The Population Ecology of Interest Group Death: Gay and Lesbian Rights Interest Groups

In the United States, 1945-1998

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The organizational ecology framework has contributed a great deal to our understanding of interest group communities. One of the noteworthy aspects of this framework is that it speaks to an issue about which most theories of interest group development are more or less silent: interest group death. In this follow-up to a study that appeared on the pages of this journal last year, we draw upon organizational ecology theory to formulate and test a number of hypotheses about interest group death. Our results, which flow from an analysis of the death of nationally active gay and lesbian rights advocacy organizations in the United States for the period 1945-1998, offer strong support for organizational ecology theory in general and the theory of density dependence in particular.

**Theoretical Background: The Theory of Density Dependence**

In our previous study we provided a broad overview of the theory of density dependence. We do not intend to recapitulate that entire précis here. Nonetheless, a bit of background is necessary. We begin with a brief account of the population ecology approach and how it differs from the dominant approach to the study of interest group development. From here, we summarize the theory of density dependence and what it says about interest group death.

*Organizational Ecology and Interest Group Development*

The question of how interest groups form and survive has garnered considerable attention from political scientists. The dominant political science approach to the study of interest group development is what Allan Cigler has called “incentive theory.” Incentive theory views successful group development as a function of a “mutually satisfactory exchange” between a group leader and

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group supporters. Organizational ecology considers interest group development from a much different perspective. In contrast to incentive theory, organizational ecology proceeds from the assumption that adaptive change within organizations is rare. As such, organizational ecology holds that most change in the organizational world takes place at the population level through the process of selection, rather than at the organizational level through the process of adaptation. Selection occurs via the population-level phenomena of organizational entry (birth) and exit (death). Because entry and exit are population-level phenomena, organizational ecologists focus on the evolution of organizational populations—sets of organizations that share a common dependence on the material and social environment in which they operate—rather than individual organizations.

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The Theory of Density Dependence and Four Propositions

Organizational ecology has a great deal to say about interest group death—a topic about which incentive theory is more or less silent. Specifically, the organizational ecological theory of density dependence generates a straightforward explanation for when and why interest groups die. While we do not intend to recapitulate our entire overview of the theory of density dependence here (for that, see our previous paper), we will say a few introductory words about the theory before moving on to a more detailed and relevant discussion of what the theory says about interest death.

The importance of density. The theory of density dependence is one of several separate theories that fall under the rubric of organizational ecology. As the name implies, the theory of density dependence assigns a vital role to the concept of density, which is defined as the number of organizations a population contains. There are two reasons the theory assigns so much importance to density. First, density is an observable outcome of organizational processes. In other words, because selection

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exerts a profound impact on the organizational world, density varies over time and space. Second (and more important for our purposes), density affects the process of selection itself. Specifically, density affects organizational foundings and deaths, which are the visible outcomes of selection processes. How does density affect foundings and deaths? The answer lies in two opposing sociological processes: competition and legitimation. Competition refers to “constraints arising from joint dependence of multiple organizations on the same set of finite resources.”7 Legitimation refers to “the status of an organizational form as a taken-for-granted feature of the society.”8 The theory of density dependence holds that both of these sociological processes are affected by density. More important, however, the theory holds that the birth and death rates in an organizational population vary as functions of legitimation and competition. To understand what the theory of density dependence says about interest group death, we must examine what the theory says about how legitimation and competition affect death rates.

How competition and legitimation affect organizational mortality. The theory contends that competition profoundly affects mortality rates. Specifically, the theory avers that because organizations must maintain flows of resources to survive, increased competition increases mortality rates. In other words, competition increases mortality rates by complicating the task of maintaining a flow of essential resources.9 This straightforward relationship between competition and mortality rates leads to the following general proposition, which we will label Proposition 1:

**Proposition 1.** In any given organizational population, there is a positive relationship between the level of competition and the mortality rate.

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9 Hannan and Carroll, ‘An Introduction to Organizational Ecology’, p. 31.
The theory of density dependence holds that legitimation also affects mortality rates. An organizational form is considered legitimate when it attains a ‘taken-for-granted’ status in society. When an organizational form attains legitimacy, entrepreneurs are spared the expense of explaining the organizational form and “singing its praises.” The theory of density dependence hypothesizes a straightforward relationship between legitimation and mortality rates, which can be summed up in this general proposition, which we will call Proposition 2:

**Proposition 2.** In any given organizational population, there is a negative relationship between the level of legitimation and the mortality rate.

This is the case because increased legitimation makes it easier for organizations to maintain flows of resources, and decreases competition from competing organizational forms.

The theory of density dependence holds that density directly affects both competition and legitimation. Let us turn first to competition. The theory holds that increased density increases diffuse competition between all organizations within a given population and may also affect direct competition between pairs (or small sets) of very similar organizations. Thus, “growing density intensifies competition at an increasing rate.” In other words, changes in density have more profound effects on competition when density is high than they do when density is low. Consider, for example, that when an organizational population consists of only a handful of organizations, an increase of one organization is likely to have little impact on competition. In contrast, when an organizational population is near its carrying capacity, an increase of one organization is likely substantially to increase competitive pressures.

Turning next to legitimation, the theory of density dependence holds that it encompasses both action by individual entrepreneurs to define and explain an organizational form, and “collective learning by which effective routines and social structures become collectively fine-tuned, codified, and promulgated.” The theory thus holds that the intensity of both of these types of activities

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11 Carroll and Hannan, ‘Density-Dependent Evolution’, p. 117.
12 Carroll and Hannan, ‘Density-Dependent Evolution’, p. 117.
depends upon density. First of all, growth in density “gives force to claims of institutional standing and provides economies of scale in political and legal actions.”

Second, when entrepreneurs successfully form organizations, new entrepreneurs are tempted to enter the market. These new entrepreneurs can look to previous entrepreneurs for guidance on how to succeed. In the end, the theory holds that the rarity of an organizational form presents serious problems of legitimation. If few examples of an organizational form exist, the argument goes, the form cannot be considered the natural way to achieve collective ends. This said, it is unlikely that once an organizational form becomes legitimate increased density will substantially affect its degree of social acceptance. Thus, the theory holds that legitimation responds to variations in density at low levels of density, but the effect has a ceiling. To put it another way, once an organizational form becomes widely accepted, density has little effect on legitimation.

These arguments about how density affects competition and legitimation lead to two additional general propositions, which we will call Propositions 3 and 4:

**Proposition 3.** In any given organizational population, legitimation processes dominate at low density.

**Proposition 4.** In any given organizational population, competition processes dominate at high density.

**Density and disbanding rates: The density dependence hypothesis.** Together, Propositions 1-4 lead to the following straightforward generic proposition about interest group death, which we will call Theorem 1 (the generic density dependence theorem on organizational mortality):

**Theorem 1.** Within a given interest group population, the relationship between density and the mortality rate is nonmonotonic in the general shape of a U.

In other words, the theory of density dependence holds that the disbanding rate within a given organizational population falls with increasing density up to a point and then rises with increasing density.

**The Theory of Density Dependence in Political Science**

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13 Carroll and Hannan, ‘Density-Dependent Evolution’, p. 117.
14 Carroll and Hannan, ‘Density-Dependent Evolution’, p. 117.
In political science, only Virginia Gray and David Lowery (1995; 2001) have previously explored the effects of density on interest group death. Their findings confirm one part of the theory of density dependence. Specifically, they find that density dependence is “expressed through enhanced mortality among registrants in dense interest communities” (2001: 375). In other words, in crowded interest communities, organizational mortality rates tend to be relatively high. This finding notwithstanding, we believe that further research on the effects of density is warranted. We say this for three reasons. First, Gray and Lowery do not examine the effects of increases in density in relatively sparsely populated interest communities, which the theory suggests are much different from those of increases in density in crowded interest communities. Second, Gray and Lowery confine their analyses to state interest communities, which may be affected by different contextual factors than specific organizational populations active at the national level. Finally (and quite surprisingly), organizational ecological models simply have not been subject to much scrutiny beyond that provided by Gray and Lowery themselves. In short, because past studies have shown that organizational ecological theories have great promise for helping us understand the long-term evolution of interest communities, they deserve further testing and refinement.

Data and Methods

To test how well the theory of density dependence explains interest group death, we examine the evolution of the national gay and lesbian rights interest group population in the United States for the period 1945-1998.\textsuperscript{16} The primary substantive hypothesis we test is as follows:

\textit{H1. In the American gay and lesbian rights interest group population, the relationship between density and the mortality rate is nonmonotonic in the general shape of a U.}

In other words, we expect the mortality rate to decrease with increasing density up to a point and then increase with increasing density. This hypothesis is a more specific version of Theorem 1.

\textsuperscript{16} Due to some data limitations, in our earlier paper on foundings we examined the period 1950-1998. We have since overcome these limitations, and in this paper examine the entire period. We should note, however, that we re-ran the analyses contained in our other paper using the entire period, and they are not substantially different from those reported there.
We define the gay and lesbian rights interest group population as the set of politically active organizations that lobby at the national level and advocate for public policy favorable to gays and lesbians in the United States. Ultimately, we identified a total of 98 groups that comprised the population. To compile a population list we began with the *Encyclopedia of Associations*, an annual volume that inventories every identifiable membership group in the United States.\(^{17}\) We examined the *Encyclopedia* for each year that it was published for the period 1945-2002. Because we found that the *Encyclopedia* was not always correct about founding and disbanding dates, we supplemented this data with information from several other sources. First, we perused the *New York Times Index* for every year from 1945-2002 and combed articles on gay and lesbian issues for references to specific gay and lesbian rights interest groups.\(^{18}\) Second, we read several historical accounts of gay and lesbian advocacy to identify any politically active organizations that either the *New York Times* or the *Encyclopedia of Associations* missed.\(^{19}\) Finally, when there was any doubt about founding or disbanding dates, we contacted gay and lesbian activists directly and asked them to confirm that our information was correct.\(^{20}\) We are the first to admit that our population list and our data on founding and disbanding dates may not be infallible. However, we spent several months attempting to identify each and every group that fit our inclusion criteria, and we believe that our data are as close to complete as can reasonably be expected.\(^{21}\) All the data used for this project are available on the authors’ web site.

*Methods and the “Death Hazard”*

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\(^{17}\) *Encyclopedia of Associations* (Detroit: The Gale Group, various years).


\(^{20}\) In the rare event that sources conflicted about the founding or disbanding date of a particular group, we relied on the recollection of the activists who were involved with the group.

\(^{21}\) We eliminated all groups that did not engage in political activity or that were not active at the national level.
We do not intend to turn this paper into a methodological treatise. Nonetheless, a few words about our methods are in order. To test our primary substantive hypothesis (Hypothesis 1) and a few others we will get to shortly, we use two different types of survival analysis—Cox regression, and the maximum-likelihood discrete-time event-history method outlined by sociologist Paul Allison.\(^{22}\)

Cox regression (which is also known as Cox proportional hazards regression) is a well-known statistical technique used to explore the relationship between the time to occurrence of a particular event and several explanatory variables. Here we use Cox regression to provide estimates of the effects of various explanatory variables on interest group death. The Cox model works by determining a “baseline underlying hazard function” and then estimating the “proportional change that can be expected in the hazard, related to changes in the explanatory variables.”\(^{23}\) In our case, the hazard rate is equivalent to the risk or probability that a group will die at time \(t\), given that it was alive at time \(t-1\). Coefficients in a Cox model indicate whether a specific explanatory variable increases or decreases the hazard rate. A positive coefficient, for example, indicates that the probability of death is greater for higher values of the independent variable. To estimate the model, we determined for each group in the population the time until death measured in years for the period 1945-1998. For detailed and technical information on Cox regression, see Collett (1994) and Cox (1972).\(^{24}\) For the use of Cox regression in political science research, see Box-Steffensmeier and Jones (2003).\(^{25}\)

For reasons we discuss more fully below, we also test our hypotheses using the discrete-time event-history method outlined by sociologist Paul Allison. The advantage of Cox regression over other survival analysis models is that it makes no assumptions about the shape of the hazard over


time. However, this means that Cox regression does not gauge the duration dependency of the hazard. The advantage of the discrete-time model is that it facilitates a direct measurement of the impact of group age on the hazard rate. To specify how the hazard rate depends upon the explanatory variables, this method uses the logistic regression function. In this framework, the dependent variable is \textit{organizational death}, which is coded 0 for each year that an organization is alive and 1 for the year that it disbands (if it disbands). For an organization that does not die, the dependent variable is coded 0 for all years. The estimated coefficients in this model are interpreted in a straightforward fashion, and indicate if a given explanatory variable increases or decreases the probability that a given group will die at a given point in time given that it has not died previously. For more information on this approach, see Allison (1982), Beck, Katz, and Tucker (1998), and Finocchiaro and Lin (2000).\footnote{Allison, ‘Discrete-Time Methods for the Analysis of Event Histories’; Nathaniel Beck, Jonathan N. Katz, and Richard Tucker, ‘Taking Time Seriously: Time-Series Cross-Section Analysis with a Binary Dependent Variable’, American Journal of Political Science, 33 (1998), 1260-1288; Finocchiaro and Lin, ‘The Hazards of Incumbency: An Event History Analysis of Congressional Careers.’}

To estimate the models, we broke each group’s history into a series of yearly spells. In all, our 98 groups contributed 1724 spells to the analysis. This approach allows us to update each of the explanatory variables on a yearly basis. Of the 98 groups in the population, 25 disbanded.\footnote{Actually, one of the 25 merged with another group. Though there is some evidence that mergers are qualitatively different phenomena than disbandings, in this paper we treat all ending events the same.} This means that the remaining 73 groups are “right-censored.”

\textit{The Variables}

To operationalize our dependent variable—that is, to determine when a group died (if it died) and how long it survived—we determined a founding date and a disbanding date for each of the 98 groups in the population. The primary independent variable of interest—that is, the independent variable that allows us to test Hypothesis 1—is \textit{density}. Density is calculated on a yearly basis and is defined as \textit{the total number of nationally active gay and lesbian rights groups alive at the beginning of Congressional Careers'}, A paper presented at the Annual Meeting of the Midwest Political Science Association, Chicago, Illinois, April 27-30, 2000.
the year. To test Hypothesis 1, we include a linear as well as a quadratic term in the models that we estimate. In addition to density, we examined the effects of several additional independent variables. Each of these variables fits into one of three categories: Political opportunity structure (POS) variables, age variables, and control variables.

POS variables. As we detail in our previous paper, some theorists hypothesize that the survival chances of interest groups depend largely upon the political opportunity structure (POS) they face.\textsuperscript{28} The inclusion of POS variables in the models allows us to test the following hypothesis, which we will call the generic POS hypothesis on interest group death:

\begin{equation}
H2. \text{In the American gay and lesbian rights interest group population, there is a negative relationship between the relative openness of the POS and the mortality rate.}
\end{equation}

In other words, disbanding rates should be high when the POS facing gay and lesbian rights groups is unfavorable, and low when it is favorable. To test Hypothesis 2, we included four POS variables in our analyses.\textsuperscript{29} The first POS variable is number of congressional hearings on gay and lesbian issues. This variable is a yearly gauge of the number of legislative hearings by the U.S. Congress on gay and lesbian issues. This measure was constructed by using the \textit{Congressional Information Service Annual} for the period of study, as well as Gerard Sullivan’s exhaustive study of congressional attention to gay and lesbian issues in the 1950s, 1960s, and 1970s.\textsuperscript{30} We use this variable to signal the relative receptiveness of the American federal government to the demands of gay and lesbian interest groups. If Hypothesis 2 is correct, this variable should be negatively associated with the hazard rate. The second POS variable we consider is issue salience. To measure issue salience we used the \textit{New York Times}


\textsuperscript{29} For a bit more information on why we chose these POS variables instead of some others, see our previous paper.

Index for each year from 1945-1998, and counted the number of stories concerning gay and lesbian issues. For each year, the raw number of stories was then divided by the total number of pages in the index. If Hypothesis 2 is correct, issue salience will be negatively related to the hazard rate.

The third POS variable is *Percentage of Democrats in Congress*. This continuous variable is a yearly measure of the percentage of members of the U.S. Congress who belong to the Democratic Party. To construct this variable we relied upon U.S. government sources. Like the other POS variables, this variable is a basic measure of the relative receptiveness of the American national government to the demands of gay and lesbian rights groups, as Democrats have generally been far more supportive of gay and lesbian rights than Republicans. If Hypothesis 2 is correct, this variable will negatively affect the hazard rate. Our final POS variable is *Clinton*, which takes a value of 1 for the years in which Bill Clinton was president and 0 otherwise. Because Bill Clinton was more receptive to the demands of gay and lesbian interest groups than any president in U.S. history, this variable also signals the relative receptiveness of the federal government to gay and lesbian groups. If Hypothesis 2 is correct, this variable will be negatively associated with the hazard rate.

*Group Age*. We also consider the effects of *group age* in our analyses. Our *group age* variable is a straightforward yearly measure of the number of years since a group was founded. There is conflicting evidence about how age affects an organization’s chances of survival. In an initial formulation, Stinchcombe argued that organizations experience a “liability of newness.” New organizations fail at a higher rate than old ones, Stinchcombe argued, because efficient organization

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takes time.\textsuperscript{34} Numerous empirical studies have supported Stinchcombe’s claim.\textsuperscript{35} However, subsequent work contradicted this claim, finding instead that organizations experience a “liability of adolescence” rather than a liability of newness.\textsuperscript{36} These studies suggest that failure rates peak during adolescence rather than “childhood.” We use the literature on age to formulate two additional hypotheses. They are as follows:

\textit{H3. In the American gay and lesbian rights interest group population, there is a negative relationship between group age and the mortality rate.}

\textit{H4. In the American gay and lesbian rights interest group population, the relationship between group age and the mortality rate is nonmonotonic in the shape of an inverted U.}

To estimate the effects of group age, we will estimate one model with a linear age term to test Hypothesis 3, and another with a linear term as well as a quadratic term to test Hypothesis 4.

\textit{Control variables.} Finally, our empirical analyses consider the effects of two control variables: 1970-1980, and 1981-1998. These period variables, which are dummies coded 1 for the years in question and 0 otherwise, control for the effects of long-term changes in American society.\textsuperscript{37} To operationalize these variables, we divided the entire period under study into three sub-periods: 1945-1969, 1970-1980, and 1981-1998. Period number 1 is the baseline period in our models. These periods were not chosen at random. Rather, they reflect distinct eras in the history of gay and lesbian


rights advocacy. During the first period, the “homophile” movement in the United States was born. The period was politically quiescent, as most gays and lesbians remained “in the closet.” In 1969, the Stonewall riots shattered the quiescence of this period. Many historians consider the riots the defining moment of the gay and lesbian rights movement. The Stonewall riots drew considerable media attention to the cause, and groups proliferated and became more active and more militant. In addition, the riots signaled the beginning of changes in public opinion, as ordinary citizens as well as government officials became more receptive to the demands of gay and lesbian rights groups. The final period begins in 1981, the year in which AIDS first appeared on the national political scene. AIDS, of course, represented a serious threat to gays and lesbians (especially gay men), and media and government paid increasing amounts of attention to gay and lesbian voices. At this point, we have no expectations about the effects of these control variables. We include them mainly to control for the possibility that the estimated effects of density and group age reflect larger societal changes.

Findings

In all, 25 of 98 (approximately one in four) groups in the population disbanded. What explains why and when these 25 groups disbanded? Organizational ecologists hold that density exerts a profound influence on death rates. To reiterate, the theory of density dependence predicts that legitimation suppresses disbanding rates while competition increases disbanding rates. Because legitimation dominates at low density and competition dominates at high density, we expect to find a U-shaped relationship between density and the mortality rate. Does this pattern appear in the data? Figure 1 hints at an answer to this question. What is most noticeable about Figure 1 is that group deaths are clustered at the right side of the graph. To summarize, most deaths occur when density is at or near its peak. In fact, over half of all deaths occur in the last ten years of the 53-year period under study. This clustering of deaths is broadly supportive of Hypothesis 1. It is also supportive of previous

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37 We experimented with a number of different (dummy) period variables, and found that the estimated effects of density are insensitive to choice of periods.
39 For summary statistics on all variables, see the authors’ web site.
research.\textsuperscript{40} Figure 1 also indicates that the number of deaths is relatively low for the period 1972-1984, which is a period of explosive growth in the size of the population. This finding is also broadly supportive of Hypothesis 1.

 Density and Death

To provide a more rigorous test of Hypothesis 1, we turn now to our statistical analyses. The estimates of our Cox model appear in the first column of Table 1.\textsuperscript{41} The results of this analysis provide strong support for Hypothesis 1.\textsuperscript{42} Specifically, the results reveal that the effect of density is, as the theory of density dependence predicts, non-monotonic. The estimated effect of density corresponds with the theory of density dependence. Specifically, the first-order effect is negative and the second-order effect is positive. The indicators for both density terms are highly statistically significant. The density indicators show that the mortality rate decreases as density increases up to a point, and then increases with further increases in density. While Model 1 supports Hypothesis 1, it provides no support whatsoever for Hypothesis 2. The statistical insignificance of all four POS coefficients means that we cannot reject the null hypothesis that the POS facing gay and lesbian rights interest groups had no impact on group death.

Model 2 tests the effects of the same explanatory variables as Model 1. It does so, however, in a slightly different way. We estimate Model 2 using the discrete-time method we describe above, but we do not include group age as an independent variable. If time does indeed have an effect on interest group death, our results for Model 2 will suffer from omitted variable bias. The results of this analysis (which are found in column 2, Table 1) are similar to those of Model 1, and strongly support Hypothesis 1. Again, each of the density coefficients is significant and points in the expected direction.

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\textsuperscript{40} Gray and Lowery, ‘The Expression of Density Dependence in State Communities of Organized Interests.’

\textsuperscript{41} All analyses were performed using Stata 7.0. The Breslow method was used for ties.

\textsuperscript{42} Using \texttt{stphtest} in Stata, we conducted variable-by-variables tests, along with an overall test of the Schoenfeld residuals. For details on these tests, see Patricia M. Grambsch, and Terry M. Therneau, ‘Proportional Hazards Tests and Diagnostics Based on Weighted Residuals’, \textit{Biometrika}, 81 (1994), 515-526. We also tested the proportional hazards assumption by interacting all the covariates with analysis time. The results of this method also supported the proportional hazards assumption. For
Moreover, the estimated effect of density again supports the theory of density dependence. Finally, like Model 1, Model 2 offers no support for Hypothesis 2.

**Figure 1. Density and Deaths of American Gay and Lesbian Rights Interest Groups, 1945-1998**

![Graph showing density and deaths over time from 1945 to 1998.](image)

*Source: Authors’ data.*

**Does Age Matter?**

In a model the results of which we do not report here, we test Hypothesis 3 by adding a linear *group age* term to Model 2. The results of this analysis provide no support for Hypothesis 3. Specifically, the indicator for *group age* is in the wrong direction, and is not statistically significant. Our third model (see column 3 in Table 1) adds *group age* and *group age*² as covariates. Adding these two variables improves the fit of the model (p = .06) over Model 2. As you can see, the effects of *group age* details, see Mario A. Cleves, William W. Gould, and Roberto G. Gutierrez, *An Introduction to Survival*
appear to be strong, and Model 4 supports Hypothesis 4. As Hypothesis 4 suggests, the first order effect of group age is positive, while the second order effect is negative. Unfortunately, the coefficients for group age in Model 3 do not reach the .05 level of significance. After eyeing the data, however, we discovered an outlier that seriously affected the parameter estimates for Model 3. Specifically, we found that one group in the population died at age 30. To account for this outlier, we conducted another analysis that excluded this deviant case. The results of this analysis are found in the fourth column in Table 1. As you can see, the results in column 4 strongly support Hypothesis 4. Again, each age indicator is in the expected direction, and both estimates are highly significant. In sum, both with and without the outlier, the data provide strong support for the notion that the relationship between age and the disbanding rate is nonmonotonic in the shape of an inverted U.

Summary: Density, Age, and the Irrelevance of the POS

To summarize, our statistical models provide overwhelming support for Hypothesis 1 and strong support for Hypothesis 4. They provide no support for either Hypothesis 2 or Hypothesis 3. To put our findings in more specific terms, we used the coefficients in Model 4 to calculate the hazard rate at various levels of density and age. Turning first to density, our results show that when we hold all other explanatory variables to either their mean (for continuous variables) or their mode (for dichotomous variables), the hazard rate starts off quite high at .53, decreases steadily until it reaches .04 at a density of 20, and then bottoms out at .01 when density reaches 37. From here, it rises steadily until it reaches .05 at a density of 59, and then comes full circle to reach a near maximum of .48 at a density of 75.

As for the effects of group age, once again setting other variables to their mean or mode, we found that the death hazard (i.e., the probability of death) is a miniscule .006 at age 1, increases to .02 at age 5, then reaches a maximum of .05 at the age of 13. The death hazard decreases subsequently, to .02 at age 20, to .0003 at age 30, and to virtually nil from age 35 on. Figure 2 (which includes the

Analysis Using Stata (College Station, TX: Stata Press, 2002).
outlier group that died at age 30) presents these results graphically. As you can see, the number of
deaths peaks in middle age, and is relatively low at both ends of the age spectrum.

Table 1. Cox Regression and Logistic Regression Estimates For Mortality Rates of American Gay and Lesbian Rights Interest Groups, 1945-1998

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</tr>
<tr>
<td>Log likelihood</td>
<td>-95.3964</td>
<td>-123.4298</td>
</tr>
<tr>
<td>Pseudo R^2</td>
<td>---</td>
<td>.055</td>
</tr>
</tbody>
</table>

Source: Authors’ data.

Note: SEs are in parentheses

* p < .10
** p < .05
*** p < .01

Before moving on, a few words on the POS variables are in order. According to Table 1,
none of the POS variables show much promise for explaining the deaths of gay and lesbian rights
interest groups. Neither Issue Salience, Number of Congressional Hearings, Percent Democrats in Congress, nor Clinton are significant in any of the models. Clearly these findings augur against a POS explanation for interest group death. While we are not prepared to discount the effects of POS completely, our results show no support for Hypothesis 2.

Finally, we should note that one of our control variables—1970-1980—produces consistently significant results. In all four models, the parameter estimate for this variable is positive, which suggests that mortality rates, once we control for other factors, were higher during the period 1970-1980 than during the baseline period. Other analyses confirm that mortality rates were higher during this period than the subsequent period as well. These results are important for two reasons. First, they cast further doubt upon POS notions of interest group death. Histories of gay and lesbian rights interest group advocacy consistently identify the period 1970-1980 as one of great positive change for the gay and lesbian rights movement. Indeed, as we point out above, Stonewall (1969) is often viewed as the beginning of a true nationwide gay rights movement. Second and more important, the estimates for our 1970-1980 dummy, together with those for our other period dummy, do not in any way detract from the power of the density or age effects. On the whole, these dummies help support the notion that our findings on density and group age do not simply reflect the unobserved effects of secular changes in America during the period under study.

**Conclusion**

Our analysis of the deaths of nationally active gay and lesbian rights interest groups in the United States yields two main findings. First, organizational mortality rates are substantially affected by population density. Specifically, we find that as density rises from low to high, mortality rates first decrease but eventually increase. Second, organizational morality rates are substantially affected by group age. Specifically, gay and lesbian rights groups exhibit a “liability of adolescence.” Our findings provide little support for the notion that the larger political context in which gay and lesbian rights interest groups operate substantially influences their life chances.
Figure 2. Number of Deaths by Group Age in the American Gay and Lesbian Rights Interest Group Population, 1945-1998

Source: Authors’ data.

Relation to Previous Research

How do our findings relate to extant interest group research? First, they provide a strong endorsement of the organizational ecology framework. However, our findings “fine tune” previous findings on the effects of density. While we find that increases in density increase mortality rates at high density, we also find that they decrease mortality rates at low density. This finding is a necessary corrective to the idea that there is a straightforward linear relationship between density and organizational death. Second, our findings support the intuitively appealing notion at the center of the theory of density dependence that whatever else affects mortality rates, they are profoundly affected by competition for resources among similar groups. To paraphrase Hannan and Freeman (1988), two pioneering organizational ecologists who fine-tuned the theory of density dependence,

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the struggle for gay and lesbian rights interest groups has not been merely conflict with gay and lesbian rights opponents or the government. Rather, the history of gay and lesbian rights interest groups is one of competition for resources within the population of groups. This said, it is important to reiterate that increasing density does not always lead to fiercer competition that drives up mortality rates. During the early period of our study, legitimation effects dominated and increases in density actually decreased mortality rates before density reached a relatively high level.

What about political opportunities? POS theories do not fare well here. Nonetheless, we believe that POS theories should not be discarded and discounted. Instead, we believe that they require further refinement, as it is surely the case—as most other studies that utilize the organizational ecology framework find—that the environment in which interest groups operate affects their life chances.

Why do we find so little support for POS theories? There are two possible explanations. First, it is possible that POS theories are better at explaining interest group formation than they are at explaining interest group death (though our earlier study finds no support for this idea). As sociologist Debra Minkoff (1997: 92) argues, many scholars operating within the POS framework believe that the POS affects group mobilization far more substantially than group survival. “Once organizations are established,” this argument goes, “they are more protected from environmental vagaries than is the case for nascent groups.” Second, we may have failed to choose variables that accurately reflect the POS facing gay and lesbian rights groups during the period under study. This is a possibility. In fact, many POS theorists acknowledge that POS theories may need further refinement before they can be accurately tested. In short, deciding precisely which contextual variables constitute the POS and thus account for the death of interest groups is more or less a “judgment call.” In the future, we hope that political scientists can better conceptualize POS and perhaps offer guidance for statistical treatments of interest group development.

Institutions, Associations, and Membership Groups”; and Gray and Lowery, ‘The Expression of Density Dependence in State Communities of Organized Interests.’

Organizational ecology and incentive theory. Finally, there is the question of how our findings relate to dominant theories of interest group development that emphasize the exchange of benefits between group entrepreneurs and group supporters. On the one hand, our findings appear to contradict the notion that the nature of exchange relationships determines whether groups live or die. On the other hand, we do not consider group characteristics such as incentive structure or membership characteristics in our statistical analyses. Thus, our findings cannot speak definitively to the effects of various types of exchange relationships on group survival. In the end, our data simply cannot speak to the accuracy of incentive theory. This said, we wish to note that the organizational ecology framework is not as radical a departure from incentive theory as it may seem. First of all, the organizational ecology framework explicitly acknowledges that individual entrepreneurs play an important role in determining the fortunes of individual organizations. Carroll and Hannan (1995) conclude, for example, that entrepreneurial activity is essential to the formation of new organizations and the survival of old ones. This activity, however, is substantially affected by population dynamics—changes in density in particular. Carroll and Hannan note that legitimation, which dominates at low density, “eases the problem of maintaining flows of resources.”46 Specifically, when a given organizational form becomes legitimate, entrepreneurs have a much easier time forming and maintaining organizations. In addition, competition, which dominates at high density, “exhausts supplies of potential organizers, members, patrons, and resources.”47 Rational entrepreneurs “with the knowledge and skills to build organizations,” they continue, “might hesitate to make attempts in densely populated environments and so look for better opportunities.”48 On the whole then, it is clear that the idea of entrepreneurial leadership is central to organizational ecology theories. The primary insight of organizational ecology is not that entrepreneurs, supporters, and incentive structures are unimportant. Rather it is that the larger environment in which entrepreneurs, potential

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45 Though we should note once again that including alternative measures of POS did not significantly change any of our results.
entrepreneurs, supporters, and potential supporters operate sends these actors signals about the life chances of organizations.

**Conclusion and Future Directions**

In closing, we wish to reiterate that population dynamics are not all that matter in organizational mortality. We simply cannot dismiss out of hand alternative explanations for mortality. In addition, by focusing only on national groups, we have overlooked the hundreds and perhaps thousands of local interest groups concerned with gay and lesbian advocacy. Surely, these groups affect the nature and patterns of gay and lesbian group representation in the United States. Nonetheless, despite our reservations about viewing the theory of density dependent evolution as a comprehensive model of interest group death, we are forced to conclude that the data provide compelling support for the notion that population dynamics exert a profound impact on the life chances of interest groups.

In the end, our data point up the wisdom of taking a holistic approach to the study of interest group death in particular and development in general. A holistic approach considers both internal factors and external factors including population dynamics. The rule in most studies of interest group development is to focus on either internal variables or external variables. Because organizational ecologists consider both internal and external factors, they beckon us to explore the linkages between interest groups and their entrepreneurs and supporters, and the external environment in which these actors operate.

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