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Re-Thinking Research on Typologizing Homelessness

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Abstract

In homelessness research and policymaking, it seems to be axiomatic that single adults have three temporal kinds of homelessness: chronic, episodic and transitional. Despite this typology's research and policy influence, its theorization and the empirical research supporting that theorizing have important problems. In this paper, we analyze serious flaws with both of these. We then suggest a different way to think about typologizing temporality and report findings using that approach which suggest a radically different typology. We conclude by observing that, contrary to much argument, no one typology is necessarily accurate, in the sense of being "true", and that we should develop typologies based on theory and the uses to which the typology is put.

Keywords: Typology; homelessness policymaking; homelessness theorizing

RE-THINKING RESEARCH ON TYPOLOGIZING HOMELESSNESS

In homeless research and policymaking, it seems to be axiomatic that adults without children have three temporal kinds of homelessness: chronic, episodic and transitional. This typology was conceptually midwifed and initially empirically supported by Kuhn and Culhane (Kuhn & Culhane 1998). It has subsequently been employed by, among others, Kertesz et al (2005) to show that being episodically or chronically homeless is linked to worse mental health than being transitionally homeless; by Goering et al (2002) to suggest that the degree of problems for first-time homeless people is similar to those chronically homeless; and by Caton et al (2005) to identify risk-factors for chronic homelessness. The typology has also been used to analyze family homelessness: Culhane and colleagues find the same three groups among homeless families (Culhane et al 2007). In policymaking, the typology has been employed by, among others, the Federal government to focus on the chronic group, particularly its encouraging local ten-year plans to end chronic homelessness (US Interagency Council on Homelessness 2003; Department of Housing and Urban Development 2002; 2004); by the National Alliance to End Homelessness to urge a “housing first” approach to chronic homelessness (National Alliance to End Homelessness 2007); and by the Urban Institute to specify steps to ending and preventing homelessness in general (Cunningham 2009).

Despite this typology’s extensive research and policy influence, the initial theorizing and the research supporting that theorizing have troubling flaws. This work has been a useful starting point for better incorporating the temporal character of homeless people’s lives into research and policymaking, but it should not be the end point. In this paper, we first describe problems with the logic of the theorizing and then problems with the design and analysis of empirical research supporting that theorizing. We next give a précis of an alternative approach to typologizing temporality and report findings using that approach that suggest a radically different typology.

Based on these findings, we conclude that other temporal typologies may be useful for both theorizing the temporal character of homelessness and for policymaking, and we argue that no one right typology exists (Bassuk 2007). Rather, we should construct typologies based on theorizing, policymaking and other uses to which they are put.

Theorizing

Attempting to typologize homelessness in terms of its temporal features, Kuhn and Culhane used extant homeless literature to identify three kinds of temporally-based homelessness.

Transitionally homeless people "are forced to spend a short time in a homeless shelter before making a transition into a more stable housing arrangement, and in most cases they do not return to homelessness." *Episodically* homeless people "frequently shuttle in and out of homelessness. . . . [They] often find their way back to the shelters." And *chronically* homeless people "are likely to be entrenched in the shelter system, . . . for whom shelters are more like long-term housing than an emergency arrangement." (211)

To test this hypothesis, Kuhn and Culhane translated these descriptions into two dimensions, the frequency and duration of homelessness, and measured these dimensions by, respectively, the number of times and the length of time people are homeless. Thus, transitional homelessness consists of low frequency and short duration — one, at most two, homeless episodes for a very brief time overall; episodic homelessness consists of high frequency but short duration — many episodes and little time overall; and chronic homelessness consists of low frequency and long duration — very few episodes for a very long time overall. This analysis suggests Table 1, which associates the two dimensions of Kuhn and Culhane's analysis to show how the three types are cells in that association.

Table 1. Implicit Theorization of Prevailing Typology

		<i>Duration</i>	
		Short	Long
<i>Frequency</i>	High	Episodic	<i>not-described</i>
	Low	Transient	Chronic

One problem is clear immediately: An implied category is not described — not discussed by and perhaps not known to authors using this theorizing. The category is not conceptually illogical, and is not necessarily empirically empty, even, for example, for the brief three-year observation period of local administrative shelter data analyzed by Kuhn and Culhane. Using statistics they reported, we calculate that, on average, one to two shelter stays characterize low frequency and fewer than 250-300 shelter days characterize short duration. Analyzing data comparable to but historically later than Kuhn and Culhane’s, we exclude people below these thresholds to estimate that 4.0% of the population could be in the cell not described, with average shelter stays of 3.6 and total shelter days of 513. These estimates seem plausible: average high frequency in Kuhn and Culhane’s analysis was 4.7 stays (episodic) and average long duration was 638 days sheltered (chronic). (Analyzing our comparable but historically later data in the manner of Kuhn and Culhane, we find the same average high frequency of 4.7 stays, but a lower average long duration of 509 days.) In addition, because of how shelter stays are recorded in the Kuhn and Culhane database, the number of days people did not experience shelter is likely overestimated and the frequency of stays underestimated. We explain and discuss this last point at the end of the Research Design section.

A second issue is that, because a cell goes un-theorized and, therefore, un-analyzed, the episodic category is perhaps better understood as a residual category: It is whatever is not low frequency. The problem with a residual category, of course, is that it contains a hodgepodge of values on the dimension(s) of interest. This is deeply problematic for typologizing, which aims to identify unique combinations of values on relevant dimensions (Stinchcombe 1968). Our contention is supported by the great variation Kuhn and Culhane observed in the number of shelter stays (3-14) and days sheltered (1-895) among the episodic (they do not report standard deviations), and that we find using a homogeneity measure in our similar analysis of comparable data (McAllister et al, forthcoming).

In addition to these difficulties, we point out that it would help analytically if this theorizing were more causally robust. Forming a typology is an hypothesis that its categories describe concepts occupying particular places in a causal theory. These places, as causes, effects or both, provide us with opportunities to assess the technical validity of the typology as well as to better consider its utility. That is, given particular scope conditions (relationship between income and housing market costs; government housing and income subsidy programs; and so forth), we expect different kinds of people to be found in the different categories, we expect the categories to explain differences in individual health conditions, children's educational outcomes, substance abuse problems, and so forth; and we expect the categories to result from different housing histories, experiences as children, employment conditions and so forth. Such well-specified relationships could then be tested to better specify the typology.

Because of these concerns, we take Kuhn and Culhane's theorizing to be a useful starting-point for animating research and policymaking based on the temporal quality of homeless people's lives. For reasons we have articulated, however, it should not be taken as definitive.

Research design

To test this theorizing, Kuhn and Culhane use administrative data from the New York City shelter system, the Single Client Information Management System (SCIMS). This database records when people first enter, leave and re-enter/leave shelters. For their analysis, Kuhn and Culhane selected people first entering a shelter between January 1, 1988 and September 30, 1992, and allowed each person the possibility of remaining in or re-entering shelter for three years from date of initial entry. Frequency was then measured by the number of shelter episodes and duration by the total amount of time sheltered over the three years.

This design is, thus, an age cohort design from the perspective of the shelter system. It identifies a group of people entering a status (becoming sheltered) for the first time at the same time (from the system's perspective) and within a relatively brief time window, and follows them for a period of time. Such a design is perhaps useful for policymakers and especially for those running a shelter, as it provides information about people they have to deal with at a moment in time. Knowing their current shelter residents have three different kinds of shelter histories, and perhaps knowing which people are likely to be in what group, may better allow policymakers and shelter operators to better provide resources, design rules, allocate services, and so forth to achieve their goals.

This design does not, however, address the articulated theorizing. The theory concerns the temporal histories of homelessness people have over their lives. But the dataset extracts just three years of those lives, years occurring at varying points in the life cycle across the population. It is possible, for example, for people in the transitional category with one or two short shelter stays to have a more episodic or chronic history before or after the three-year observation period. Combining Kuhn and Culhane's evidence that transitional people are

younger and chronic people older with evidence that an important predictor of a recurrence of homelessness is a previous homeless spell (Dworsky & Piliavin 2000) supports the possibility of future chronic (or episodic) homelessness for those in the transitional group. Thus, one of the major findings of Kuhn and Culhane — the comparably very large size of this group (81% of the population) — may have to be re-thought. A more useful design for examining the articulated theorizing would be an age-cohort or an age-cohort/sequential design in which a young cohort or a series of age-defined cohorts are followed over relatively long periods of time. Analyses based on such designs can be carried out with SCIMS.

A further design problem is that it uses a dataset that does not tell us if people are homeless when they are not sheltered. This problem has been pointed out before (Dail et al 2000). To be sure, collecting over-time data on people's episodes of street homelessness, of being doubled-up, and of other kinds of non-shelter homelessness is a very difficult thing to do. The danger, however, is that theorizing aimed at explaining the general conditions of people's lives that produce different kinds of homeless histories (e.g., Rossi 1989) becomes a theory of how shelters interact with people's lives to produce different shelter histories taken as homeless histories. The dataset can provide only an ambiguous, and ultimately inadequate, *test* of theorizing homelessness more generally.

A final concern is that a person has to remain outside New York City's shelter system for at least 30 days for SCIMS to consider the leave an exit and a return a re-entrance. This means SCIMS misses those leaving and returning (and leaving and returning) to shelter within several or more (but less than 30) days, i.e., people with frequent stays that sum to long total durations. These people are those not-described in Table 1. Others have theorized such a category and found people described by it (Sosin et al 1990).

Data analysis

We focus here on whether the three-group solution identified by Kuhn and Culhane adequately represents the data. Choosing the appropriate number of groups produced by a cluster analysis can be difficult, and is certainly uncertain. As Kuhn and Culhane themselves observe, more or fewer groups can be technically valid. And as Gelman and Rubin argue, even models not technically valid can justifiably be selected to support theorizing (Gelman & Rubin 1995). We raise two concerns with the data analysis that suggest different numbers and kinds of groups may be found that are fruitful for research or for policymaking.

By definition, we want typologized categories to be homogeneous combinations of the dimensions used to form them. But within-group heterogeneity seems high in two of Kuhn and Culhane's three groups. They themselves observe that the episodic and chronic groups are heterogeneous on frequency and duration, respectively. Using a more direct measure of within-group homogeneity, our analysis of similar data finds great category heterogeneity as well. These findings suggest further analysis to see if a larger number of groups would sufficiently reduce heterogeneity to warrant choosing such solutions. Based on SCIMS data historically later but otherwise comparable to Kuhn and Culhane's, our analysis found a technically "optimal" six-group, as well as a ten-group, solution reduced within-group heterogeneity by 50% and 64%, respectively, relative to the prevailing three-group solution (McAllister et al forthcoming).

We note that neither of these solutions changes the basic finding of the three categories described by Kuhn and Culhane. Rather, they find sub-groups within each category that give a more refined picture of how each of the three kinds of homelessness gets expressed. In this sense, Kuhn and Culhane's empirical backing for the initial theorizing is supported. But this is due, at least in part, to the vagueness of the theorizing, as previously discussed. In this context, a

six-group solution may help improve theorizing and policymaking, as it greatly improves group homogeneity. This allows theories to be more precise and policies to better target and fit particular kinds of people.

Time-aggregated vs time-patterned approaches

In addition to these problems with the prevailing typology, recent technical innovations make it possible to build a typology incorporating more temporal information than used in Kuhn and Culhane's analysis. Doing so results in a different typology from the one initially produced.¹

Kuhn and Culhane used what we might call a "time-aggregated" approach. For each person, they sum how many shelter stays and how many nights sheltered a person has over the observation period. These are commonly accepted ways to measure homeless frequency and duration, and are the measures that are cluster analyzed in their research.

Aggregation, however, loses potentially important temporal information about when each shelter and out-of-shelter experience happens and how long each lasts. A "time-patterned" approach does not require such aggregating. It allows us to capture the sequencing and timing of shelter stays and so measure their frequency and duration as they occur over time.

To demonstrate differences that can result from using a time-patterned approach, we constructed a SCIMS dataset using the same design as Kuhn and Culhane, though for a historically different time period, and compared results of analyses using each approach. The time-aggregated analysis reproduced the initial Kuhn and Culhane findings for duration, frequency and group size, though the episodic and chronic groups were somewhat smaller and larger, respectively.

By contrast, the time-patterned analysis identified a four-patterned/ten-group solution that has significantly less within-group heterogeneity than a three-group time-patterned solution and identified patterns substantively very different from those articulated by Kuhn and Culhane.

Specifically, we found:

- a *temporary* pattern consisting of one group whose members enter shelters once, for less than 30 days, and never return;
- a *structured-continuous* pattern consisting of six groups whose members stay maximally (30 days), continuously sheltered each month and generally do not return (save for a small percentage), with the groups distinguished by different continuous lengths-of-stay that take a concave form across the six groups;
- a *structured-intermittent* pattern consisting of two groups, distinguished by their members entering and leaving shelter for different lengths of time and at different points in the observation period; and
- an *unstructured-intermittent* pattern of one group whose members enter and leave shelter in no coherent pattern, stay for very brief periods, and are usually not maximally sheltered when in shelter.

This analysis shows that other methods are now available to use more time-sensitive information than in the original analysis and that, if we use such information, we arrive at a different typology. We do not argue the four-patterned/ten-group typology is the only “right” typology. What dimensions to include in a typology, how to measure those dimensions, and how many patterns comprise a typology will vary, depending on the theorizing or other uses to which the typology is being put. We conclude on this point more generally.

Conclusion

We have argued that the most commonly used categorization of people's temporal histories of homelessness should be re-examined. Kuhn and Culhane's study was a useful start in better describing the temporal character of homelessness. But the start seems to have become an end, as the same approach was used almost ten years after the initial research to categorize family homelessness (Culhane et al 2007). If we think it useful to identify temporal-based kinds of homeless, then we need to carry out age-cohort studies, to measure out-of-shelter homelessness, to use more temporal information with a time-patterned approach (where appropriate) and to better locate the typological categories (concepts) in a better articulated set of relationships.

Our perspective contrasts with a common critique of Kuhn and Culhane. This critique argues that forming a true or "accurate" homeless typology requires taking into account other factors besides time (Bassuk 2007). We argue, rather, that typological categories — the concepts in a theory — are more or less useful for explaining things like mental health, physical disability and so forth; more or less useful for understanding how homelessness is produced by structural conditions and individual biography; more or less useful for making policies to prevent future homelessness; or more or less useful for shelter administration by allowing operators to efficiently allocate resources. If using only the temporal qualities of homelessness allows us to create typologies useful for these or other purposes, then that is sufficient. If, however, typological categories built out of non-temporal information are more useful, for these or other aims, then typologies should include such information. We can have different typologies for different purposes (Jahiel & Babor 2007), and they should be judged by their utility for those purposes.

Thus, we do not think that only time-based homeless typologies should be constructed. This is our final concern with Kuhn and Culhane's analysis. They argue that incorporating other dimensions makes it impossible to analyze whether or not values on these dimensions result from or are caused by the temporal character of homelessness. This is logically the case, of course. And if we are only interested in the effects or causes of the temporal character of homelessness, their logic is correct. But if theorizing or policymaking suggests the importance of non-temporal information to, say, explain an effect, typologies should include such information (Danesco & Holden 1998). Like all concepts, typologies need to be useful if they are to be anything.

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Notes

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¹ The discussion in the following section is based on McAllister et al forthcoming.