad that was supposed to be laid close to town was instead constructed much further away (Matheny 1945, 3). Once the primary function of the town was removed, it could be reasonably assumed that a good percentage of the population would relocate as well.

Analysis of the data found on headstones provides some compelling evidence in support of this hypothesis. As the graph 1 demonstrates, the number of burials peaked in

Graph 1
the 1870’s and declined almost without exception until the present day. This finding makes logical sense when one considers George Homans’ rationality proposition. His theory holds that people will make a decision based on what they feel will have the most beneficial impact for them (Wallace and Wolf 1991, p. 188). Individuals living in the community were faced with the dilemma of whether to stay and try to earn a living in Bellair or uproot and start over somewhere else. Many reasonably came to the conclusion that their best chances of economic success rested elsewhere. Their decision to leave was probably reinforced by accounts from others who had moved away and found their expectations fulfilled.

Hypothesis #2-(A) Before 1900, women will have a lower average age at death than men.

(B) After 1900, women will have a higher average age at death than men.

One of the most reliable themes in studies analyzing cemetery data is that women’s average age at death is lower than men’s up to a certain point in time, after which it is higher. This cross-over is thought to occur as settlements become more modern and women gain greater access to resources. Erwin Dethlefsen found that in New England, this gender shift occurred at the around beginning of the nineteenth century (1969, p. 328). Studies of Coles County in east-central Illinois found that the cross-over occurs about a century later, the time lag being attributable to a frontier affect (Foster and Hummel 1995, p. 99-100). It is reasonable to hypothesize that there would be a similar pattern in Bellair, which is situated just south of Coles County.

The results of the study reinforce this proposition. Graph 2 shows that the average age of women at death was never higher than men’s prior to 1900. Additionally, the only decades after 1900 in which men’s average age at death was higher than
women’s were 1940 and 1950. A sensible inference to make from these findings is that the region did not become sufficiently settled to allow women equal access to resources until around 1900. Gender inequality, a Sociological framework relating to the unequal status of men and women within society, strongly supports this hypothesis.

Feminist theorists advocating the idea of gender inequality argue that society is (and has been historically) structured to ensure that men receive more opportunity to acquire power, status, wealth, and self actualization than women do. While the sexes are biologically equal, women have been socialized into an inferior status (Ritzer 2000, 454). It follows logically that during periods where resources were especially scarce (such as the early decades in a town’s development) women would have generally poorer health than men.

*Hypothesis 3- Women will constitute a proportionally small percentage of the total number of burials between 1840 and 1870.*
All available records and historical accounts relating to the settlement of Bellair indicate that the rationale behind situating the town in its present location was the geographic advantage that it provided its residents to conduct trade with neighbors and pioneers on their way west (Matheny 1945, p. 1). Studies on settlement patterns of frontier areas have found a tendency for males to be significantly over represented in cemetery populations. It is likely that that a majority of the town’s first inhabitants were males attracted by the opportunities that they felt would be available to them there (Foster and Hummel 1995, p. 99).

Contrary to this expectation, however, after analysis it was shown that there is no significant relationship between sex and decade of death; the Pearson Chi-Square is .316. Examination of graph 3 shows that the number of female deaths was in fact equal to or

Graph 3

Bar Chart

Sex
Male
Female

Count

Decade of Death

greater than the number of male deaths in the first two decades of the cemetery’s existence. In 1870, the difference is most dramatic with women outnumbering men 41 to 28. This is a theme common throughout the town’s entire history. From 1841 through 2001, there were 248 males and 259 females buried interred in marked graves. This yields a sex-ratio (x males per 100 females) of 96, which is considerably lower than the national average of 105. While this overrepresentation of females cannot be explained by available information, a more exhaustive historical analysis may provide clarification for the statistical anomaly.

_Hypothesis 4- Average age at death will increase as time goes on._

One of the almost universal findings studies of cemeteries is that the average age at death increases over time. Adamchak, Foster and Hummel, in their examination of cemetery data from Coles County, found that the number of deaths in every age status except the elderly decreased as time went on (1998, p. 478). These results follow logically if one puts them in the appropriate historical context. The conditions facing the earliest settlers would have been significantly harsher than those who came in the following decades. As the town became more developed, sanitation would improve as would the physical infrastructure of the town. This modernization would improve infant survival rates and drastically reduce the number of deaths in the middle age statuses (child, teen, and young adult). Also, evidence has shown that if a newborn lived past the age of three, the chances of living into adulthood were good (Adamchak, Foster, and Hummel 1998, 478).

The findings from Bellair Cemetery are consistent with these earlier studies. There is a significant correlation between age status and decade of death, with a Pearson Chi-Square of .000. As graph 4 demonstrates, this is no doubt an inflated figure due to the preponderance of elderly deaths in the last seven decades of the cemetery’s operation. This phenomenon is
attributable to Homans’ rationality proposition. The elderly is the social group with the least likelihood of making the decision to relocate. While increasing numbers of young people chose to try and earn a living in other areas, the older generations, most of whom by all accounts spent their entire lives in Bellair, decided that they would be better served by remaining in the town. Homans would argue that this trend follows logically when considering the motive for individual’s decisions (Wallace and Wolf 1991, p. 188).

Graph 4

Also of interest is the fact that infant and toddler deaths represented 30.2% of the total number of deaths between 1840 and 1880, accounting for 42 of the 139 burials during the forty year period. In reality, this figure is probably higher because the cost of headstones prohibited many parents marking their infant child’s grave (Dethlefsen 1969, p. 323-324). After peaking in the 1870’s, in which 29 of 69 (42%) total deaths were children under the age of four, the number of children’s deaths as a proportion of the total population went down substantially. Between
1920 and 2001, only 19 out of 211 (9%) people buried were under the age of thirty. This reinforces the idea that modernization greatly improves one’s chances of surviving into adulthood and is consistent with Adamchak, Foster, and Hummel’s findings on death patterns in east-central Illinois during the nineteenth and twentieth centuries (1998, 478).

Hypothesis 5-(A) Children will have a higher death rate in summer and fall.

(B) Adults will have a higher death rate in winter and spring.

There has been an abundance of research done on the seasonal death patterns of different age groups. One of the hypotheses most often tested in studies done on cemeteries is the trend for younger people to die in the late summer months, while older generations were more likely to pass away in later winter and early spring. Dethlefsen attributed this tendency to the propensity that the young people had to fall victim to seasonal water-born illnesses such as malaria and cholera, which proliferated in the high temperatures of August and early September (1969, p. 329). It is theorized that those who had survived into adulthood built up a natural resistance to these diseases but we more likely to suffer from respiratory sicknesses and influenza that struck in January, February, and early March (Adamchak, Foster and Hummel 1998, p. 479). Given Bellair’s close proximity to Coles County, one could reasonably expect similar findings.

A cross-tabulation of season of death and age status reveals some interesting things. Although the Pearson Chi Square is .129, meaning there is no significant relationship between the two variables, there is some evidence supporting the hypothesis. Examination of graph 5 shows that the number of deaths for children (ages 0-19) is highest during the summer and fall. Conversely, the number of deaths for adults (ages 20+) reaches its peak in winter and spring. This is consistent with other studies of the region.
Another interesting finding was the relationship between season of death and decade of death. A cross-tabulation yielded a Pearson Chi Square of .011, demonstrating a significant relationship between the variable. In analyzing the data, one finds that 20 of the 35 people who died during the 1860’s passed away in the fall. The fact that this was an early decade in the town’s existence gives additional support to the theory that early settlers in the region had difficulty coping with outbreaks of seasonal disease (Foster and Hummel 1995, p. 106).

SUMMARY

It is undeniable that there are serious limits to the applications of cemetery research. Given the relatively little information available for analysis, it is important to recognize the constraints on the insights it provides (Foster, Hendrickson, and New-Freeland 2002, p. 270). Despite these restrictions, there is much that can be taken from data available. The decline in number of burials over time reflects a similar decline in the size and prestige of the town, and is explained by Homans’ rationality proposition and the history of the region. There is evidence of a significant relationship between decade of death and age status. As graph 4 demonstrates,
modernization drastically increased a person’s chances of surviving into adulthood.

Additionally, as the town began to decline, the average age at death increased dramatically from 61.8 in 1940 to 83.5 in 2000. The last significant relationship found was between decade of death and season of death, reflecting the severe impact the seasonal illnesses had on the community in the early decades of its existence. Although no significant correlation was shown between age status and season of death, graph 5 shows a tendency for children to die in the summer and fall whereas adults die in the winter and spring. Also, as hypothesized, there was distinct cross-over in average age at death for women and men at the turn of the twentieth century. These findings collectively paint a detailed picture of what life was like for residents of Bellair over 160 years ago. Additional research could be done using the data collected to analyze conception, birth, and migration patterns. As the study of cemeteries becomes more popular within sociology, it is likely that we will gain a much greater understand of the social realities of our ancestors.


