

Vouchers Welcome?

Three Essays Exploring Landlords' Views on Housing Vouchers

by

Seongkyung Cho

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Graduate Supervisory Committee:

Joanna Lucio, Chair
Karen Mossberger
Chris M. Herbst

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ABSTRACT

The Housing Choice Voucher Program (“HCVP”) is one of the largest housing subsidy programs targeting low-income households. Despite its history and scale of the program, however, the impact of the HCVP is still unsatisfactory. One of the reasons is landlord discrimination against housing vouchers that prevents voucher families from moving to ‘opportunity neighborhoods’. Although landlord participation in the HCVP is instrumental in achieving the program’s policy goals, as the vouchers’ high demand for rental housing units in ‘opportunity neighborhoods’ cannot be met without it, little systematic discussion has taken place regarding landlords’ perception and strategies for housing vouchers. Based on idiosyncratic text data scraped from five U.S. landlords’ forums, three essays in this dissertation answer questions of housing vouchers, discrimination, and landlords. The first essay identifies the topics that are discussed among landlords regarding housing vouchers and voucher tenants. The second essay examines landlords’ emotions regarding the HCVP and voucher households and analyzes the factors that contribute to their perceptions. The third essay delves into landlords’ strategies toward tenants with housing vouchers and analyzes how their reactions may vary depending on contexts such as the existence of Source of Income protections in state and local jurisdictions. Findings from the three essays provide theoretical and practical implications on landlords and housing vouchers, and the analytic strategies employed in this dissertation expand the scope of methodological approaches that could be used in social science and policy research.

DEDICATION

With love and humility, I dedicate this dissertation to my family, whose unfailing support and encouragement have enriched my soul and inspired me to pursue and complete this research. My loving parents Seunghaeng Cho and Kisook Kim, and my younger sister and best friend Seongha Cho, have always offered me unconditional love. For this reason and so many more, they are very special to me. I thank God for the numerous opportunities and courage that have been bestowed upon me throughout my doctoral journey. Whatever voyage awaits me, Lord, you are greater than my wisdom and strength.

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CHAPTER 1

INTRODUCTION

With the goal of deconcentrating public housing assistance, the Section 8 Housing Choice Voucher Program (“HCVP”) has aimed to help low-income renters move to private rental housing markets in various neighborhoods, particularly in ‘opportunity neighborhoods’ which provide their residents with more life opportunities (Dawkins, 2013; Khadduri, 2001; Garboden, Rosen, Greif, DeLuca, & Edin, 2018; McClure, 2010; Park, 2013).¹ Although findings on vouchers’ influence on low-income renters’ housing and neighborhood outcomes are mixed, studies have shown the program’s potential to help low-income renters move to more advantaged neighborhoods (Pfeiffer & Lucio, 2016; Turner, 1998). For example, the HCVP has been discussed to provide low-income renters with various locational opportunities as a part of the movement to deconcentrate poverty (McClure, 2010; Park, 2013), and findings suggest that the HCVP’s ability for poverty deconcentration persists even during the periods of economic crisis in some places (Pfeiffer & Lucio, 2016). Despite its 40-year-long history and the scale of the program, however, housing advocates and scholars have pointed out that the impacts of the HCVP are still unsatisfactory in many aspects (e.g., Galvez, 2010; Kleit, Kang, & Scally, 2016). Voucher families are unevenly located mostly in disadvantaged neighborhoods (Devine, Gray, Rubin, & Taghavi, 2003; Galvez, 2010), and they show

¹ In the sense that overall neighborhood conditions may enhance overall life chances of the residents, recent studies tend to commonly use the term of ‘opportunity neighborhoods’, rather than the opposite term of ‘distressed areas’ (Walter & Wang, 2016).

little difference from unassisted low-income renters in terms of locational outcomes (Rosenblatt & Cossyleon, 2018).

Landlord discrimination against housing vouchers, or Source of Income (“SOI”) discrimination, is a barrier for voucher families to move to ‘opportunity neighborhoods’ (Metzger, 2014; Tighe, Hatch, & Mead, 2017). SOI discrimination indicates the discriminatory practice by landlords refusing to accept their applicants solely because the potential tenants are expected to pay a portion of the rent with government subsidies, including housing vouchers (Bernstein, 2010). According to Austin Tenants’ Council (2012), for example, about 91% of private landlords in Austin rejected applicants with housing vouchers in 2012. Furthermore, a few authors have shown that SOI discrimination prevails across the U.S. cities (Affordable Housing Online, n.d.; Finkel & Buron, 2001; Haas Institute, n.d.) and that in some places it occurs more frequently than racial discrimination (Briggs, Comey, & Weismann, 2010; Varady & Walker, 2007).

Landlords sometimes do not welcome voucher holders for different reasons, such as their prejudice and/or previous negative experiences regarding voucher families (Culbreath & Wilkinson, 2000; Garboden et al., 2018; Rosen, 2014) and administrative hassles that participation in the HCVP entails (Bernstein, 2010; Pashup, Edin, Duncan, & Burke, 2005). Regardless of the reasons, SOI discrimination has become a significant impediment to maximizing the program’s potential to expand locational choices for voucher holders (Turner, 2015). Without enough numbers of landlords who are willing to rent their rental units in ‘opportunity neighborhoods’ to low-income tenants with housing vouchers, policy goals of the HCVP cannot be achieved.

Moreover, even though the Fair Housing Act (“FHA”) and its subsequent amendments have made blatant discrimination in housing markets illegal, SOI discrimination is not included among the FHA’s discrimination criteria and thus voucher recipients remain unprotected against housing discrimination. Considering that a majority of voucher recipients fall into protected classes under the FHA at the same time (e.g., racial minorities, people with disability, families with children), this intersectionality leaves room for landlords to indirectly discriminate against the protected classes by means of rejecting applicants with housing vouchers (Kleit & Galvez, 2011; Tighe et al., 2017). For instance, in jurisdictions where most voucher recipients are disproportionately nonwhites compared to the general population, voucher status could be a good approximation for landlords to screen racial minorities without directly violating the FHA (Kleit & Galvez, 2011).

As a policy mechanism to deal with SOI discrimination, recent studies have paid attention to SOI antidiscrimination laws which outlaw discriminatory practices based on the source of income. Aiming to prevent discrimination against housing vouchers, 18 states and 95 local governments (cities and counties) have enacted the SOI antidiscrimination laws, as of May 2020. However, states and local governments with SOI protections are still relatively few in number and the laws in some jurisdictions do not cover housing vouchers. Moreover, whereas previous studies have agreed on the positive impact of SOI antidiscrimination laws on voucher utilization and success rates (e.g., Cunningham et al., 2018; Finkel & Buron, 2001; Freeman, 2012), the literature has

not yet reached a consensus regarding the laws' effectiveness for facilitating better locational outcomes among housing voucher holders (Bell, Sard, & Koepnick, 2018).

Other than the SOI protections, there have been a few types of policies aimed at engaging more landlords in the HCVP. For example, there have been landlord outreach efforts to recruit landlords to participate in the program by providing local landlords with the venues to learn about the voucher program (Varady, Jaroscak, & Kleinhans, 2017), and the Department of Housing and Urban Development ("HUD") has formed landlord advisory councils (Garboden et al., 2018). Other interventions include setting a higher payment standard, Small Area Fair Market Rents, and creating funds to reimburse landlords for financial losses caused by tenants such as vandalism or unpaid back rent (Finkel et al., 2017; Garboden et al., 2018; Wogan, 2017). Nevertheless, studies have found that the positive impact of these approaches on the supply of rental housing available to voucher holders is marginal (Collinson & Ganong, 2017; Finkel et al., 2017; Garboden et al., 2018).

Few researchers have explored why these approaches to facilitate landlords' participation in the HCVP are not more effective (Garboden et al., 2018; Gyourko & Molloy, 2014; Tighe et al., 2017). One of the possible reasons for the marginal impact of these interventions is that the policies have been designed and implemented based on the limited or theoretical understanding of landlords (Garboden et al., 2018). Considering that the vouchers' high demand for rental housing units in 'opportunity neighborhoods' cannot be met without landlords' participation in the HCVP, understanding the thoughts and reactions of landlords may be a key to solve this puzzle. Nonetheless, little

systematic discussion has been made regarding the reasons for private landlords' reluctance to participate in the HCVP and their strategies to decline (or, to incentivize) tenants with housing vouchers. With a few exceptions (e.g., Cunningham et al., 2018; Garboden et al., 2018; Greenlee, 2014; Phillips, 2017; Rosen, 2014; 2020; Varady et al., 2017), landlords have been an important but largely neglected actor in the current literature.

Moreover, although the current literature shows some important aspects of landlords regarding the HCVP, the discussion has been limited to what they directly say in the interviews or their behaviors revealed during ethnographic observations. As I will illustrate in the essays, we have evidence about what drives landlords to participate in the housing voucher program (Garboden et al., 2018), what landlords' experiences with the program look like (Greenlee, 2014), and how they sort and select their tenants (Rosen, 2014). However, more qualitative and quantitative evidence is needed to comprehend those comprehensive factors that significantly influence landlords' decision to accept voucher holders or not. For example, research on landlords' reactions and strategies toward housing vouchers could shed light on understanding the mechanism under which landlords (do not) participate in the HCVP.

This dissertation is an attempt to fill these gaps with three essays on landlords and housing vouchers. In this dissertation, I pay attention to supply-side actors – landlords. Given that the HCVP aims to help voucher families access private rental housing markets, the insufficient number of landlords willing to participate in the program becomes a serious impediment to achieving the policy goals. Based on idiosyncratic text

data obtained from five U.S. online landlords' forums, three essays explore the mechanism under which landlords play a pivotal role in the successful implementation of the HCVP in the private rental housing market. The first essay investigates what topics are discussed among landlords who seek and share information on housing vouchers and voucher tenants through online forum Q&A posts. By employing topic modeling, the essay investigates and identifies patterns of the text and themes discussed in the posts. The second essay examines emotional sentiments that are expressed when landlords discuss the HCVP and voucher households. Employing automated quantitative text analysis, I scrutinize landlords' emotions and perceptions on housing vouchers and voucher tenants. In addition, based on results from fractional response models, I show what specific aspects of the voucher program are associated with measures of landlords' psychological emotions. The third essay analyzes landlords' strategies toward tenants with housing vouchers and how their reactions may vary depending on contexts. Employing content analysis methods, this essay delves into how landlords strategically react to applicants and tenants who participate in the HCVP and how broader contexts, voucher rules and regulations, and relevant policies may shape and change their behaviors toward tenants wanting to use their housing vouchers.

Even with the legal protections of source of income and despite the attempts to engage private landlords in the HCVP, low-income renters in many cities are still striving to find landlords in 'opportunity neighborhoods' who are willing to accept their vouchers. Furthermore, although the HCVP aims to assist voucher families to access private rental housing markets, the insufficient number of landlords willing to participate in the

program limits the rental housing supply available for voucher holders and makes it difficult to achieve the policy goals. Findings and discussions of this dissertation will lead to a greater understanding of landlords and their thought processes, provide insight on the issues and barriers that subsidized renters face, and further develop the HCVP and other housing policies to support low-income renters. The purpose is not to paint landlords in a negative light; rather, it is to examine why landlords (do not) participate in the program and provide policy implications to increase the success of the HCVP.

CHAPTER 2

ESSAY 1. LANDLORDS IN DIGITAL SPACES: A TOPIC MODELING ANALYSIS OF ONLINE LANDLORDS' FORUMS

Background of the Essay

This essay begins by asking a fundamental question— Who are landlords? In the dictionary, a landlord is defined as an “owner of property (such as land, houses, or apartments) that is leased or rented to another” (Merriam-Webster, n.d.). In the US context, two types of landlords exist- individual investors and business entities. As of 2015, individual investors own about 46.8% (22.7 million units) of the 48.5 million rental units (in 22.5 million properties) in the US, and a large part of the units are single-family or duplex rental inventory. The remaining 53.2% (25.8 million units) belong to business entities that are more likely to operate multifamily rental homes (HUD, 2019). Landlords are differentiated from property managers in terms of property ownership, although the two terms are sometimes used interchangeably in some contexts (Jensen, 2017).

In the current literature, most studies on housing vouchers focus on demand-side actors – voucher holders. A large portion of the housing voucher literature has explored the program’s locational outcomes (e.g., voucher concentration, poverty concentration, etc.) or life-long outcomes of voucher tenants (e.g., mobility, social mobility, education, health, self-sufficiency, etc.) (e.g., Basolo & Nguyen, 2005; Devine, Gray, Rubin, & Taghavi, 2003; Galvez, 2010; McClure & Johnson, 2015). Although landlords and their

participation in the Housing Choice Voucher Program (“HCVP”) determine a large part of the success of the program, little is known about landlords. With a few exceptions (e.g., Cunningham et al., 2018; Garboden, Rosen, Greif, DeLuca, & Edin, 2018; Greenlee, 2014; Phillips, 2017; Rosen, 2014; 2020; Varady, Jaroscak, & Kleinhaus, 2017), little attention has been paid to landlords in the current literature.

Now, the first step to understand landlords in relation to the HCVP would be to investigate what they talk about housing vouchers. By examining what landlords actually say about different aspects of the HCVP, it is possible to figure out what issues are important for landlords and to develop policies reflecting the findings. In the current literature, a few researchers have shown various topics of housing vouchers that landlords care about, based on findings discovered from their interactions and conversations with landlords. For example, based on in-depth interviews with 72 Illinois landlords and other HCVP stakeholders, Greenlee (2014) explored landlords’ experiences with the HCVP. Similarly, using interview data with landlords along with HUD’s administrative data, Garboden et al. (2018) demonstrated landlords’ perspectives and their motivations to (not) participate in the housing voucher program. In-depth interviews and ethnographic observation were employed in Rosen (2014) to examine landlords’ strategic implementation processes of voucher rules that contribute to sorting the urban poor. Based on a combination of semi-structured interviews and observations of landlord outreach events, Varady et al. (2017) explored reasons for landlords’ (non)participation in the HCVP, their concerns regarding the participation in the program, landlords’ relationships with the housing authority, and the value of landlord outreach events.

Although the existing literature has limitations in terms of sampling and methods (Garboden et al., 2018), the preliminary studies have provided important implications for future research. Landlord behavior and preferences can explain voucher holders' (un)successful use of housing vouchers, and understanding thoughts and behaviors of large samples of vouchers across various urban contexts could be a key to further development of the HCVP (Garboden et al., 2018; Phillips, 2017; Varady et al., 2017). To better understand the pivotal roles that landlords play for the successful implementation of the HCVP and to shed light on potential obstacles and/or incentives for landlords' acceptance of housing vouchers, more research is needed to provide a comprehensive understanding of landlords. In particular, one thing that could be further investigated to understand landlords is what landlords talk to each other about and what they discuss and share information on regarding the HCVP. Except for findings from (ethnographic) observations of landlords (e.g., Rosen, 2014; Varady et al., 2017), most analyses have been made based on what landlords say to the researchers. By looking directly at conversations among landlords, more issues, concerns, perceptions, and strategies of landlords regarding housing vouchers can be uncovered.

(Ethnographic) observation has been an approach to do this by observing landlords' behaviors and conversations. By taking a close look at people's communications and activities within their communities (Eriksson & Kovalainen, 2015), observational approaches allow researchers to understand the ideas and feelings of people in the situations. However, despite its advantages, the use of observational approaches brings about practical difficulties and limitations because findings of observations are

confined to specific events or conversations at the fieldwork site (van Dooremalen, 2017). Given this, more findings from alternative approaches are needed to more comprehensively understand what landlords care about and what they talk about the HCVP.

The recent emergence of online spaces enables researchers to directly look into people's honest conversations. Unlike the traditional venues for human interaction and conversation, such as local communities or neighborhoods, online spaces provide the users with opportunities to freely and anonymously communicate with other anonymous users. Among others, online forums are particularly useful to analyze human behaviors and how people communicate because most of the forums are open spaces that provide natural data with few social constraints (Holtz, Kronberger, & Wagner, 2012; Im & Chee, 2006; Yesha & Gangopadhyay, 2015). Without researchers' intervention into social processes, online forums become the spaces where researchers can obtain naturally occurring data (Shah, Cappella, & Neuman, 2015).

Online forums are an emerging and popular source of data in some fields (e.g., social psychology, health studies, etc.) to examine people's true opinions (e.g., Biyani, Caragea, Singh, & Mitra, 2012; Burri, Baujard, & Etter, 2006; Cohn & Richters, 2013; Holtz et al., 2012), but it has rarely been analyzed in policy studies. Considering that online spaces guarantee the anonymity of the users, data from online forums are useful resources to examine human thoughts and conversations with little concerns for social desirability bias that is easy to occur in self-report research and in-person interviews on

sensitive issues (Harris, 2001; Insch, Moore, & Murphy, 1997; Krumpal, 2013; Leggett, Kleckner, Boyle, Dufield, & Mitchell, 2003; Nederhof, 1985; Van de Mortel, 2008).

In addition, the development of big data analytic techniques provides researchers with opportunities to collect and analyze massive online data at a low time cost (Shah et al., 2015). In particular, researchers can acquire and analyze online data to identify patterns of people and empirical regularities by employing computational technologies (Chang, Kauffman, & Kwon, 2014). With text data obtained from online forums, for example, one can examine what topics are frequently discussed online, relationships among topics, and sentiments revealed in the text by employing new types of analytic techniques.

Landlords have been an under-analyzed actor in the current literature. Given the sensitive nature of topics and issues that landlords may care about, traditional data and analytic approaches are limited in more comprehensively analyzing landlords and their communications. Exploiting the new sources for research—online data and analytic techniques, I explore what landlords discuss on online landlords’ forums, online communities where landlords share information and ask and answer questions.

The purpose of this essay is to provide evidence to understand what landlords think about housing vouchers. By exploring the topics and contents that landlords across the U.S. discuss related to HCVP, I aim to identify what landlords particularly care about when it comes to housing vouchers. In particular, in this essay, I answer the following research question: What topics are discussed among landlords in reference to HCVP? In other words, what are the most salient topics and keywords that are mentioned in the

posts when they discuss residents using housing vouchers or the program itself? Given the important role landlords play, understanding their discussions may help housing policymakers develop solutions for improving the program.

Data

To answer the research question, I analyzed text data scraped from online landlords' forums. Landlords' forums are online spaces where landlords openly discuss landlording-related issues and share ideas. Form of discussion varies across forums, but in most cases, discussions are made in the form of Q&A (Question and Answer). For example, if a landlord anonymously asks a question on tenants with housing vouchers, other anonymous landlords post answers to the question based on their experiences. A variety of topics, such as housing vouchers, eviction, tenants, relationship with Public Housing Authority, and leasing issues, are discussed. Given that a lot of topics discussed in the landlords' forums are potentially sensitive issues and sometimes against laws (e.g., how to indirectly refuse voucher tenants or ways to evict voucher families), analyzing the anonymous discussion data from such online forums can be an alternative approach to examine landlords' plain thoughts, emotions, and strategies.

Although there is no comprehensive list of landlords' forums, there have been a few widely popular forums where landlords actively participate in discussions. For example, the Landlord Protection Agency forum, MrLandlord forum, LandlordZone forum, and BiggerPockets forum are some of the active communities that landlords visit

to share opinions (LandlordStation, 2012; Paulas, 2019; Propertydo, n.d.). Below **Table 1** is a list of forums that could be found online. Even though the list does not include the entire available online forums, most of the popular forums are listed.

Table 1

List of Online Landlords' Forums

Name	Web Address	Inclusion/Exclusion
Landlord Protection Agency forum	https://www.thelpa.com/lpa/forum.html	Included
Landlord discussion (subreddit) in Reddit	https://www.reddit.com/r/Landlord/	Included
MrLandlord forum	https://www.mrlandlord.com/landlordforum/	Included
EZLandlord forum	https://www.ezlandlordforms.com/forum/search/?f=section%208	Included
Landlord.com forum	http://www.landlord.com/discussion.htm	Included
BiggerPockets forum	https://www.biggerpockets.com/forums/5-2-rental-property-questions-landlording-issues	Excluded (Data collection not allowed)
City-data forum	http://www.city-data.com/forum/real-estate/	Excluded (Not a landlords-specific forum)
LandlordZone forum	https://forums.landlordzone.co.uk/	Excluded (UK-centric forum)
Residential Landlord forum	http://residentiallandlord.ipbhost.com/forum/2-landlords-forum/	Excluded (Few relevant posts)

Among the online forums listed in the table, I selected five US-based landlords' online forums to look into what landlords discuss. First, the Landlord Protection Agency forum is an online forum operated by Landlord Protection Agency since 2000. The Landlord Protection Agency aims to protect the interests of landlords and help them have quality tenants who are the essence of their business (Landlord Protection Agency, n.d.). On this landlord-friendly website, landlords have actively been discussing various issues and sharing their experiences. Second, landlord discussion (subreddit) in Reddit has been a space where landlords actively ask questions and share ideas regarding landlording issues. Although this discussion forum allows tenants to post questions, most posts are made by landlords, and it clarifies that the forum accepts posts from tenants only when they look for a landlord's perspective. Also, since the forum mandates that all authors must indicate their landlord/tenant status when they ask questions, it is distinguishable to see whether a question was asked by a landlord or a tenant. As of May 2020, more than 30k members have joined the community and discuss various landlording-related topics.

Third, the MrLandlord forum is an organized database where landlords can ask questions as well as easily looking for existing posts (LandlordStation, 2012; Propertydo, n.d.). Aiming to provide resources for successful rental property management, the website has been a space for landlords to share information and experiences. Fourth, the EZLandlord forum is an online forum operated by EZLandlord Forms, a website that provides state-specific legal forms for landlords. Although the EZLandlord forum does not have many posts compared to other forums, landlords have been sharing ideas on various issues about landlording since the website was launched in 2006. In particular, I

included the EZLandlord forum in the list because a great portion of its postings is associated with HCVP-related issues. Finally, the Landlord.com forum is an online discussion space operated by a private company. Although the Landlord.com forum has relatively fewer posts compared to other forums, a large part of the postings is related to housing vouchers. Thus, similar to the EZLandlord forum, I included the Landlord.com forum in the analysis.

I excluded the BiggerPockets forum because the site blocks using automated data-collection programs which makes it difficult to collect data. The City-data forum was excluded because the forum includes postings by both landlords and tenants. Unlike Reddit's landlord discussion, the City-data forum does not distinguish whether a post was written by a landlord or a tenant. To focus on landlords' perspectives only, I did not include the City-data forum in the analysis. I excluded the LandlordZone forum because the forum is a UK-centric website, and the Residential Landlord forum was excluded because the forum has very few posts that are relevant to this study.

To collect text data from the selected online forums, I used Selenium, a web browser automation framework in Python (Meschenmoser, Meuschke, Hotz, & Gipp, 2016; Taracha, 2019). Using Selenium and its WebDriver package, I collected URLs for all posts that contain at least one of the HCVP-related keywords listed in **Table 2** (Crawling). Then I extracted and parsed HTML sources from the URLs collected through the crawling process (Scraping). **Figure 1** provides an example of a search result from the Landlord Protection Agency forum with the keyword 'Section 8'. From the HTML sources, I selected and extracted necessary information for analysis and saved those in an

Excel spreadsheet (Data Preprocessing). Below **Figure 2** schematizes the data collection process, and the information extracted from the HTML sources is listed in **Table 2**.

Figure 1

Search Result from Landlord Protection Agency Forum

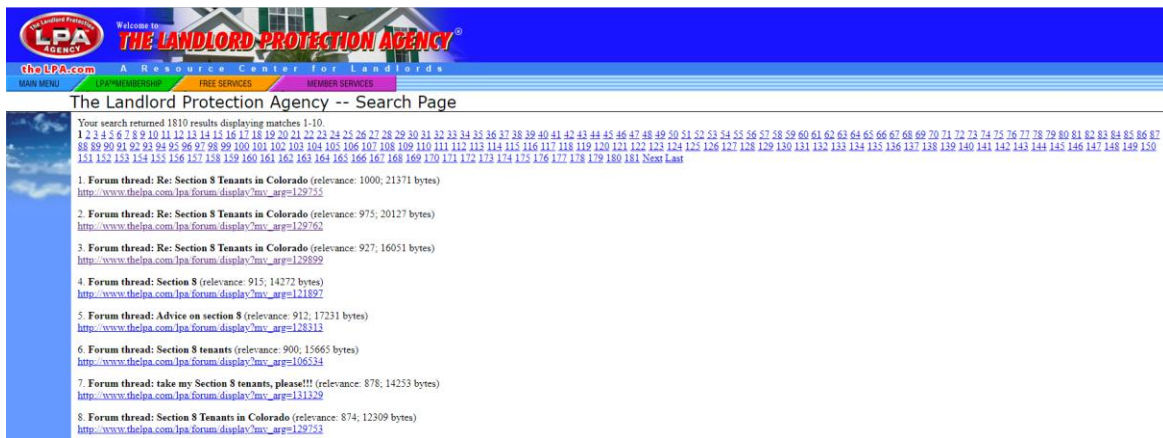


Figure 2

Data Collection Process

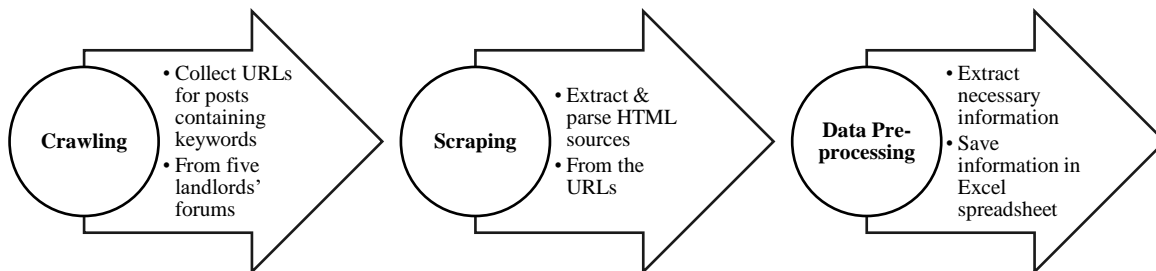


Table 2*HCVP-related Keywords Used in Crawling Process & Information Extracted*

HCVP-related Keyword	Information Extracted
<ul style="list-style-type: none"> • Section 8 • Section eight • Section8 • Sec8 • Sec.8 • S8 • S.8 • Voucher • Vouchers • Housing voucher • Housing choice voucher • Assistance • Assist • Assisted • Source of income 	<ul style="list-style-type: none"> • Title • Contents • Posting date • Category (e.g., topic, region, etc.) • Rating (E.g., stars, likes, etc.) • Author info (nickname/ID/IP address) • State (e.g., AZ, CA, PA, etc.) • Question/Answer (whether a post is a question or an answer) • Keyword(s) used to find the post

As a result, the data collection process yielded a total of 33,041 posts. The data was scraped on September 25, 2019, thus it contains online posts posted before the date of data scraping. The oldest post was the Landlord Protection Agency forum’s question posted on August 13, 2000, and the newest one was posted on the same forum on September 23, 2019. Types of information extracted from each forum varied across forums, but most forums provide information for title, content, posting data, and author information of each post. Although MrLandlord forum contains information for authors’

IP addresses, I do not use the IP address information in reporting for privacy reasons. The largest amount of posts was found from the Landlord Protection Agency forum (13,851 posts) and Reddit's Landlord discussion resulted in the fewest number of posts collected through the data crawling (1,307 posts).

Data Selection and Preprocessing

In order to make sure that the analysis is relevant to the topics of the HCVP and produces good quality results, it is important to select the posts that discuss the topics that are directly related to housing vouchers. To select the relevant posts, I followed the following three steps of data screening and selection: First, I excluded duplicates, and blank or meaningless posts from the data (4,378 posts excluded, 28,663 remained). Second, to include only the posts that contain a meaningful amount of contents, posts with fewer than 20 words were removed (3,643 posts excluded, 25,020 remained). Finally, although some posts talk about various types of government assistance (or, assisted tenants) or respond to the questions that discuss housing vouchers, they do not directly touch on the topics that are relevant to the HCVP. Thus, to focus on the posts that are directly related to housing vouchers, I excluded 6,213 posts that do not include any of voucher-related keywords (i.e., s.8, s8, sec.8, sec8, section8, voucher, vouchers, housing choice voucher, housing voucher, section 8, section eight). As a result, among the 33,041 posts scraped from online landlords' forums, 14,234 posts were excluded from the analysis and a total of 18,807 posts were used for analyses. Below **Figure 3** is a chart that shows the data selection process and **Table 3** summarizes the data.

Figure 3

Selection of Data

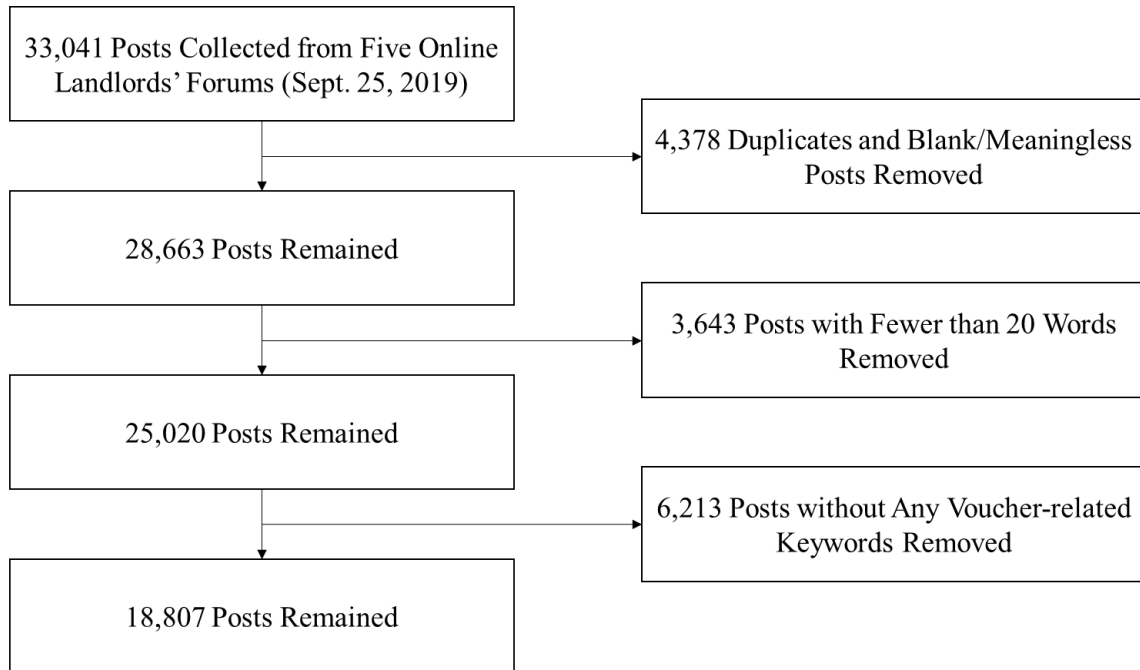


Table 3

Summary of Data (Total number of posts analyzed: 18,807)

Name	Number of Posts Selected (Scraped)	Posting Date	Information Extracted
Landlord Protection Agency forum	7,255 (13,851)	08/13/2000 – 9/23/2019	Title; Content; Posting date; Author info (nickname); State; Question/Answer; Keyword(s)
Landlord discussion (subreddit) in Reddit	670 (1,307)	2013 – 2019	Title; Content; Posting date; Rating; Author info (ID); State; Question/Answer; Keyword(s)

MrLandlord forum	8,214 (13,710)	1/22/2008 – 9/12/2019	Title; Content; Posting date; Author info (nickname, IP address); State; Question/Answer; Keyword(s)
EZLandlord forum	1,332 (1,712)	5/5/2007 – 9/4/2019	Title; Content; Posting date; Category; Author info (nickname); Question/Answer; Keyword(s)
Landlord.com forum	1,336 (2,461)	11/3/2006 – 8/5/2019	Title; Content; Posting date; Category; Rating; Author info (ID); State; Question/Answer; Keyword(s)

To further preprocess the text data for analysis, I used Python libraries for text normalization. The text preprocessing process is particularly important in the machine-based analysis because the results are affected by the selection and forms of vocabularies (Carley, 1993; Denny & Spirling, 2018; Shim, Park, & Wilding, 2015). This strategy includes converting letters to lower case, removing punctuations, removing white spaces, removing stop words, removing rare words, stemming, lemmatization, and tokenization. Here, stemming and lemmatization are text normalization processes to conflate and normalize variant forms of words (e.g., assisted, assistant, assisting) into a common form (e.g., assist) (Jabeen, 2018; Kannan & Gurusamy, 2014; Vijayarani, Ilamathi, & Nithya, 2015). Tokenization refers to the process of cutting input text (e.g., “tenants with housing vouchers”) into words (e.g., “tenants”, “with”, “housing”, “vouchers”) to transform the text to the proper form for analysis (Hidayat, Firdausillah, Hastuti, Dewi, & Azhari,

2015). These preprocessing processes are particularly essential in text mining and analysis for reducing potential confusions that could be caused by various grammatical or word forms and for enhancing the effectiveness of analyses (Denny & Spirling, 2018; Vijayarani et al., 2015). In this preprocessing step, I particularly used Python's NLTK package, which is a natural language toolkit that is specifically designed to handle human language data (NLTK, n.d.).

Methods

For data analysis, I employed the Latent Dirichlet Allocation (LDA) model, one of the topic modeling techniques relying on machine learning. The purpose of topic modeling, an unsupervised machine learning technique, is to automatically find topics from a corpus of text (Asuncion, Asuncion, & Taylor, 2010; Herbst et al., 2018; 2020; Hong & Davison, 2010; Ramage, Rosen, Chuang, Manning, & McFarland, 2009). LDA assumes that each document is a collection of topics and that each topic is a distribution of words (Herbst et al., 2018; 2020; Prabhakaran, 2018). In the literature, compared to dictionary-based text analysis, topic modeling techniques, including LDA, have been discussed to show better performance in several aspects. For example, the LDA-based approach reveals more nuanced details and produces more valid analysis results than the dictionary-based approach (Guo, Vargo, Pan, Ding, & Ishwar, 2016). Moreover, this algorithm-based approach is comparatively more cost-effective because it requires less amount of human labor (Guo et al., 2016). Given that the LDA enables researchers to discover latent probability distributions using the semantic text in the document

(Suominen & Toivanen, 2016), LDA particularly is a useful approach to explore topics of text data with more accuracy. For this analytic strategy, I used Gensim's LDA algorithm which provides a variety of built-in LDA modeling applications (Greer, 2018).

The topic modeling was conducted following the two steps. First, I built bigram and trigram models. Bigram and trigram are sets of two and three adjacent words. For example, by computing bigrams, I can get phrases like "security_deposit" in the output. Since phrases and word order are critical factors when analyzing text and capturing the meanings (Wang, McCallum, & Wei, 2007), it is important to build these bigram and trigram models to capture adjacent words that are frequently used by landlords. By building bigram and trigram models, I included adjacent words, repeatedly occurred in the text, in the analysis.

Second, I built the LDA topic model using the Gensim LDA package. I experimented with a few of various numbers of topics (i.e., 10, 15, 20, 25, 30) and found the number of topics that results in the most meaningful topics (Herbst et al., 2018; 2020; McCallum, 2002). In particular, I used the number of topics that show the highest coherence value (Prabhakaran, 2018). Once the number of topics is determined, I conducted the analysis and analyzed the most relevant keywords included in each topic. Based on its content, along with the previous discussions in the literature, I labeled each topic. From this analysis process, I identified topics providing meaningful information regarding issues that landlords discuss on housing vouchers. By comparing topics and their corresponding keywords extracted from the data, I examined the topics that are

generally discussed in online landlords' forums and the dominant key terms that characterize each topic.

Results

Results from topic modeling analyses indicate that landlords have asked and answered questions about a variety of topics related to housing vouchers in online landlords' forums. Before presenting the topic modeling results, a list of top-200 keywords in **Table 4** provides a descriptive overview of keywords that are most frequently used by the landlords in the posts discussing voucher-related topics. To make the list include meaningful and relevant keywords only, I excluded general HCVP-related keywords (e.g., voucher, section 8), general terms (e.g., verbs, nouns, adjectives), and numbers from the list.

The list of top-200 keywords indicates that 'tenant' is the keyword that landlords most frequently mentioned in their posts (mentioned 19,236 times). In addition, the keywords related to economic and financial factors, housing management, and legal factors are shown to be frequently used by landlords. For example, twelve keywords associated with economic and financial factors, such as pay (11,487 times), money (3,031 times), and deposit (2,948 times), are included in the top-200 list. Keywords on housing management (e.g., move, unit, damage) and legal factors (e.g., notice, evict, law, court) are also mentioned frequently in the posts. Other keywords in the list include the ones related to tenant factors (e.g., work, family, job, child), administrative burden and

relationship with government (e.g., state, housing, inspection), lease-up (e.g., lease, call, credit), program factors (e.g., month, time, day), housing characteristics (e.g., property, house, apartment), and geography and location (e.g., place, area).

Table 4

Top-200 Keywords from Online Landlords Forums

Topic	Keywords (Frequency, Rank)
Economic and Financial Factors	Pay (11,487, #3), Money (3,031, #33), Deposit (2,948, #36), Check (2,664, #42), Fee (1,932, #68), Cost (1,895, #69), Income (1,765, #79), Charge (1,603, #94), Bill (1,450, #111), Market (1,308, #126), Utility (1,041, #165), Tax (1,020, #173)
Housing Management	Move (5,184, #13), Unit (3,694, #26), Damage (1,932, #67), Security (1,841, #72), Water (1,676, #86), Repair (1,475, #104), Company (1,419, #113), Door (1,344, #123), Business (1,316, #124), Letter (1,089, #151), Insurance (972, #182)
Legal Factors	Notice (4,339 #19), Evict (3,759, #25), Law (2,852, #40), Court (2,648, #43), Agreement (1,623, #92), Leave (1,156, #140), Legal (1,147, #141), Date (1,145, #142), Contract (1,060, #158), Attorney (1,048, #160)
Tenant Factors	Tenant (19,236, #1), Work (3,025, #34), Family (1,660, #87), Job (1,475, #103), Child (1,123, #144), Applicant (1,044, #163), Pet (1,033, #168), Application, (972, #181)
Administrative Burden/Relationship with Govt	State (3,544, #27), Housing (2,863, #39), Inspection (1,398, #116), City (1,363, #120), Office (1,205, #133), Rule (980, #180), HUD (958, #192)

Lease-Up	Lease (7,846, #4), Call (3,337, #30), Credit (1,677, #83), Sign (1,302, #129), Term (1,067, #156) Accept (1,040, #166)
Program Factors	Month (6,577, #7), Time (6,132, #9), Day (5,459, #12), Year (5,144, #14), Program (1,535, #99), Contract (1,060, #158)
Housing Characteristics	Property (5,637, #11), House (4,493, #18), Apartment (1,941, #66), Building (1,108, #146)
Geography and Location	Place (3,096, #31), Area (2,151, #55), Local (1,443, #112)

Now, results from topic modeling further demonstrate the topics that are saliently discussed by landlords in online landlords' forums. After experimenting with different numbers of topics (i.e., 10, 15, 20, 25, 30), 20 was found to score the highest coherence value (0.3761), meaning that it generates the most meaningful results (Prabhakaran, 2018). Below **Table 5** is a summary of topic modeling results with the entire posts. To show the most probable and relevant keywords for each topic, the table excludes general HCVP-related keywords (e.g., voucher, section 8) and general terms (e.g., one, therefore, somewhere) and reports the top 5 words with the highest weights. The topics are listed by order, from the topics with the highest topic weight to the ones with the lowest topic weight.

In order to interpret the meaning of the topics, I manually labeled and identified each topic based on the nature and attributes of their corresponding terms (Walker, Chandra, Zhang, & van Witteloostuijn, 2019). For example, in dealing with voucher tenants and making decisions related to participation in the HCVP, landlords react sensitively to financial costs and benefits (Greenlee, 2014; Varady et al., 2017). In this

vein, the key terms ‘money’, ‘deposit’, ‘cost’, ‘charge’, and ‘fee’ largely characterize the issues related to economic and financial factors of the HCVP; I thus assigned this topic to the ‘Economic and Financial Factors’ (ECN) theme. Similarly, keywords such as ‘lease’, ‘name’, ‘agreement’, ‘security deposit’, and ‘insurance’ are used frequently when discussing issues associated with lease-up processes and thus pertain to the theme ‘Lease-Up’ (LSE).

Table 5 shows that 20% of the topic areas belong to the ‘Lease-up’ (LSE) category (4 out of 20 topics). Key terms of ‘lease’, ‘name’, ‘agreement’, ‘security deposit’, ‘insurance’, ‘month’, ‘year’, ‘house’, ‘move’, ‘new’, ‘screening’, ‘vacancy’, ‘welfare’, ‘turning’, ‘mexican immigrant’, ‘credit’, ‘income’, ‘applicant’, ‘report’, and ‘husband’ broadly characterize this category (topics 3,5,10,18). Following the ‘Lease-up’ (LSE) category, each of ‘Economic and Financial Factors’ (ECN), ‘Housing Management’ (HMG), and ‘Legal Factors’ (LEG) themes takes up 15% of the entire topics (3 topics each). Other themes that emerged from the topic modeling approach include ‘Perception and Experience’ (PER, 2 topics), ‘Program Factors’ (PRO, 2 topics), ‘Administrative Burden/Relationship with Govt’ (GOV, 1 topic), ‘Housing Characteristics’ (HCH, 1 topic), and ‘Tenant Factors’ (TNT, 1 topic). Interestingly, among the single topics, the one with the highest weight pertains to the ‘Perception and Experience’ (PER) theme, which was labeled based on its relevant terms ‘time’, ‘know’, ‘like’, ‘people’, and ‘good’. In other words, the terms within this topic take a large portion of the entire discussion in online landlords’ forums, meaning that the discussions are largely shaped by the terms describing perception and experience.

Table 5*Topic Modeling Results: Topics Ordered by Topic Weight*

#	Theme	Top 5 Words in Topic	#	Theme	Top 5 Words in Topic
1	PER1	Time, Know, Like, People, Good	11	LEG2	Eviction, Court, Attorney, File, Sheriff
2	ECN1	Rent, Pay, Property, Check, Bill	12	HMG1	Security, Address, Gas, Ad, Electric
3	LSE1	Month, Year, House, Move, New	13	LEG3	Abandonment, Prove, Policy, Write, Vacant
4	ECN2	Money, Deposit, Cost, Charge, Fee	14	HMG2	Heat, Totally, Unpaid, Signing, Partner
5	LSE2	Lease, Name, Agreement, Security_deposit, Insurance	15	GOV1	HUD, Handle, Additional, Manage, Contractor
6	PRO1	State, Law, Housing, Local, Program	16	HMG3	Agent, Spend, Fund, Update, Negotiate
7	LEG1	Day, Notice, Date, Written, Quit	17	TNT1	Large, Brother, Breach, Discussion, Locked
8	ECN3	Market, Tax, High, Increase, Rate	18	LSE4	Screening, Vacancy, Welfare, Turning, Mexican_immigrant
9	PRO2	Avoid, Response, Broke, Program, Search	19	PER2	Light, Luck, Forward, Happening, Data
10	LSE3	Credit, Income, Applicant, Report, Husband	20	HCH1	Bed, Purchase, Wheelchair, Floor, Plant

* **GOV**=Administrative Burden/Relationship with Govt; **ECN**=Economic and Financial Factors;
HCH=Housing Characteristics; **HMG**=Housing Management; **LSE**=Lease-Up; **LEG**=Legal Factors;
PER=Perception and Experience; **PRO**=Program Factors; **TNT**=Tenant Factors

Results from the topic modeling analysis indicate that landlords discuss a variety of topics related to housing vouchers. The topics emerged from the topic modeling approach and their corresponding keywords show that landlords share their opinions on various issues in the online spaces. After completing the analysis, topic modeling requires input from the human user to interpret the results (Chandra, Jiang, & Wang, 2016; Quinn, Monroe, Colaresi, Crespin, & Radev, 2010). To interpret the topic modeling results, I paid close attention to how the topics are similar and different from the findings in the literature which were primarily based on qualitative approaches.

A large part of the results from the topic modeling analysis echoes the findings from the literature. Just like what landlords expressed in the in-person interview or ethnographic settings, private landlords in the online spaces also talk about their perception and experiences regarding housing vouchers (Greenlee, 2014), costs and benefits of accepting voucher tenants and participating in the program (Garboden et al., 2018; Greenlee, 2014; Rosen, 2014; Varady et al., 2017), lease-up processes associated with the HCVP (Greenlee, 2014), voucher program itself (Garboden et al., 2018; Rosen, 2014), management of rental units and regulating tenancy (Greenlee, 2014), legal issues such as eviction (Greenlee, 2014; Garboden et al., 2018), tenants (Garboden et al., 2018; Rosen, 2014; Varady et al., 2017), and relationship with the government (e.g., local housing authority) (Varady et al., 2017). This shows that online landlords' forums play a role that helps landlords discuss important topics related to the HCVP in the open online space.

Despite the broad landscape of the discussions in the online space that the topic modeling approach provides by capturing the dominant topics and the relevant keywords, some of the important themes discussed in the previous qualitative research were not included in the 20 topics produced by the automated approach. For instance, although geographic location and neighborhood characteristics are some of the factors that impact greatly landlords' decisions and strategies toward renting to voucher families (Rosen, 2014), none of the topics from topic modeling was specifically characterized by the key terms associated with geography and location. Besides, topics related to other relevant policies that may affect landlords' perception and behaviors regarding the HCVP (e.g., Source of Income Antidiscrimination laws, landlord outreach efforts such as landlord orientations) (Tighe, Hatch, & Mead, 2017; Varady et al., 2017) were not captured by the topic modeling approach, either. It does not mean that such topics are not mentioned in the data at all, but it does indicate that these are not dominant topics in the given text. This calls for additional analyses of the data from online landlords' forums in order to provide a more nuanced and in-depth understanding of what landlords discuss in the online spaces.

Discussion

The results of this essay confirm and expand the previous findings regarding landlords' responses to the HCVP. Borrowing the analytic approaches from text mining, I examined the topics that are frequently discussed by landlords in online spaces. The topic modeling results indicate that landlords discuss a variety of topics related to housing

vouchers. For example, some of the topics that emerged from the analysis include the lease-up process, economic and financial factors, housing management, and legal factors. These topics and their corresponding keywords show that landlords share their opinions on various issues in the online spaces. Compared to the traditional offline spaces where landlords communicate, online landlords' forums exemplify a somewhat different way of landlords' interactions in anonymous communities. In an anonymous environment, landlords talk more bluntly about a variety of issues related to housing vouchers – from relatively minor concerns (e.g., 'sewer', 'filthy', 'paint') to serious legal and management issues (e.g., housing authority, notify, enforcement, sue, liability).

Given the limited understanding of landlords and their thoughts on the HCVP in the current literature, findings from the topic modeling analysis in this research provide valuable evidence to understand what landlords specifically value and consider regarding housing vouchers. In particular, this research contributes to the literature and the practice of housing vouchers in three ways. The findings of this essay expand the current understanding of landlords. Although a few preliminary studies have examined landlords' behaviors and conversations based on qualitative approaches, findings from the previous research are confined to specific interview questions or fieldwork sites. By analyzing idiosyncratic data of unstructured conversations among anonymous landlords in online spaces, this essay helps identify topics and issues that landlords across the U.S. particularly care about and curious about housing vouchers and voucher tenants.

Also, this study provides practical implications for further development of the HCVP. As Garboden et al. (2018) note, the impact of the existing interventions has been

marginal partly because the policies have been designed and implemented based off of a theoretical or narrow understanding of landlords, who are one of the most important supply-side actors. The examination of landlords' questions and replies, which contain their prominent concerns and opinions on the HCVP, can be used by housing practitioners and policymakers to further develop the voucher program and its related rules and policies (e.g., inspection, SOI antidiscrimination laws, etc). For instance, the results showed that some of the dominant topics discussed in the online forums are related to the lease-up process, housing management, and legal factors. Considering this, developing practical means to assist landlords along with the processes (e.g., lease-up, housing management, termination, etc.), as well as to reduce barriers that tenants face during these processes, may be a way to enhance the effectiveness of the HCVP.

Methodologically, the employment of topic modeling is an innovative effort to bring computerized text mining analytic methods of big data into social sciences, especially policy studies. The method has been widely used and is well-proven in computer science and some other fields (Liu, Tang, Dong, Yao, & Zhou, 2016), but has rarely been employed in policy studies. The methodological approach of this essay implies that topic modeling and text mining analytics could be employed to effectively examine online conversations occurred in natural settings. The methodological experimentation of this essay can be a pioneering attempt to expand the scope of analytic approaches that could be used in social science and policy research.

Despite the contributions this research made, there are a few limitations as well. Even though online landlords' forums are active communities where landlords across the

U.S. participate in and communicate with fellow landlords, the participants could be still biased. Active participants of the forums could share some specific sociodemographic or geographic characteristics, although information about their background is unavailable. Thus, it is possible that the discussions on the forums may not represent issues and topics that all U.S. landlords care about.

In addition, the main focus of this study was to explore topics and keywords most frequently discussed by landlords. This approach allows understanding the various topics and keywords, but the semantic structure of the keywords or latent relationships among topics are not examined in this study. Future research can further investigate latent and semantic properties of the topics by employing methods such as semantic network analysis. Although the use of topic modeling allows identifying topics and keywords, the analysis does not capture in-depth descriptions of the texts. Further research is needed to examine and interpret the individual posts for providing an in-depth understanding of the texts.

CHAPTER 3

ESSAY 2. WHAT SHAPES LANDLORDS' PERCEPTION OF HOUSING VOUCHERS? EVIDENCE FROM ONLINE LANDLORDS' FORUMS

Background of the Essay

Source of income (“SOI”) discrimination is one of the structural obstacles that discourage voucher families from having various locational options (Metzger, 2014; Tighe, Hatch, & Mead, 2017). In the housing market, SOI discrimination particularly refers to the discriminatory practice whereby a landlord does not accept a potential tenant solely because a portion of the tenant’s rent is expected to be paid with government-funded housing subsidies, including housing vouchers (Bernstein, 2010). Landlords explicitly and/or indirectly discriminate against housing voucher recipients based on their source of income, and as a result, it often becomes more challenging for voucher families to find rental units (Tighe et al., 2017). Of course U.S. rental housing markets are not without any legal means to prohibit discriminatory actions, as the Fair Housing Act (“FHA”) bans discriminatory practices in housing. Yet, segregation and housing discrimination persist in the private rental housing market (Denton, 1999; Logan & Oakley, 2017; Massey, 2015; Oakley, 2014; Rugh & Massey, 2014), and as the FHA does not include the SOI discrimination, voucher holders are remaining as an ‘unprotected’ class.

On the one hand, previous studies have shown that landlords discriminate against voucher holders for several reasons. In some cases, landlords refuse to accept voucher holders because of administrative burdens that the Housing Voucher Program (“HCVP”) entails. For example, renting to a voucher tenant requires a landlord to get an inspection and pass the examination by the local Public Housing Agency (“PHA”) (Bernstein, 2010), and the landlord also becomes responsible for maintaining the unit to satisfy PHA housing quality standards (Culbreath & Wilkinson, 2000). These administrative procedures are burdensome for landlords, especially mom-and-pop landlords of small properties who operate the properties on their own without outsourcing the operational processes such as tenant screening or property maintenance (Garboden, Rosen, Greif, DeLuca, & Edin, 2018). Thus, the demanding and time-consuming administrative procedures render those landlords, who are reluctant to engage in the arduous administrative procedures, hesitant to accept voucher holders and potentially more disposed to take discriminatory actions against voucher families (Bernstein, 2010; Pashup, Edin, Duncan, & Burke, 2005). In other cases, landlords discriminate against voucher users based on their negative experiences and/or prejudice about voucher families. Sometimes landlords describe voucher holders as “noisy, dirty, discourteous neighbors and troublesome tenants” (Rosen, 2014, p.317), and landlords’ experiences and stereotypes regarding voucher users make the landlords decide not to lease to voucher families because they are concerned about issues and troubles with voucher tenants (Culbreath & Wilkinson, 2000; Garboden et al., 2018).

On the other hand, studies have examined landlords' drivers of participation in the HCVP as well. Landlords sometimes prefer to rent their units to voucher holders over other low-income renters because of financial incentives. For example, since the HCVP provides landlords with guaranteed rents, and sometimes higher rents than average in some areas ('voucher premium'), landlords choose to rent to voucher tenants than other low-income tenants (Garboden et al., 2018; Greenlee, 2014; Rosen, 2014). The eligibility screening of the HCVP, which makes it possible to exclude 'bad' tenants (e.g., tenants with crime history) also becomes a positive factor that impacts landlords' perception and decision to accept housing vouchers (Garboden et al., 2018; Greenlee, 2014). Positive interactions with voucher tenants and managerial advantages (e.g., lease-up process, inspections) also shape landlords' positive impressions and decisions regarding housing vouchers (Garboden et al., 2018; Greenlee, 2014).

While these studies have provided evidence that helps understand landlords' perceptions of the HCVP and the factors that affect their perceptions and attitudes, one thing that could be added to the literature is quantitative evidence for landlords' perceptions. Although the preliminary studies suggest important aspects of landlords' attitudes on the HCVP, more research is needed to systematically understand the factors impacting landlords' perceptions. In particular, most findings have been confined to descriptions of what landlords directly mention during interviews. By quantitatively analyzing landlords' psychological and perceptual thoughts based on methods to measure landlords' perceptions in quantifiable ways, I aim to fill the gap in the literature and to provide theoretical and policy implications.

In this study, I expand the current comprehension of landlords by analyzing landlords' online forums. Based on landlords' online forum text data, this essay examines how landlords think and feel about the HCVP and voucher tenants and what contributes to shaping their perceptions. In this chapter, I particularly aim to answer the following two research questions: First, how do landlords perceive the HCVP and voucher tenants? In particular, what are their general emotions regarding the HCVP expressed in online landlords' forums? Second, what factors of housing vouchers are associated with landlords' perceptions and sentiments?

Data & Methods

To answer the research questions, I analyzed the same data used in the first essay. Just like in the first essay, a total of 18,807 posts – excluding all the duplicates and blank/meaningless posts, posts with fewer than 20 words, and posts without any voucher-related keywords – were analyzed in this essay. Similar to the first essay, Python libraries for text preprocessing were used to further clean the data for analysis.

For coding the cleaned data, I followed an iterative coding process that involves deductive and inductive approaches (Herbst et al., 2018; 2020). I began by developing a coding framework based on key theoretical and empirical concepts identified in the existing literature. In particular, I deductively created an initial coding framework based off of key concepts discussed in the previous qualitative studies (Schreier, 2012). Below **Table 6** summarizes the core concepts of the HCVP that have been discussed in the

literature to be associated with and influence landlords’ perceptions and emotions toward housing vouchers and voucher tenants (i.e., Garboden et al., 2018; Greenlee, 2014; Rosen, 2014).

Table 6

Key Concepts in the Literature for Building Initial Coding Framework

Article	Concepts associated with positive perceptions/emotion	Concepts associated with negative perceptions/emotion
Garboden et al. 2018	<ul style="list-style-type: none"> • Market dynamics • Financial incentives (guaranteed rent, higher rents, Fair Market Rents) • Tenant quality (‘appreciative’ and ‘respectful’ tenants; eligibility screening) • Inspections 	<ul style="list-style-type: none"> • Market dynamics • Tenant quality (‘bad’ tenants) • Interactions with the Public Housing Authority (inspections; repairs, time consumption; lack of PHA support during tenant conflict; paperwork and bureaucracy; administrative inefficiency; dislike of regulation; lack of control) • Inadequate rents • Past experiences
Greenlee 2014	<ul style="list-style-type: none"> • High demand • Tenant background check • Lease-up process 	<ul style="list-style-type: none"> • Background screening (Confusion; lack of information) • Lease-up process

	<ul style="list-style-type: none"> • Positive interactions (Sense of being able to have a positive influence) • Financial benefits 	<ul style="list-style-type: none"> • Concerns about tenant behavior and violations of the lease agreement
Rosen 2014	<ul style="list-style-type: none"> • Economic advantages (Rent collection) • Voucher premium (Higher-than-market rent) 	<ul style="list-style-type: none"> • Tenant behaviors

Based on **Table 6**, I built an initial coding framework. Below **Table 7** lists potential themes, which were updated iteratively into the final coding framework as the analysis progresses, and their corresponding codes. The initial codes were identified and built upon discussions and findings in the literature summarized in **Table 6**.

Table 7

Initial Coding Framework

Theme	Initial coding framework
Administrative Burden/Relationship with Govt	<ul style="list-style-type: none"> • Interactions with the Public Housing Authority (PHA) • Inspection • Repairs • Time consumption • Lack of PHA support • Paperwork • Bureaucracy • Administrative inefficiency

	<ul style="list-style-type: none"> • Dislike of regulation • Lack of control
Program Factors	<ul style="list-style-type: none"> • Tenant background check • Eligibility screening
Tenant Factors	<ul style="list-style-type: none"> • Tenant behaviors • Tenant quality • Appreciative tenants • Respectful tenants • Tenant conflict • Interactions with tenants
Perception and Experience	<ul style="list-style-type: none"> • Past experiences • Concerns about tenant behavior and violations of the lease agreement • Sense of being able to have a positive influence
Economic and Financial Factors	<ul style="list-style-type: none"> • Inadequate rents • Market dynamics • Financial incentives • Economic advantages • Guaranteed rent • Voucher premium • Higher rents • Higher-than-market rent • Fair Market Rents • High demand • Rent collection
Lease-up	<ul style="list-style-type: none"> • Background screening • Lease agreement

Next, I revised this initial coding framework by utilizing inductive empirical tools (Herbst et al., 2018; 2020). In particular, in this second step for coding, I relied on the results from both the top-200 keywords and the Latent Dirichlet Allocation (LDA) topic modeling approach in the first essay. Then, based on the results from both approaches, I identified additional HCVP domains and built a word bank for each domain (Herbst et al., 2018; 2020). Particularly paying attention to newly emerged domains that have not been dominantly discussed in the literature, I selected topics for the analysis and revised the initial coding framework.

Table 8 summarizes a list of new domains and their corresponding key terms that emerged from the data. In addition to the domains identified in the deductive approach in **Table 7** – Administrative Burden/Relationship with Govt, Program Factors, Tenant Factors, Perception and Experience, Economic and Financial Factors, and Lease-up, four additional domains newly emerged from the text data: Housing Management, Legal Factors, Housing Characteristics, and Geography and Location.

Table 8

New Domains and Relevant Keywords Emerged from the Data

Theme	Keywords	Source of the Theme
Housing Management	Move, Unit, Damage, Security, Water, Repair, Company, Door, Business, Letter, Insurance, Security, Address, Gas, Ad, Electric, Heat,	Top-200 keywords, LDA topic modeling

	Totally, Unpaid, Signing, Partner, Agent, Spend, Fund, Update, Negotiate	
Legal Factors	Notice, Evict, Law, Court, Agreement, Leave, Legal, Date, Contract, Attorney, Eviction, Court, Attorney, File, Sheriff, Abandonment, Prove, Policy, Write, Vacant, Day, Notice, Date, Written, Quit	Top-200 keywords, LDA topic modeling
Housing Characteristics	Property, House, Apartment, Building, Bed, Purchase, Wheelchair, Floor, Plant	Top-200 keywords, LDA topic modeling
Geography and Location	Place, Area, Local	Top-200 keywords

Finally, from the general housing voucher literature that is relevant to this essay (e.g., Bernstein, 2010; Culbreath & Wilkinson, 2000; Eggers, 2017; Galvez, 2010; Garboden et al., 2018; Pashup et al., 2005; Rosen, 2014; Turner, 2003), I additionally created themes and word banks. I selected, from the literature, domains and keywords that were not identified or captured in the first two coding stages. As needed, I updated and edited the existing coding framework. In addition, considering the vibrant discussion in the recent literature about the impact of relevant policies (e.g., Fair Housing Act, SOI antidiscrimination laws, landlord outreach efforts) (Freeman, 2012; Kleit & Galvez, 2011; Tighe et al., 2017; Varady, Jaroscak, & Kleinhans, 2017), I added a theme ‘Related Policy’ with keywords such as ‘antidiscrimination’, ‘discrimination’, ‘fair housing’, ‘incentive’, ‘outreach’, ‘protection’, and ‘source of income’. Below **Table 9** is a list of domains and their sample keywords, **APPENDIX A** provides a full list of domains and

their corresponding keywords used in the analysis. In total, I selected 475 keywords and their derivative forms under 11 domains for the analysis.²

Table 9

List of Domains and Keywords: Core Factors of HCVP Discussed in the Literature

HCVP Dimension	Sample Word Bank (keywords)	Sample Line of Text
Administrative Burden/Relationship with Govt	Red Tape, Housing Authority, HUD, Inspection, Inspector, Office, Paperwork, Regulation	“At one time I had a number of Section 8 tenants, but the <i>housing authority</i> is so difficult to deal with I stopped taking any a long time ago, but didn't kick out current ones. My tenant of 24 years who moved last month had been on Section 8, and now I am having neighbors approach me asking me if I would take Section 8.” (MrLandlord)
Economic and Financial Factors	Bill, Cash, Charge, Cost, Damage, Deduction, Deposit, Fee, Garnish, Guaranteed, Guaranteed Rent, Premium, Tax	“Just always remember the section 8 paperwork is not worth the paper that it is written on. YOU will always be required to uphold your end, but the " <i>guaranteed</i> " 12 months income is really not <i>guaranteed</i> . They can break, but not you. In the past, I have had as many as 30 on section 8 in the past, but now only have 8 (and they are the good, long term ones).

² Some keywords belong to more than one domain. For example, ‘damage’ belongs to three different themes – Economic and Financial Factors, Housing Management, and Tenant Factors.

		<p>Section 8 funding has been cut and they do not want to pay market value for apartments anymore, so they don't get them! The section 8 voucher for a 2 bedroom in our area is about \$100.00 below market value, so they are not able to rent. That solves a lot of problems. Make sure that if you do rent section 8, they qualify just as any other tenant. (But this is going to knock out 90% of them). When it's time to collect for damages, you do not want a tenant that is uncollectable.....</p> <p>Bottom line? You don't want them.”</p> <p>(LPA)</p>
Geography and Location	<p>Area, Distressed, Neighborhood, Place, Rural, Slumlord, Suburban, Urban</p>	<p>“We do know some landlords that like Section 8. They have housing in <i>areas</i> with poor schools and slightly higher than average crime rate (mostly property damage/thefts) than the <i>desired areas</i>. Section 8 seems to help the landlords get more income in <i>these areas</i> and more long term tenants. All the landlords with section 8 we know are tough with the rules. Since the tenants have been there two plus years, I think stick with the section 8.” (Reddit)</p>
Housing Characteristics	<p>Balcony, Bathroom, Door, Duplex, Furnished,</p>	<p>“Have you ever taken s8 before? There is a long process you have to go through to have the property approved including</p>

	<p>Gas, Interior, Kitchen, Paint, Window</p>	<p>completing several forms, having your property inspected by their person, having the office personnel complete their forms and input all the info into the computer, going to the office to sign the lease, etc. This process is NOT for new landlords. They can find many nitpicky things wrong with your property that you have to correct before they will approve the place (peeling <i>paint</i> anywhere - even between windows, railings on any stairs, lead <i>paint</i> tests, etc.). There are also some big drawbacks to s8 including non-collectible tenants if they leave owing you money for damages (s8 does not cover this), having to use s8's lease (not yours), problems with unresponsive s8 personnel (hard to reach the caseworker), difficulty in evicting this type tenant (they get free lawyers to fight you), tenants can request another inspection of your property at will (if it fails, you don't get paid & tenant stays for free), etc. I have found that this type of tenant doesn't care for the place as well as other types and has more lease violations. If you do want to consider her, screen her VERY, VERY WELL! If you have never taken s8 before, I would suggest you pass. Just state that your property is not</p>
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		approved for s8 (which it currently is not).” (Landlord.com)
Housing Management	Company, Damage, Gas, Manager, Plumber, Repair, Utility, Water	“Regarding the <i>utilities</i> : find out from current landlord what the actual utility costs have been the last three years before proceeding. You can take measures to make the units more efficient.” (Reddit)
Lease-Up	3x, Ad, Advertisement, Applicant, Background Check, Credit, Credit Report, Criteria, Screening, Security Deposit, Verifiable Income	“Don't ever post reasons you deny folks. If the law changes and you forget to change your ads, you are guilty of illegal discrimination. I have 2 suggestions that in my view are easier/better. ... Develop criteria people must meet to be accepted. Instead of "No Section 8" your criteria (that isn't published) should be "garnisheable income equal to 3x the monthly rent". ... Most Section 8 have a substantial history of bad LLs and/or poor <i>credit</i> , so this will probably be all you need.” (MrLandlord)
Legal Factors	Attorney, Contract, Cop, Court, Evict, Eviction, Law, Lawyer, Legal, Liable, Notice Sue, Vacate	“If you signed the lease you really cannot do anything except send a <i>notice</i> of nonpayment stating that if the tenant does not pay they will be <i>evicted</i> . You will need to <i>evict</i> them and submit this all to the <i>court</i> . If you are using a property manager they should be the ones to do this, however if they are not working out either you will need to stop using that

		<p>manager. Using families with government help is a tricky situation. There may even be rule on not <i>evicting</i> them because they are on government aid. Keep in mind that tenants with gov't aid does not always mean you get paid, not to mention I have had a very bad experience with this where my property was completely destroyed over 50k worth of damages. Good Luck” (EZLandlord)</p>
Perception and Experience	<p>Bad, Current, Devil, Former, Horror, Nuisance, Past Tenant, Previous, Suction³, Unaware</p>	<p>“Yeah, it's been known as <i>Suction-8</i> around here. That's the problem with entitlement, these sorry losers feel entitled to freeload at the working class taxpayers expense. They are too damn lazy to get off their asses to work. These kind of people contribute nothing to society yet we have to feed, house, cover their medical expenses and give them a monthly income by way of SSI, disability or welfare checks. And everyone wonders what is wrong with our economy.” (LPA)</p>
Program Factors	<p>Assistance, Deposit, Eligibility, Fair Market Rent, Gap, Month-to-Month, MTM, Notice,</p>	<p>“I don't think that HUD's <i>fair market rent</i> has anything to do with actual rent. Its just what they have decided they will pay for their Section 8 clients. Either they can get their clients into cheap slummy housing or the Section 8 tenants in the area will go</p>

³ Sometimes ‘Section 8’ is called by ‘Suction 8’ among landlords.

	Notify, Portability, Violations	begging because no one will take them for the low rent offered.” (MrLandlord)
Related Policy	Antidiscrimination, Discrimination, Fair Housing, Outreach, Protected Class, Protection, Source of Income	“Can you ever stop being a Section 8 landlord? I know I cannot discriminate as to lawful <i>source of income</i> , I do background screenings and my properties are well taken care of it's important to me that my tenants can live there safe and happy. Any advice?” (EZLandlord)
Tenant Factors	African, Animal, Asian, Baby, Black, Boyfriend, Dirty, Dog, Drug, Guest, Hispanic, Husband, Jobless, Kid, Lazy, Minority, Mom, Noise, Noisy, Partner, Pet, Single Mom, Trash, Wife	“Our Realtor convinced us to accept a section 8 tenant and when we turned over the house to them (passed both the municipal and section 8 inspections) everything was fine - new appliances, everything clean, yard and plants well maintained, bathroom newly renovated, plumbing fixed, etc. We started having problems with the tenant when we started reminding her of the back rent (4 months) she owes us after habitually being late in paying and when we informed her that the neighbors started complaining about various stuff (<i>dirty</i> surroundings, unkempt lawn/ yard, <i>noisy</i> parties, fights, different vehicles pulling in out at odd hours, the police being called in several occasions etc).” (Landlord.com)

To analyze the text data and provide meaningful interpretation, I employed Linguistic Inquiry and Word Count (LIWC), a computer-based automated text (sentiment) analysis tool which has been widely validated (Herbst et al., 2018; 2020; Jurafsky, Ranganath, & McFarland, 2009; Tausczik & Pennebaker, 2010). Based on its language metrics and according to a dictionary composed of psychological and emotional words and word stems, LIWC classifies text content into multiple dimensions (e.g., perceptual processes, affective processes, cognitive processes, social processes, personal concerns, etc.) in the form of output variables (Herbst et al., 2018; 2020; LIWC, 2019; Pennebaker, Boyd, Jordan, & Blackburn, 2015). Each dimension consists of multiple categories. For example, categories of ‘affective processes’ include positive emotion and negative emotion (e.g., anxiety, anger, sadness), and categories under ‘personal concerns’ consist of keywords related to the ones such as work, leisure, home, and money. Furthermore, LIWC generates summary language variables such as analytic thinking, clout, authentic, and emotional tone (Pennebaker et al., 2015). Most variables produced by LIWC can be interpreted as a percentage of the number of related words contained in the text (Herbst et al., 2018; 2020). The use of LIWC is particularly appropriate for the research questions of this study, considering that LIWC allows researchers to measure emotions and psychological processes expressed in mass, unstructured text data (Herbst et al., 2018; 2020).

Below **Figure 4** is part of the analysis results from LIWC, and the results show how LIWC classifies each post using its algorithm. For instance, the author of the yellow-highlighted post in the figure wrote⁴:

“We’ve rented to some Section 8 here in [Location Hidden]. I haven’t felt threatened by any of them, but there are considerable problems. Drama is always there, conflicts between tenants, and they don’t always take good care of the apartments. Document the everliving fuck out of everything. Take notes and preserve your notes. Put everything in writing. Send notices by certified mail and return receipt. KEEP EVERYTHING. You will need to spend time keeping meticulous files where everything you do and say is documented. Make sure your ass is thoroughly covered in paper. That’s what the extra pay is for. Do not get sucked into tenant drama. You will have to mediate a bunch of little bullshit conflicts. Yes, it’s doable, but make sure you cover your ass. Anyone unhappy will complain and try to make trouble for you. We’re a private company and I don’t have to answer to anyone. I can tell people to fuck off and GTFO (nicely) and not worry about getting fired. See how much latitude they give you and, again, be careful to document everything. Because some stupid little conflict will blow up and you’re going to have to produce documentation to save your butt. Better off tenants usually don’t look to cause drama for their own entertainment or to assert some kind of meaning in their lives.”

The results indicate that this text consists of 3.0% of positive emotions-, and 5.5% of negative emotions-related words. Like this example, using LIWC, I generated variables to be used for further statistical analysis.

⁴ The quotations were quoted in their original form without any corrections. All names, locations, and other private information were hidden for protecting privacy.

Figure 4

Sample Analysis Result Using LIWC

	D	E	F	G	H	X	AC	AD	BB	BC	BD	BE	BF	BG	fa
1	Source (D)	Source (E)	Source (F)	Source (G)	Source (H)	WC	WPS	Sixltr	posemo	negemo	anx	anger	sad	social	fa
47	Tenant le	Posted by 1 month a	[Landlord	Tenant ve			71	17.75	8.45	0.00	5.63	1.41	1.41	1.41	7.04
48	Rent incr	kickazz2014 months	NA	Then don'			18	9.00	11.11	5.56	5.56	5.56	0.00	0.00	16.67
49	Section 8	ijadedland 3 years ag	NA	I have see			54	27.00	9.26	1.85	5.56	0.00	0.00	1.85	5.56
50	Text of Bu	FA_in_PJ 3 years ag	NA	THE SITUA			72	6.55	38.89	0.00	5.56	0.00	0.00	1.39	2.78
51	how do I	masterpar 1 year ago	NA	I do know			54	27.00	12.96	0.00	5.56	0.00	3.70	0.00	20.37
52	Tenant in	Sapphyrre 1 year ago	NA	It sounds			18	18.00	11.11	0.00	5.56	0.00	0.00	5.56	27.78
53	Legal to s	Thegogetl 3 months	NA	PA landloi			18	18.00	22.22	0.00	5.56	0.00	0.00	5.56	11.11
54	Was offer	Uncle_Eril 1 year ago	NA	We've rer			200	10.53	21.00	3.00	5.50	1.00	2.50	0.50	16.00
55	Are emot	Posted by 3 months	Los Angeli	I keep run			128	25.60	29.69	2.34	5.47	0.78	0.78	0.78	10.94
56	Potential	helper543 2 years ag	NA	You're not			37	12.33	16.22	2.70	5.41	0.00	0.00	5.41	10.81
57	Tenant w	zosgood 2 months	NA	Another le			151	13.73	18.54	0.66	5.30	0.00	1.99	2.65	7.28
58		ktblue22 1 year ago	NA	Yeah your			19	9.50	10.53	5.26	5.26	0.00	5.26	0.00	5.26
59	3-day per	Lords_of 2 years ag	NA	You're not			38	12.67	23.68	0.00	5.26	0.00	0.00	2.63	23.68
60	Is my ten	umlaut 1 year ago	NA	You can at			19	9.50	15.79	0.00	5.26	0.00	0.00	0.00	5.26
61	Am I spo	wgardenh 22 days ag	NA	Their shov			133	13.30	10.53	0.00	5.26	0.75	1.50	0.00	11.28
62	Discover	stray_girl 1 year ago	NA	I am a lanc			116	23.20	20.69	1.72	5.17	0.86	0.00	0.00	14.66
63	Rent cont	cpl_snake 14 days ag	NA	The law di			79	9.88	15.19	0.00	5.06	0.00	2.53	0.00	10.13
64	How do y	dominant 1 year ago	NA	Best bet is			20	10.00	20.00	5.00	5.00	0.00	0.00	0.00	5.00
65	Do city n	clitesONlit 5 months	NA	They don'			20	10.00	10.00	0.00	5.00	0.00	0.00	0.00	30.00
66	Experien	Midnightf 7 months	NA	Unfortuna			101	16.83	18.81	1.98	4.95	0.00	0.00	1.98	8.91

Next, I further analyzed the text data with regression-based approaches to answer the second research question (“What characteristics of the housing vouchers shape landlords’ perceptions and sentiments?”). In particular, I depended on fractional response models with the following specification:

$$Y_{ijt} = \beta_0 + X'\delta + Y'\alpha + \lambda_j + \gamma_t + e_{ijt}$$

Where i indexes individual posts, and j indicates each forum at time period t . Y is outcome variables generated with LIWC. The variables of interest are denoted as X' which is a vector of variables for HCVP dimensions. The model is controlled for user and post characteristics (Y'). The model also includes forum fixed-effects (λ_j) and year fixed-

effects (γ_t), to treat unobserved forum-specific characteristics and time-specific trends which may be correlated with the predicting variables (Cameron & Trivedi, 2010).

Fractional response models, which extend the generalized linear models, are particularly appropriate to estimate models with fractional responses without special data transformations of boundary values (Gallani, Krishnan, & Wooldridge, 2015; Oberhofer & Pfaffermayr, 2012). Given that values of the dependent variables of this essay are bounded between zero and 100 percent, the fractional response models are advantageous compared to other alternative econometric approaches (e.g., logit, probit, etc.) – the fractional response models allow to analyze the factors impacting the probability response variables without losing information by converting those variables into dichotomous forms (Gallani et al., 2015). In this study, I estimated forum and year fixed-effects, account for the heterogeneity of forums and year-specific trends in socioeconomic structure and housing markets (Peri, 2012). I expected the fixed-effects models could treat the unobserved characteristics which may have correlation relationships with the predicting variables (Cameron & Trivedi, 2010), as the forum- and year-specific characteristics may reflect other unmeasured variances (Galvez, 2011). In the analysis, the unit of analysis is post, which means the analysis is conducted at the post level. I used the Stata program for statistical analysis. Below **Table 10** summarizes the variables used in the analysis.

Table 10*Variables Used in Analysis*

Variable	Measure	Source
<i>Dependent Variables</i> Sentiment Measures	Percentage of affective processes-related words in a post (range: 0 to 1) (1) Positive emotions, overall (%) (2) Negative emotions, overall (%) (3) Anxiety (%) (4) Anger (%)	LIWC
<i>Independent Variables</i> Themes on HCVP	Dummy variables indicating whether a post contains at least one keyword that belongs to the specific domain's word bank (0=Not contained in the post, 1=Contained)	Coding processes
<i>Control Variables</i> Author & post characteristics	Word count; Mean of words/sentence; Percentage (%) of words>6 letters; Percentage (%) of swear words (e.g., fuck, damn, shit) in a post (range: 0 to 1); Region (0=Not mentioned, 1= Northeast, 2=Midwest, 3=South, 4=West); Type of Post (0=Post, 1=Response); Active User (Posted More than 10 Times)	Coding processes & LIWC

The affective process outcomes include overall emotions (positive and negative) and specific emotions (anxiety and anger). Independent variables indicate the keywords related to the eleven topics that were identified during the coding processes (See **Table 9**). Each independent variable was coded into one if a post contains at least one keyword

related to a given domain. Unfortunately, the anonymous nature of the online forums makes it difficult to obtain detailed personal information of authors and rental units (e.g., income, age, education, rental unit location, etc.). Instead, I exploited available information (e.g., region, percentage of words longer than 6 letters, etc.) and controlled for the variables as a proxy to potential personal and regional characteristics as well as post characteristics.

Results

APPENDIX B summarizes descriptive statistics for the variables. On average, the posts contain 2.6% of positive-affect words and 1.5% of negative-affect words. However, this should not be interpreted as if landlords are generally more positive than negative regarding housing vouchers, since the LIWC outputs simply count the number of specific emotion-related words regardless of their individual contexts.

Among others, the most frequently-mentioned topic was lease-up. About 84.3% of the posts included at least one keyword related to the topic, followed by tenant factors (82.5%), program factors (79.2%), and legal factors (74.0%). This indicates that landlords frequently talk about these topics and implies that these are the issues that landlords particularly care about. Among the entire 18,807 posts included in the analysis, about 72.3% were responses, whereas 27.7% of the text came from original ‘question’ posts. Interestingly, descriptive statistics show that about 50.7% of the posts were written

by ‘active users’, whose author name (nickname), matched by the user’s region (state), appeared in more than 10 posts within a given forum.⁵

Then, what topics account for the four types of affective processes? Below **Table 11** presents the results of the fractional response regression models. The results indicate what specific topics are associated with each type of affective process revealed in the posts (positive emotion, negative emotion, anxiety, and anger). The regression estimates of Model 1 indicate that authors of the posts discussing the topics associated with administrative burden and relationship with government ($\beta=-0.059^{***}$) and housing characteristics ($\beta=-0.128^{***}$) are less likely to mention words that are classified as positive emotions in general. These are on the same line with the findings that vouchers’ administrative burdens (e.g., inspection) or housing characteristics (e.g., small properties) might affect landlords’ negative reaction to the HCVP (Bernstein, 2010; Garboden et al., 2018; Pashup et al., 2005). Similarly, posts mentioning keywords related to housing management ($\beta=-0.153^{***}$), legal factors ($\beta=-0.054^*$), and tenant factors ($\beta=-0.095^{***}$) are also less likely to contain the words associated with positive emotions. This confirms the findings in the previous studies that landlords may have negative feelings about the HCVP due to the factors such as conflict with tenants, negative tenant behaviors, and concerns about violations of the lease agreement (Garboden et al., 2018; Greenlee, 2014; Rosen, 2014). Interestingly, the use of words on lease-up ($\beta=0.118^{***}$) and perception and experience ($\beta=0.105^{***}$) are associated positively with the likelihood of revealing positive

⁵ For example, all posts in the “MrLandlord forum” written by “JohnDoe” (author name) from “NY” (region) were coded into 1, if there are more than 10 posts that match both information (author name and region) in the given forum. Similar to this, all posts in the “LPA forum” written by “JaneDoe” from “AZ” were also coded into 1, if more than 10 posts that match both information are found within the LPA forum.

emotions in the posts. Some of the control variables are also turned out to be statistically significant. Among others, a notable finding is that the posts written by active users are less likely to mention the terms that are tied to positive emotions ($\beta=-0.052^{**}$). Users that actively participate in the online communities may have a lower tendency to use positive languages when they discuss the HCVP or housing voucher tenants.

Results of Model 2 indicate that consistent with the findings in Model 1, topics on housing management ($\beta=0.064^{**}$) and tenant factors ($\beta=0.201^{***}$), which are related to a lower probability of using the words classified as positive emotions, are positively associated with the use of words representing negative emotions. This aligns with the findings that landlords' experiences and prejudice about voucher families could lead to their negative reaction to housing vouchers (Culbreath & Wilkinson, 2000; Garboden et al., 2018). Interestingly, however, some of the other topics are turned out to have mixed associations with landlords' emotions revealed in the posts. Posts that contain the words about administrative burden and relationship with government ($\beta=-0.054^*$) and housing characteristics ($\beta=-0.076^{***}$), which have a negative association with the use of terms representing positive emotions in Model 1, are less likely to reveal negative emotions as well. Similarly, the mentioning of the terms on perception and experience is positively associated with both positive emotions ($\beta=0.105^{***}$, Model 1) and negative emotions ($\beta=0.138^{***}$, Model 2). The regression estimates also indicate that authors discussing words on related policies ($\beta=-0.157^{***}$, e.g., antidiscrimination, outreach, protection) and program factors ($\beta=-0.128^{***}$) are less likely to reveal negative emotions in their posts. This implies that landlords' awareness of the HCVP and other related policies might

affect their emotions. It shows these topics may affect landlords' sentiments toward the HCVP and housing voucher tenants in multiple ways.

Model 3 shows that perception and experience ($\beta=0.114^*$), tenant factors ($\beta=0.316^{***}$), administrative burden and relationship with government ($\beta=-0.129^*$), lease-up ($\beta=-0.164^*$), and program factors ($\beta=-0.241^{***}$) are associated with landlords' feeling of anxiety. In Model 4, the discussions of economic and financial factors ($\beta=-0.111^*$) and geography and location ($\beta=-0.134^{**}$) are related to a lower degree of anger. This may align with the findings on landlords' drivers of participation in the HCVP that landlords in some areas where housing vouchers can provide more financial benefits tend to prefer to rent to voucher tenants than to other low-income tenants (Garboden et al., 2018; Greenlee, 2014; Rosen, 2014). Similar to Model 3, posts that discuss perception and experience ($\beta=0.095^*$) and tenant factors ($\beta=0.193^{**}$) are more likely to contain the words representing the emotion of anger. It turned out that when landlords talk about their previous experience and perception, or when they discuss the issues related to tenants, their emotions in the posts are generally negative. For example, the below post contains 5.17% of words reflecting negative emotions and includes key terms on both previous experience and perception (e.g., experience) and tenant factors (e.g., damage), while 1.5% was the average percentage of negative-emotion words in the entire data:

“Half of our places are Sec.8. NO It is NOT guaranteed money. If tenant reports a problem, is up for reinstatement or doesn't complete their paperwork, guess what??? You don't get paid until the matter is cleared up with the Housing Office. I cannot tell you how many months we have waited 1-2 months to get paid while the tenant is living there. Too bad for

us and our finances. Also, damage is bad with many tenants. Cleanliness is a joke. They have little to lose. Our experience is that they rarely lose their voucher (maybe with drug charges) but can reapply after 5 years. Better be prepared for many issues with Sec.8”

Table 11

Fractional Response Regression Estimates (N=18,807)

<i>Dependent Variables: Sentiment Measures</i>	<i>Model 1: Positive</i>	<i>Model 2: Negative</i>	<i>Model 3: Anxiety</i>	<i>Model 4: Anger</i>
Admin Burden / Relationship with Govt	-0.059*** (0.016)	-0.054** (0.021)	-0.129* (0.056)	0.000 (0.044)
Economic and Financial Factors	-0.012 (0.017)	0.005 (0.022)	-0.058 (0.057)	-0.111* (0.049)
Geography and Location	0.011 (0.015)	0.031 (0.019)	-0.080 (0.051)	-0.134** (0.044)
Housing Characteristics	-0.128*** (0.015)	-0.076*** (0.019)	-0.063 (0.049)	-0.059 (0.042)
Housing Management	-0.153*** (0.018)	0.064** (0.024)	-0.011 (0.064)	0.039 (0.054)
Lease-Up	0.118*** (0.025)	-0.009 (0.031)	-0.164* (0.078)	-0.071 (0.066)
Legal Factors	-0.054** (0.019)	-0.043 (0.025)	0.059 (0.069)	0.067 (0.058)
Perception and Experience	0.105*** (0.015)	0.138*** (0.019)	0.114* (0.049)	0.095* (0.041)
Program Factors	-0.024 (0.022)	-0.128*** (0.027)	-0.241*** (0.071)	-0.007 (0.063)
Related Policy	0.026 (0.025)	-0.157*** (0.034)	-0.038 (0.083)	-0.134 (0.070)
Tenant Factors	-0.095*** (0.022)	0.201*** (0.031)	0.316*** (0.084)	0.193** (0.066)

Note: Parentheses indicate robust standard errors. All models include the full set of control variables listed in **Table 10** and forum and year fixed-effects. * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Discussion

The results from the sentiment analysis in this essay showed the ways in which landlords perceive the HCVP. With a novel approach to quantitatively measure their emotions, the results demonstrate the degree to which various affective processes (i.e., positive emotions, negative emotions, and anxiety) are revealed in the texts written by landlords. In addition, the statistical analysis provides evidence that extends discussions in the literature. For instance, whereas dimensions on administrative burden and relationship with government, housing characteristics, housing management, legal factors, and tenant factors are negatively associated with the use of positive words, landlords discussing issues on lease-up process and perception and experience are shown to mention positive sentiments-related words more frequently.

The regression results, in general, demonstrate that the factors affecting landlords' positive and negative reactions to housing vouchers discussed in the previous qualitative studies are captured in the internet communities as well. Housing authorities and practitioners could use the findings from this study to further develop and more effectively manage the HCVP and to develop ways to make the program more attractive for private landlords.

For instance, the results showed that landlords react less positively when they mention the words related to administrative burden or housing management. Working with the public housing authority and annual inspections may be burdensome for private landlords, especially for mom and pop landlords of small properties (Garboden et al., 2018). Although the amount of paperwork required for landlords participating in the

program is modest (Desmond & Perkins, 2016), it could be still perceived by the landlords as a burdensome hassle. Further in-depth analysis is needed to understand in what context landlords feel negative about the HCVP when they mention the issues associated with the administrative burden or housing management. Still, housing authorities could consider devising ways to simplify the administrative processes or to help landlords manage their rental properties more efficiently. For example, there have been attempts to enhance administrative efficiencies for public housing agencies by amending the existing regulations tied to SEMAP (Section 8 Management Assessment Program). When refining SEMAP indicators, HUD could consider developing ways to lessen administrative burdens that make landlords hesitate to participate in the HCVP.

The results also indicate that the consideration of economic and financial factors and geography and location may be a factor that eases the level of anger among landlords against the HCVP. This aligns with the early findings in the literature that voucher tenants are more attractive for landlords whose properties are located in comparatively looser housing markets (Garboden et al., 2018). The findings of this study could serve as evidence to help policymakers develop policy means to incentivize landlord acceptance of housing vouchers, based on their geographic and locational attributes. Attempts to implement Small Area Fair Market Rent could be an example to make participation in the HCVP more attractive for landlords in tighter housing markets (Ellen, 2020). Overall, the findings of this research can serve as additional evidence to understand landlords and develop ways to support not only low-income voucher tenants but also landlords who are the suppliers of rental housing properties.

This study contributes to the literature and practice in multiple ways. First, the analysis of online landlords' forums sheds light on understanding landlords. The honest opinions posted on the forums allow examining landlords' upfront thoughts and perceptions toward the HCVP and voucher tenants. Based on the analysis, this research expands findings of the preliminary literature and overcomes limitations of the previous studies. Second, in particular, whereas the initial studies have focused on small numbers of specific types of landlords (e.g., those who are currently participating in the HCVP) in specific areas, discussions among diverse landlords at multiple stages of the HCVP were examined in this study. Analysis of various HCVP-related topics discussed in the forums helps uncover the factors that may facilitate or undermine landlords' participation in the program.

Third, this study investigates an unexamined aspect of landlords— their affective perception of the HCVP. By analyzing the housing voucher-related factors that are associated with landlords' emotions, the findings of this study can be used to design policies to incentivize landlords and facilitate their participation in the HCVP. Housing authorities and practitioners also can be benefited from the findings of this study to implement the HCVP more effectively. Finally, methodologically, the use of text mining and analysis techniques in this study is a new and novel attempt in housing policy studies. Methodological approaches introduced in this study helps housing voucher and housing policy researchers understand policy mechanisms and policy actors from innovative perspectives.

This study has a few limitations as well. First, although the online forum data are useful to overcome the social desirability bias and to examine perceptions of landlords from various backgrounds, the sample still could be biased. Not all landlords use the internet or actively participate in discussions on online forums and this could result in potential selection bias (c.f., ‘active users’). The digital data analyzed in this essay could be flawed by the digital divide where not everybody has access to online spaces (Gonzalez-Bailon, 2013; Mossberger, Tolbert, Brown, & Jimenez, 2012). For example, landlords in rural areas or elderly landlords who do not use the internet may not use the online forums as their source of information. It is also possible that landlords may not know the existence of the online landlords’ forums or they could prefer to communicate with housing authorities or other landlords to get information regarding the HCVP. Second, the BiggerPockets forum, one of the largest landlords’ forums was not included in the analysis due to the site’s blockage of automated data-collection programs. Given that the site has about 1.4 million users (Paulas, 2019), more information could be obtained from this site.

Third, even though the analysis of online data adds much to the literature, online data also has limitations. For example, although the use of online data offers cost- and time-efficiency advantages, internet-based data allows a reduced level of researcher control (Ignatow & Mihalcea, 2017). For instance, the data used in this study do not include detailed information of post authors, and it makes it infeasible to identify how personal or regional characteristics of landlords may affect their perceptions. Finally, despite their methodological advantages, approaches of computer-based text mining and

analysis are still crude. For example, programs such as LIWC used in this study ignore the nuance of texts (e.g., irony, sarcasm, idioms, etc.), and this makes it difficult to capture detailed nuance and context of the conversation (Prabhakaran, 2018; Tausczik & Pennebaker, 2010). Future studies could overcome these limitations by utilizing further sophisticated text mining and analysis techniques or by employing qualitative and mixed-methods approaches.

CHAPTER 4

ESSAY 3. SHOULD I ACCEPT VOUCHERS? LANDLORDS' STRATEGIES TOWARD HOUSING VOUCHERS

Background of the Essay

A mechanism that could impact the successful implementation of the Housing Choice Voucher Program (“HCVP”) is how landlords would react to renters with housing vouchers. As the second essay demonstrates, various attributes of the HCVP are associated with landlords’ perceptions and sentiments on the program and its participating renters. To further understand landlords and their roles in the affordable housing market, it is important to know landlords’ behaviors and reactions to the HCVP. In particular, understanding landlords’ strategies is particularly necessary because it would be the first step to build national and local policy strategies to deal with discrimination against housing vouchers and to facilitate landlords’ participation in the HCVP.

In the current literature, Rosen (2014), Cunningham et al. (2018), and Phillips (2017) have explored landlords’ strategies and treatment toward housing vouchers. The studies show that landlords treat voucher families equally with other potential renters in general (Cunningham et al., 2018) and that landlords sometimes prefer renters with housing vouchers to non-voucher holders in response to challenges related to rent collection (Rosen, 2014). Moreover, some landlords choose to rent specifically to

voucher families because of benefits that the HCVP provides (e.g., reliable payment of rent, voucher premium of higher rent, etc.) (Cunningham et al., 2018).

However, Cunningham et al.'s (2018) results from paired telephone tests suggest that landlords sometimes treat voucher holders differently from non-voucher holders by applying different criteria. Some of the landlords' such strategies include asking less for information on the applicant's income and employment status, asking more about ways to pay security deposits, mentioning less about incentives for moving in (e.g., reduced rent), avoiding meeting with applicants with housing vouchers to discuss housing options, and providing less information regarding available units (Cunningham et al., 2018).

Another study based on a correspondence experiment (Phillips, 2017) also explores landlords' response to housing vouchers. The findings show that landlords tend to avoid renting to voucher tenants and they tend to respond to voucher holders less positively and less often. In particular, landlords in higher rent apartments are more likely to avoid applicants with housing vouchers. As Phillips (2017) mentions, these strategic behaviors and responses of landlords regarding housing vouchers can explain why voucher holders sometimes fail to find a rental unit to rent in some cases.

Landlords' different treatments using various strategies continue along the whole process of using housing vouchers. Based on analyses of ethnographic and in-depth interview data, Rosen (2014) demonstrates how landlords strategically implement voucher rules. For instance, landlords accepting housing vouchers run their voucher business by leveraging economies of scale to lessen financial or administrative burdens. They filter undesirable voucher tenants by targeted recruitment and use a variety of

strategies to rent their rental properties that are hard to rent due to geographic locations. Besides, landlords employ selection strategies to find ideal tenants, such as accepting a single tenant with no family, looking for tenants who are NED (Non-Elderly Disabled), and relying upon a few criteria (e.g., credit history, criminal history, etc.) to select ideal tenants. They also affect residential flows by employing multiple strategies to incentivize desirable tenants to renew their lease and to keep staying in hard-to-rent units.

Although the existing literature provides significant insights to understanding landlords' strategies and behaviors, more research is needed for a further comprehensive understanding of landlords. In particular, previous studies should be complemented by more studies to overcome their limitations. For example, further analysis is needed to examine strategies among both of two types of landlords- who are currently accepting housing vouchers and those who do not accept voucher tenants. Furthermore, more comprehensive studies are needed to understand different types of strategies at each stage of housing vouchers (e.g., voucher holders' housing search process, interaction process between landlords and voucher tenants, rental unit management process, eviction process, etc.). In addition, further analyses on landlords' strategies in a relation to voucher rules and regulations (e.g., rules on unauthorized guests, drug use, etc.) and other relevant policies (e.g., Source of Income antidiscrimination laws) are necessary to comprehend how housing policies and regulations may impact landlords' behaviors. These types of studies on landlord strategies would help develop and supplement housing policies that could facilitate landlord acceptance of housing vouchers.

To overcome the limitations of the existing literature and to further understand landlords, I delve into landlords' strategies discussed on online landlords' forums. In this third essay, I aim to examine the types of strategies landlords employ and the contexts under which landlords choose different strategies toward voucher holders. Also, as an extension of the effort to apply machine learning-based approaches to examining the text data from online landlords' forums, an experimental approach of pattern-based auto-coding approach, which is based on semi-supervised machine learning, is applied to the analysis. Two research questions are answered in this essay: First, what types of strategies are employed by landlords across processes (e.g., lease-up process, management process, eviction process) and depending on the broader policy context (e.g., Source of Income protections)? Second, (how) does the semi-supervised machine learning approach confirm the results from manual-coding?

Data & Methods

To answer the research questions, I used part of the same data used in the first and the second essays but with a different analytic approach. Among the entire 18,807 posts used in the first two chapters, I randomly selected 10% of the data (1,881 posts) for analyses. The selection of an appropriate sample size allows ensuring credibility when conducting the content analysis. Given the exploratory purpose of this essay, approximately 2,000 posts could provide sufficient confidence for answering the research questions (Bengtsson, 2016; Krippendorff, 1980; 2004; Patton, 2002), as well as to be an appropriate sample size that could ensure the saturation of data (or, replication in

categories) (Guthrie, Yongvanich, & Ricceri, 2004; Elo et al., 2014; Morse, Barrett, Mayan, Olson, & Spiers, 2002; Sandelowski, 1995). In addition, having 10% of the source materials as the training set helps the sufficient modeling of the automated coding process (Hai-Jew, 2020; QSR International, n.d.). To select posts to be included in the analysis, I generated and assigned unique random numbers to each post and selected 1,881 posts that have the highest random numbers. Below **Table 12** summarizes the data by forum.

Table 12

Summary of Pilot Data: By Forum

Source	Freq.	%	Cum.
Landlord Protection Agency forum	468	24.88	24.88
Landlord discussion (subreddit) in Reddit	82	4.36	29.24
MrLandlord forum	800	42.53	71.77
EZLandlord forum	266	14.14	85.91
Landlord.com forum	265	14.09	100
Total	1,881	100.00	

The distribution of the entire 18,807 posts in **Table 3** in Essay 1 was as follows: 38.35% from LPA, 3.56% from Reddit, 43.68% from MrLandlord, 7.08% from EZLandlord, and 7.10% from Landlord.com. Now, for the pilot data, the following is the distribution of the data by forum: 24.88% from LPA, 4.36% from Reddit, 42.53% from

MrLandlord, 14.14% from EZLandlord, and 14.09% from Landlord.com. forum. This indicates that posts from Reddit, EZLandlord, and Landlord.com forum were oversampled, whereas LPA and MrLandlord were comparatively under sampled. Considering the comparatively smaller number of posts from Reddit, EZLandlord, and Landlord.com, having these forums oversampled could be beneficial for obtaining enough information from each of the forums. Among the 1,881 posts in the pilot set, about 25.5% (479 posts) were original ‘question’ posts and 74.5% of the data (1,402 posts) were ‘response’ posts.

In this chapter, I employed two analytic approaches to analyze the data – conventional content analysis with the pilot data and a pattern-based auto-coding approach with both pilot and non-pilot data. First, I employed content analysis approaches to analyze posts from online landlords’ forums. Content analysis is an approach to explore and describe the meaning of materials in systematic ways, and it is especially appropriate when a researcher aims to analyze multifaceted and sensitive phenomena that have been little explored (Schreier, 2012; Vaismoradi, Jones, Turunen, & Snelgrove, 2016). Content analysis is neither a solely qualitative, nor a solely quantitative approach. It is at the intersection of the two analytic traditions (Duriau, Reger, & Pfarrer, 2007) and it allows a researcher to quantify the data with quantitative counts of codes at the same time of analyzing the data qualitatively (Downe-Wamboldt, 1992; Gbrich, 2007; Morgan, 1993; Vaismoradi et al., 2016). In particular, I adopted the conventional approach of content analysis, which is particularly appropriate when there is limited literature or theory on a phenomenon (Hsieh & Shannon, 2005). Given the limited

number of previous studies on landlords' strategies toward housing vouchers, I aimed to describe and understand the strategies of landlords by inductively coding the data and by allowing insights to emerge from the data (Hsieh & Shannon, 2005).

Although content analysis entails both descriptive and interpretive approaches, it requires lower levels of interpretation compared to grounded theory or phenomenology. However, since content analysis helps analyze sensitive and unknown phenomena in both quantitative and qualitative ways, it has advantages over thematic analysis in exploring landlords' strategies (Duriau et al., 2007; Vaismoradi et al., 2016). Despite its possibility of missing broader contexts, in contrast to critical discourse analysis which is another approach to text analysis, the development and use of coding frame in content analysis allow to systematically and objectively explore the text (Ignatow & Mihalcea, 2017; Vaismoradi et al., 2016).

Below **Table 13** is the initial coding frame that summarizes a list of tentative categories and subcategories I expected to emerge from the data. Each (sub)category contains a set of codes, and these (sub)categories and codes altogether constitute the coding frame. The (sub)categories and the additional (sub)categories emerging from the data were later used to sort codes (Hsieh & Shannon, 2005).

Table 13*Initial Coding Frame*

(Potential) Category	(Potential) Subcategory	Examples of (Potential) Codes	Examples of (Potential) Keywords
Application Process	Housing search, Interaction, Contract, Information, Requirements, Standards	Inquiry, Contact, Ads, Interaction with Applicants, Credit History	Email, Call, Visit, Credit
Management Stage	Rent, Interaction, Rental Unit Management	Interaction with Tenants, Interaction with Local Housing Agency, Deposit, Fix	Furniture, Damage, Annual Inspection
Source of Income Protection	Discrimination, Against the Law	Source of Income, Ads, Discrimination	No Section 8, Online Ads; Inquiry
Eviction	Lease Renewal, Eviction, Termination	Inspection, Voucher Rules, Landlord Rules, Court	Inspection, Damage, Regulation, Lawsuit

I revised and updated the coding frame while reading through and coding the 1,881 posts to reflect the uniqueness of information shared among landlords (Park & Park, 2016). Using the initial coding frame, I labeled relevant keywords, synonyms, and derivative forms of each code. Here, I used NVivo (Version 12) to further systematically code and analyze the data. Using NVivo, I coded each post based on the coding frame. I

chose individual posts as the unit of coding and analysis (Rose, Spinks, & Canhoto, 2014), in order to examine in what context each strategy is used.

When new codes emerged during this coding process, I iteratively added the emergent codes and their corresponding keywords to the coding frame and updated (sub)categories if needed. When constructing and updating the coding frame, I made all (sub)categories contain at least one code so that the construction meets the ‘saturation’ criterion in content analysis (Schreier, 2012). In addition, while generating codes, I kept evaluating the coding frame and updated it if part of (sub)categories or codes are invalid. Here, the ‘invalid’ coding frame indicates the case that part of (sub)categories or codes do not adequately represent concepts included in the research questions (Schreier, 2012). Also, each category was evaluated to make sure that the categories are exhaustive and mutually exclusive (Rose et al., 2014). While revisiting the coding frame, I generated a codebook with the coding frame for analysis, interpretation, and future use. In generating the codebook, I described clear instructions for coding to ensure the trustworthiness, particularly transferability of the research (Krefting, 1990).

As a single coder, ensuring the reliability of the coding process could be challenging because inter-rater reliability cannot be established. To remedy the limitation and in order to establish intra-rater reliability, I repeated the coding in two different time periods. In particular, after coding the entire 1,881 posts in the pilot data (Time 1), I read through the codes and re-coded part of the data two weeks after the initial coding (Time 2) (Mackey & Gass, 2015).

Second, in addition to content analysis, I employed a semi-supervised machine learning approach to analyze the data. From its Version 10, NVivo provides an experimental feature called “Automatic coding using existing coding patterns” that is based on a semi-supervised machine learning approach. It is designed to “speed up the coding process for large volumes of textual content” by using a manually-coded codebook produced by human coders: *“The machine learning classifier uses some human-created examples (plus) to identify what text to classify into the coding structure”* (Hai-Jew, 2020; QSR International, n.d.). Instead of additionally generating new nodes, the machine applies the observed pattern from the training set. By employing the semi-supervised machine learning approach, I answer the second research question and aim to provide methodological implications about the potential of machine-based approaches in analyzing a large volume of qualitative text data, in addition to enhancing the reliability of the coding process by employing two different coding approaches.

To analyze the data with codes, I employ multiple strategies. To examine how the data looks like in general and to answer the first research question, I provide frequency information using a data matrix. In particular, I present coding frequency for all categories and subcategories (Schreier, 2012). I exploit the features provided by NVivo, as an automated content analysis tool, that helps generate frequency tables. I also use charts to visually demonstrate the frequency information. Based on the tables generated with the program, I visually report the results to clearly demonstrate landlords’ strategies. In addition, in order to provide a deeper and detailed understanding of landlords’ strategies, I present the results in qualitative style. I select the most representative texts

(exemplars) for each code and present how landlords strategize themselves when they deal with housing vouchers. When presenting the text examples, I hide any personal or personally identifiable information mentioned in each post to protect the privacy of posters and to keep the results entirely anonymous. The employment of both quantitative and qualitative interpretation of the text, which is (multi)methods triangulation, could help to strengthen the interpretation of findings (Denzin, 1970; Renz, Carrington, & Badger, 2018). Finally, by comparing the coding results from the semi-supervised machine learning approach (with pilot data, and with non-pilot data) to the human-coding results (with pilot data), I answer whether and how the machine-based approach confirms the results from manual-coding and what machine-based approaches may provide to the analysis of online text data.

Results

Results from the content analysis show that various strategies are employed by landlords to deal with the voucher program and voucher tenants. As **Table 14** and **Figure 5** summarize, several new codes emerged during the inductive coding process. Broadly, the data expanded the four types of strategies in the initial coding frame and provided detailed strategies that landlords employ. Some strategies are what landlords stated that they have actually employed to deal with housing vouchers, while other strategies are pieces of advice that were shared by landlords based on their experience with the HCVP.

Table 14*Landlord Strategies: Results from Content Analysis (1,881 Posts, Manually Coded)*

Strategy	Description	References
<i>Strategies in Lease-up Process</i>		441
(Negative) Legit (Pre)screening	Finding an applicant's flaws (e.g., credit, criminal background, landlord history, etc.) and not accepting them based on the legitimate reasons OR strategies to screen S8 tenants through normal screening process/criteria	139
(Negative) Additional or Rigorous Requirements for S8 Tenants	Requiring additional/rigorous screening steps/expectations/documents/tests just for applicants using vouchers or Requiring higher rents just for applicants with vouchers	26
(Negative) Strategies in Ads to Avoid S8 Tenants	Strategies regarding Advertisements: Stating in ads that the property is not approved for S8 OR Not mentioning S8 in ads OR Stating "No Sec8"	42
(Negative) Just Saying "No" to S8	Just saying "NO" to applicants using S8 (E.g., saying "we don't accept S8", "we are not participating in the program", etc.)	40
(Negative) Property Not Approved or Deliberately Failing Inspection	Refusing to accept S8 saying that the property does not meet/quality for S8 requirements (e.g, not lead-free, rent above FMR, etc.) OR Turning the applicant down saying that her/his situation (e.g., a partner who is not listed on S8) does not fulfill the S8 requirements OR Intentionally failing inspection	88

(Negative) Passive-aggressive Strategies	Letting S8 tenants fill out applications and then just rejecting the applications OR Giving them some opportunity to look at the property which may lead them to give up applying OR Ignoring calls or contacts from voucher users	29
(Positive) Info Seeking	Strategies to obtain more information before or during accepting S8 tenants	19
(Positive) Looking for or Attracting S8 Tenants	Strategies to look for, find, screen, and accept (good) S8 tenants OR Strategies to make the property attractive/acceptable for S8	18
(Positive) Considering S8 Benefits	Strategies to positively consider accepting S8 OR Talking about S8 benefits	27
(Positive) Meeting S8 Requirements (Non-physical)	Strategies to meet S8 contract requirements and successfully complete the S8 contract process	7
(Positive) Passing Inspection (Physical)	Strategies to pass inspection and meet S8 unit criteria	6
<i>Strategies in Management Stage: By Intent</i>		154
Strategies with Negative Intent	Strategies with negative intent that against S8 tenants	108
Strategies with Positive Intent	Strategies with positive intent in favor of S8 tenants OR Strategies to seek information regarding the program to maintain the unit well with S8 tenants	46
<i>Strategies in Management Stage: By Type</i>		175
Collecting Tenant's Portion of Rent and Utilities or Dealing with Financial Issues	Strategies to collect tenant's portion of rent OR Strategies to deal with tenants who pay rent late OR Strategies to charge utilities on tenant OR	32

	Strategies related to financial issues (e.g., deposit, rent withholding)	
Landlord or S8 Rules	Strategies to deal with tenants who are against the landlord's (or, S8) rules (e.g., no pet, no smoking, no party, no drugs, etc.). – Sometimes landlord rules and S8 rules are overlapped.	20
(Un)authorized Occupants	Strategies to deal with unauthorized extra occupants (e.g., partner, parents, girlfriend, boyfriend, children) or to deal with tenant family members	13
Paying the 'Gap'	Strategies to make S8 tenant pay for the gap/difference (higher rents exceeding FMR minus FMR (or, rent amount approved by local housing authority)	16
Physical Damages and Inspection	Strategies to manage and maintain home appliances and furniture or to deal with tenants who cause damages to the unit OR Strategies to deal with issues caused by tenants, especially related to their activities that cause damages to the property OR Strategies to pest control OR strategies to pass inspection – Sometimes it includes fixing things to meet annual inspection criteria.	32
Rent Increase	Strategies to increase rents	25
Current Tenants Applying for S8	Strategies to deal with the current tenant (not voucher tenant) who is planning to newly apply for S8 or who is newly getting an S8 voucher	4
Quitting to Rent to S8 Tenants	Selling property because a landlord does not want to work with the S8 program anymore or	3

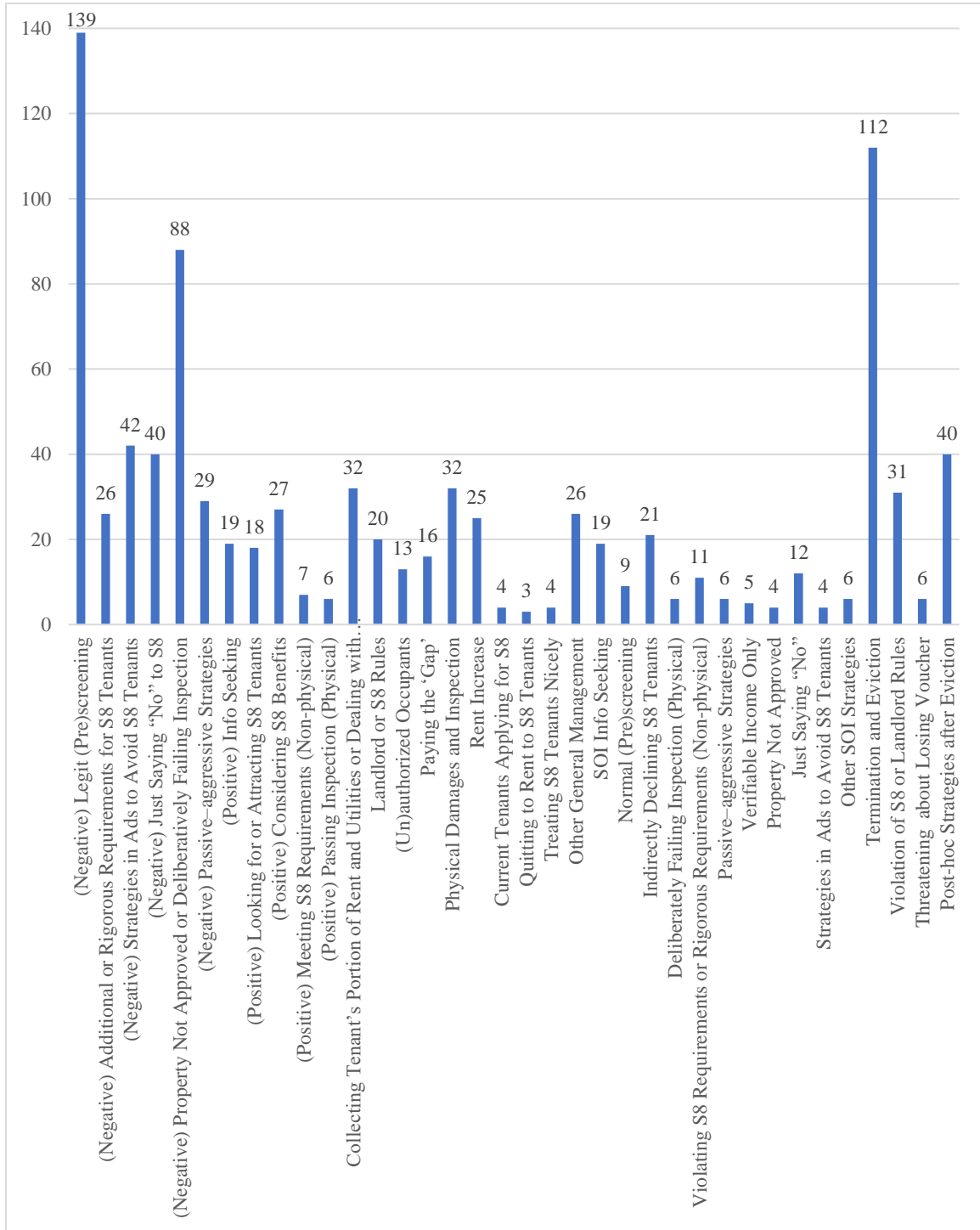
	because s/he wants to stop accepting S8 tenants anymore	
Treating S8 Tenants Nicely	Not increasing rent for some reasons or Treating tenants greatly	4
Other General Management	Strategies to deal with the tenants (in general) in general relationship with them OR Other general management strategies – Sometimes it accompanies with monetary costs or disputes regarding who is responsible for financial costs OR Strategies to manage S8 property well (e.g., seeking for info)	26
<i>Strategies to Deal with Source of Income (SOI) Antidiscrimination Laws</i>		103
SOI Info Seeking	Strategies to look for information about SOI laws or about the state’s SOI law status OR Strategies to consult with a lawyer before responding to S8 tenants	19
Normal (Pre)screening	Proceeding with screening, knowing that S8 tenants will not pass it or that only good S8 tenants will pass the screening	9
Indirectly Declining S8 Tenants	Ways to indirectly turn vouchers holders down (because landlords cannot say “we do not accept vouchers” in jurisdictions with SOI laws) E.g., Not accepting vouchers by saying that the property is not approved for S8, Refusing to accept vouchers saying “we accept verifiable income only”, etc.	30
Deliberately Failing Inspection (Physical)	Intentionally failing inspection (e.g., small obvious things such as wall cracks, peeling	6

	paint, lead, grounded outlets, broken windows) to not accept vouchers	
Violating S8 Requirements or Rigorous Requirements (Non-physical)	Doing the month to month (MTM) contracts only to avoid vouchers OR Setting high rent that is higher than FMR OR Requiring a high security deposit OR Requiring other normal standards to avoid S8	11
Passive-aggressive Strategies	Ignoring inquiries from voucher holders OR Giving only limited opportunity OR Just quickly accepting other non-S8 market-rate tenants to avoid S8	6
Strategies in Ads to Avoid S8 Tenants	Strategies to (not) mention S8 in online ads but avoid S8 tenants (e.g., “we are not approved” or “No S8”)	4
Just Saying “No”	Just saying “we do not accept vouchers” (in jurisdictions without SOI laws)	12
Other SOI Strategies	Other ways to indirectly avoid S8 (no details provided in post) OR Posts that several detailed methods are suggested in post	6
<i>Strategies to End Lease or Evict S8 Tenants</i>		189
Termination and Eviction	General strategies to end lease (or not renew it) with S8 tenants OR General strategies to evict S8 tenants	112
Violation of S8 or Landlord Rules	Strategies to evict S8 tenants specifically based on their breaking S8 rules or by making the unit inappropriate for S8 regulations (e.g., higher rent, etc) OR Strategies to evict S8 tenants in case they lost their voucher OR Strategies to	31

	evict S8 tenants when they are against the rules in their lease	
Threatening about Losing Voucher	Threatening that s/he will report the S8 tenant to the housing authority in order to get her/him to move out OR Threatening about eviction	6
Post hoc Strategies After Eviction	Post hoc strategies after ending a lease with S8 tenants or after evicting S8 tenants	40

Figure 5

Landlord Strategies: Number of References by Code



Strategies in the Lease-up Process

The first types of strategies are strategies in the lease-up process. The most salient strategy is tied to the use of (pre)screening criteria to sort out ‘bad’ applicants, and it sometimes targets prospective tenants with housing vouchers. The results show that in many cases, normal (pre)screening criteria such as credit score, criminal background, and previous landlord history are used as legitimate reasons for not accepting voucher tenants. Among the 1,881 posts, about 7.39% (139 posts) mentioned this approach.

For some, (pre)screening criteria are used to turn down ‘bad’ applicants in general, regardless of whether they are voucher holders or not. Landlords emphasized the importance of thoroughly screening the applicants based on the criteria such as credit scores and landlord history. A landlord described the background check as the ‘best way’ to screen any tenants regardless of their voucher status, mentioning that “*Back ground check, credit check, references is the best way for any tenant. Its not so much with the Section 8, its everyone.*” Other landlords also stressed that they apply the same screening criteria to select good tenants no matter where the tenants’ income comes from. For example, the following posts noted that the common criteria such as credit scores can be useful to screen the applicants:

“If you don't screen well, you'll get terrible tenants... now matter WHO pays the rent. If you do screen well, you can get good tenants no matter WHO pays.”

“You need to screen them just like any other tenant. there are some good ones -- and there are some bad ones.”

“I have no problem with section 8, I have just yet to find anyone with a voucher who meets our other screening criteria like credit.”

For others, the (pre)screening process is utilized especially to indirectly exclude applicants using housing vouchers. Sometimes the screening criteria are intentionally stated in ads to prevent ‘low-quality’ voucher tenants from applying for the rental property. For instance, a landlord noted that *“Generally, if you advertise the amount of rent and your general screening requirements (certain credit scores, certain minimum income, etc.) people seeing your ad will see the type of tenants you have. The bad ones will know it's not for them. The good ones will know it's for them and they won't have to deal with the trashy ones”*. Or, in some cases, the ‘normal’ screening process is used to specifically target voucher families; knowing that most voucher holders will not pass the (pre)screening criteria. Examples of landlord comments on this include:

“In those cases, you should still have no issue enforcing your normal screening requirements that you apply to all applicants (minimum credit score, minimum income, etc.) which will almost certainly weed out all Section 8 people.”

“I require 2 month's SD for credit under 650 and S-8 strictly prohibits more than 1 month's SD so that almost guarantees that they won't qualify.”

“My credit requirements, applied equally to all applicants, pretty much screens them out.”

The data from online landlords’ forums revealed other types of strategies in the lease-up process as well. For example, it was mentioned in 26 posts that sometimes landlords require additional or rigorous requirements specifically for Section 8 tenants.

The requirements include exceptional (pre)screening requirements such as higher rents. For example, one landlord said, *“In my area, I cannot raise the rent price if I accept Sec 8. So if fair market value is \$600, I advertise at \$600. If a Sec 8 applicant comes along, I cannot say, “For you it’s \$1200.” Or even \$650. The advertised rent is what I have to charge all applicants.”*, while another landlord noted that scheduling a meeting in the early morning could be useful to indirectly screen the voucher holders out, saying that *“Schedule a showing 3 or 4 days out at 8:30am. 95% of S8 applicants do have their “stuff” together to write down and actually show up for an appointment 3-4 days out early in the morning. 9 out of 10 S8 applicants won’t show up.”*

Another type of strategy is tied to landlords’ wording in (online) advertisements. By stating that the property is not approved for Section 8, such as *“Craigslist won’t let you say “Do not accept section” but we state “Not section 8 approved” and get it through.”* or mentioning that applicants will be charged an application fee such as *“Put in your ad you charge a \$25 application fee and this keeps them away”*, online ads were used to imply that voucher holders or low-income individuals are not welcome. In other cases, simply not mentioning Section 8 in ads, just like what a landlord noted *“I don’t mention section 8 in my ads”*, was another way to indirectly avoid getting inquiries from voucher families. In some cases, there are occasions when voucher tenants contact the landlords despite landlords’ efforts to indirectly avoid housing vouchers. In such cases, and especially in jurisdictions without legal protections of housing vouchers, 40 landlords mentioned that they simply say that vouchers are not accepted in their properties. For example, landlords said:

“Usually the caller asks if I participate and I say no.”

“When asked if I take section 8 I reply “ I do not participate BUT you can apply NON section 8” which they never do.”

A large number of landlords noted that the voucher program’s requirements and inspections sometimes become an excuse for not accepting housing vouchers (88 posts). Since the HCVP requires that a property must pass physical inspections (e.g., lead-free, at working outlets in rooms, etc.) and meet certain criteria (e.g., rents below FMR, authorized occupants only, etc.), anything that may violate the requirements can be used to refuse housing voucher tenants.

One landlord said: “If you choose your words carefully you might be able to screen them out over the phone such as if they ask if you take section 8 you can say your unit is not approved for section 8 (it is not approved because the housing authority has to inspect it and they haven't done that) Most places the housing authority only does 1 year leases to start with (some convert to MTM after 1 year) but if you only do MTM they won't be able to get that first year.”

Another landlord focused on FMR: “Call the housing authority and ask for the max rent paid for a X br unit (no utilities). Then price the place above this rate. When they call say “S8 will not pay my rate, sorry.” Nobody can make you take LESS.”

In some cases, deliberative failure in inspections also was a way to avoid participating in the voucher program. For example, a landlord mentioned that having a cracked outlet, which would make the property fail the inspection, could be a reason to tell voucher holders that the property would not qualify for the voucher program. The landlord said:

“We don't poke the bear. Rather than saying DENIED, we say "This property does not qualify for Sec8" and it's true - there is a cracked outlet cover in the storage room.”

Another landlord also noted that landlords may avoid participating in the HCVP by knowing the inspection requirements and leaving a few of them unfixed, saying that *“Get the list that is required to pass a section 8 inspection and leave a few obvious things undone when the inspector comes and refuse to fix them.”*

The data show that not all landlords refuse voucher holders from the beginning of the lease-up process. A few posts noted that some landlords provide the voucher families with at least some opportunities just like they do to other non-voucher applicants. However, allowing the submittal of a formal application or looking at the property does not always mean that the voucher holders will end up being able to successfully rent a property using their vouchers. Sometimes landlords give some ‘equal’ opportunities to voucher holders which may end up with a rejection of the application or make the voucher families give up applying for the property. For example, landlords mentioned that:

“I am having them fill out applications but for me it is in automatic no.”

“I don't Participate in the section 8 program but always offer to show the property non section 8. 99% of the section 8 tenants don't want to waste their own time And never look at the property.”

In other cases, although landlords cannot explicitly discriminate against housing vouchers because they are aware of potential legal issues, the data show that they choose to be selective when responding to inquiries and ignore calls or contacts from voucher

users in order to avoid accepting housing vouchers. The landlords shared how they selectively respond to the applicants and exclude voucher holders, saying that:

“First thing I do is prescreen via voicemail. Any mention of section 8 and I don't call back.”

“We cannot exclude Section 8 as we cannot discriminate against Source of Income. We cannot say we don't take sec.8. We cannot say it won't pass inspection. That is why I don't respond to people when they ask that question in reply to my on-line Craigslist ads.”

“No more talking to them, no texts, no emails. You're done with them.”

Nonetheless, not all strategies in the lease-up process revealed in the data were hostile against voucher tenants. A few landlords talked about the strategies that can be used to attract and accept voucher holders, although there were fewer posts that discuss the ‘positive’ strategies, compared to the ‘negative’ strategies described above. For instance, a few landlords mentioned that they are looking for the resources to get to know more about the HCVP or shared useful sources of information about the program with other fellow landlords. In particular, many landlords noted that they contact the local housing authority to obtain more information about the HCVP before or during accepting Section 8 tenants so that they can manage and work with voucher tenants in accordance with the program rules and regulations.

“I would strongly encourage any owner/agent/investor interested in leasing to a voucher holder to request a briefing with the local housing authority prior to making a decision about becoming a landlord. Most Public Housing Authorities (PHA's) offer them on a regular basis and they are FREE. Being informed and understanding the process will make all

the difference in the world. There are some great participants that will make great leaseholds. Don't rule this program out!"

"Each city has there very own section 8 laws, you can easily find and city HUD contact information with a quick search. If you have never done section 8 before make sure that you are prepared you will want to make sure that you and your property are fully taken care of in the lease"

"Before you rent to any Sect. 8 tenant again, call the Sect. 8 office. Ask them for a landlord packet. It will give you complete instructions and detailed steps that you must follow."

Other landlords noted that they actively look for ways to find, screen, and accept good voucher tenants. The data indicate that their main sources of information include the local housing agency and GoSection8 website where landlords can find voucher holders who are looking for rental properties. Landlords also mentioned that online ads in other platforms (e.g., Craigslist) can also be used to attract voucher holders. They noted that by stating in online ads that their properties accept housing vouchers, they recruit potential applicants who are hoping to use the vouchers.

"First you need to own a rentable piece of real estate up to code. Then call your local section 8 office to see if they have a good tenant for you."

"If you want to just have Sec 8, contact your local HUD and advertise with just them. This can be done on-line by you, pictures and all."

"1) post your property on GoSection8 website or on other sites like craigslist state that you accept section 82) Tenant applies to rent your unit3) Landlord does normal background and credit check just like with every other tenant4) If you determine that you would like to rent to the

section 8 tenant then you have the tenant sign the lease but leave the rental amount and lease start date blank”

“Advertised "Section 8 OK””

In discussing the strategies to look for and attract voucher families, landlords talked about the benefits of participating in the Section 8 program when they consider accepting voucher tenants. In particular, landlords mentioned the benefits of the program they especially take into consideration when making a decision about applicants using housing vouchers. For instance, landlords’ previous experiences with good Section 8 tenants, the area’s vacancy rate, and general economic conditions were mentioned frequently when landlords emphasize the benefits of participating in the HCVP.

“I always open my properties up to Section 8. But, as the others have mentioned, it comes with its benefits and pitfalls. There are a lot of great section 8 tenants out there. Statistically, the average section 8 tenant will stay in a unit for 4.5 years. This is about double the time of a non-section 8 tenant. Here is the section 8 process”

“We are currently SEEKING Sec8 folks because we need residents.”

“As a recession draws closer, we are turning back to Sec8 for rent stability.”

In addition, ways to meet the Section 8 requirements and pass the physical unit inspection were also shared by the landlords. The landlords stressed or asked questions about meeting the program’s administrative requirements, stating that *“I have an applicante who was a section 8 voucher. She has bad credit and an eviction with in the last four years. Is it ok it I ask her to have a co-signer on the application?”* Another landlord

talked about the strategies to pass the inspections smoothly, saying that “*Get the inspection BEFORE you sign a lease with a prospective tenant. That way you know what Section 8 may require you to fix/alter/replace, etc beforehand.*”

Strategies in the Management Stage

The second types of strategies are the ones that are employed during the management stage. During the inductive coding process, two categories of strategies (in the management stage) emerged – strategies coded by intent and by type. By intent, strategies were either with negative intent or with positive intent. By type, ten different types of strategies in the management stage emerged. Below **Table 15** is a matrix that summarizes the intersection between strategies in the management stage by intent and by type. Here, negative intent indicates that the strategies are employed for a landlord’s sake only, while positive intent means that the strategies benefit the tenants as well. Although not all posts could be categorized by intent, the table shows that some strategies are employed by landlords with positive intent, while most other strategies are used to deal with housing vouchers with negative intent.

Table 15

Strategies in Management Stage: By Intent & Type

	Negative intent	Positive intent
Collecting Tenant’s Portion of Rent and Utilities or Dealing with Financial Issues	20	8
Landlord or S8 Rules	18	1
(Un)authorized Occupants	10	2
Paying the ‘Gap’	8	4
Physical Damages and Inspection	18	13
Rent Increase	20	3
Current Tenants Applying for S8	2	2
Quitting to Rent to S8 Tenants	3	0
Treating S8 Tenants Nicely	0	4
Other General Management	11	14

One of the strategies that were mentioned most frequently by landlords was about the ways to collect tenant’s portion of rent and utilities or to deal with financial issues. Landlords mentioned that they had voucher tenants paying their portion of rent late or that they had financial issues caused when they managed the rental properties occupied by voucher families. The landlords shared their experience and discussed the ways to deal with late payers or financial issues, saying that:

“If she’s behind on her portion, she pays the late fee. She wants to remain in good standing so she doesn’t lose her voucher benefits. Been in the program over 10 years - she knows how it works. Don’t go off a spit and a handshake type of deal with the tenant -- make sure you get an authorization letter from HUD stating exactly this.” (Positive Intent)

“My tenants ALWAYS pay the late fee....unless they pay nothing at all. In which case it’s a slam dunk. We get what we allow. If you allow your

tenant to play games, they will play games. So the easy solution is to stop allowing it.” (Negative Intent)

The analysis shows that sometimes landlords struggle with dealing with voucher tenants who act against the landlord’s (or, HCVP) rules (e.g., no pet, no smoking, no party, no drugs, etc.) or who have extra occupants in the unit that were not authorized by the voucher contract (e.g., partner, parents, girlfriend, boyfriend, children). In most cases, reporting the tenants to the housing authority was the most common approach to handle the rulebreakers. For example, landlords noted that:

“She starts to trash the place, and continues to party with all kinds of people throughout the night. I notify Housing.”

“Section 8 tenants are monitored by HUD. They MUST keep their place clean and in order. They cannot “do drugs.” If they wreck your place, you can report them to their case manager! They will potentially lose their voucher.”

“I’ve reported my tenant to HUD US Inspector General’s office for fraud, a case was opened.”

“It was her live-in (unauthorized occupant) BF (that I kept trying to get rid of) that was selling the drugs from my unit. I reported him (and her) to the caseworker more times than I can count.”

Some landlords mentioned that since they know that voucher tenants would lose their voucher and get evicted if their violations were reported to the housing authority, they reach out to the tenants first and give the warning to let them have an opportunity to make corrections before reporting them to the housing authority. For instance:

“Yes... bad behavior on the part of the tenant can get them kicked off section 8. It is many years waiting list to get back on. Inform the tenant that you will write to Section 8 and inform them of the actions being taken by this tenant. Then if they do not change immediately...do it You won't get your money back... but.. they won't do it to the next landlord either.”

An interesting type of strategy found in the data was related to landlords' perception of housing vouchers and the amount of Fair Market Rents (“FMR”). As landlords see the FMR (or, the amount that the Section 8 program allows) as too low, some of them mentioned that they look for ways to compensate the ‘gap’ between what they think is an appropriate rent amount and the actual amount that the HCVP pays. For instance, a landlord noted that s/he allowed the voucher tenants to make up the ‘gap’, saying that:

“I decided to accommodate the sec. 8 tenant's request because she wanted it so. So she gives me cash for the difference and I give her no receipt.”

In the discussions in online landlords' forums, there was confusion among landlords regarding whether it is legal or illegal to make voucher tenants make up the difference. While some said that it is legal (once the amount is approved by the program), mentioning that *“I don't know what state yopu live in but here in [Location Hidden] the tenant IS allowed to make up the difference. It's on her lease. We had a first time section 8 person and she was allowed by law to make it up.”*, others warned that having the voucher tenants pay the extra amount is against the law, saying that: *“I said OK she can pay the difference in rent (this is what she wanted to do in the 1st place). The housing dept said no I could not do that, the rent must be \$760 and the tenant can not pay the*

difference”. Thus, their strategies also vary depending on their understanding of Section 8 regulations. Similar to the case of strategies to deal with rulebreakers and unauthorized occupants, contacting the local housing agency turned out to be the main source of information for landlords who are looking for information about Section 8 rules and regulations regarding the payment of ‘gap’.

Strategies to deal with financial issues tied to physical damages and inspection were also discussed frequently by landlords in online spaces. These include strategies to manage and maintain home appliances and furniture or to deal with tenants who cause damages to the unit, ways to deal with issues caused by tenants (especially related to their activities that cause physical damages to the property), approaches to conduct pest controls, and strategies to pass inspection which sometimes include fixing things to meet annual inspection criteria. To achieve the various managerial goals, landlords were shown to employ a variety of strategies. For example, some landlords mentioned that they make a written inventory of furniture to make sure the voucher tenants acknowledge that the furniture belongs to the property:

“Make sure you have a written inventory of furniture with your lease that the tenants sign and acknowledge as belonging IN the apartment.”

while others mentioned that they develop a cooperative working relationship with tenants to be able to meet the demands from the housing authority:

“I developed a cooperative working relationship with the tenant to satisfy the housing authorities demands which did not exist in an ordinary lessor/lessee relationship.”

Not all strategies were with positive intention, though. A few landlords noted that they simply bill the tenants for any damages or give up fixing things for voucher tenants.

For example, landlords mentioned:

“I bill my S8 tenants for any damages they or their guests cause. I always cc their caseworker at the PHA. Other than allowing them to make payments towards the damage charges, I handle it just like my non S8 tenants.”

“Stop... just stop trying to help them. It not your problem or concern to fix. Just leave them alone to find their own way. The can not live there and be on section 8. They can live there and pay rent and abide by the lease they signed with you. Don't offer them anything. Run your business only. Dont negotiate with yourself!”

The data shows that in order to increase the amount of rent for the properties with voucher tenants, the first step landlords take is contacting the local housing agency. A landlord noted, for example, that *“Just ask!If you want a section 8 increse call their office and just tell them that. You must give them the name and contract date of your section 8 tenant and they will tell you when you can get an incerase and how much (unless you are already at the max)”*.

Landlords seemed to be very knowledgeable about the difficulties of rent raises with the HCVP, so they talked about multiple approaches to increase the rent amount under the contract with the program (e.g., charging extra for pets, making a reasonable reason for the increase such as insurance or tax increase, etc.) For some landlords, instead of dealing with the housing authority and the HCVP, evicting voucher tenants and

accepting new non-voucher tenants with higher rents was a strategy to raise the rent amount. For example, the posts mentioned that:

“All the tenant has to do is drop a dime. Wait until you have to evict them and see how fast it happens. raise your rent to \$925, Sect 8 will go away and a better self paying tenant will show up.”

“There is a guy in my area with 100+ rentals, lots of Sec. 8, until they kicked him out of the program...no new sec. 8 tenants. This was his strategy adding another bedroom to houses, to collect the higher sec. 8 rent.”

Other managerial strategies that emerged from the data include strategies to deal with current non-voucher tenants who are planning to apply for Section 8 or who are newly getting the vouchers, quitting to rent to voucher tenants in order to stop working with the HCVP anymore, approaches to treat voucher tenants nicely and other general strategies to manage the rental properties with the voucher program.

Strategies to Deal with Source of Income (SOI) Antidiscrimination Laws

In online landlords' forums, several landlords mentioned or asked questions about state and local laws that outlaw the discriminatory practices against housing vouchers – Source of Income (SOI) Antidiscrimination Laws. Various types of strategies were suggested by landlords to avoid accepting voucher tenants specifically in the jurisdictions with SOI protections. The data shows that landlords contact the local housing authority to obtain detailed information about the SOI laws, in addition to asking to other landlords in

the online landlords' forums. For instance, a landlord advised other landlords to contact the local housing authority to get the details of the state's status of SOI protections, saying that *"I would contact your local HUD office though and have them explain in detail to be sure."* Consulting with lawyers and checking the state and local laws online or by themselves were also mentioned as strategies to seek information about SOI protections. For instance, a landlord noted that *"I would double check with a local landlord / tenant attorney to find out if source of income is protected."*

Except for the fact that the strategies were mentioned in relation to dealing with SOI laws, most overlapped with the strategies in the lease-up process discussed above. For example, landlords discussed the ways to indirectly avoid accepting housing vouchers, such as indirectly declining Section 8 tenants by saying that the property is not approved for Section 8 or that only verifiable incomes are accepted. Similar to the strategies in the lease-up process, there were also further detailed discussions about the ways to refuse voucher tenants while not violating the laws. The strategies include deliberately failing inspections, intentionally violating Section 8 requirements or requiring rigorous standards (e.g., high security deposit), passive-aggressive strategies such as ignoring inquiries from voucher holders or giving only limited opportunities to applicants using housing vouchers), and ways to (not) mention 'Section 8' in online ads while not violating the laws. In jurisdictions without SOI protections, in contrast, the most common strategy to refuse voucher tenants was simply saying "No" to the applicants. A post written by a landlord in a state without the SOI antidiscrimination laws is a good example:

“Since [Location Hidden] isn't a SOI state, all he has to do is say "Section 8 vouchers are not accepted." That's the real "game over" that "stops the inquiries." Why not just be blatant about it?”.

Strategies to End Lease or Evict Section 8 Tenants

Following the strategies in the lease-up process, a lot of questions were asked and answered in the online spaces regarding the ways to terminate or evict voucher tenants from the properties. In most cases, a majority of landlords mentioned that they follow the typical processes of tenant termination and eviction – notifying the tenant and the local housing authority, and then taking the legal steps to kick the voucher tenants out. In discussing the termination and eviction processes, there was confusion about legal requirements for notifying the tenants – whether the notification should be given 3, 5, 30, 60, or 90 prior to the end of the lease. For example, each of the following posts talks about different numbers regarding how many days are required to give notice before terminating or evicting voucher tenants:

“You must first give her a 3 day notice to pay or quit and then if rent is not paid you can start the eviction process.”

“You need to contact your Town's Constable's Office to file a 5-day day notice or 30-day notice (varies by State).”

“I gave her a 30 day notice to vacate.”

“I suggest that you confirm the 60 day notice requirement then immediately issue a notice of non renewal to both the tenant & their PHA.”

“I informed the [Location Hidden] Housing Authority and they told me to give the tenant a 90 day notice to move without cause.”

Considering the variations of legal requirements for the legal processes depending on circumstances and localities, this indicates again the important role of local housing authorities in providing proper and accurate information to both landlords and tenants.

Several landlords also mentioned the ways to evict voucher tenants that violate the voucher or landlord’s rules, which usually accompany with reporting the tenant to the housing authority, saying that *“If a tenant is being a pain (noisy, late at all with their portion of the rent, trash in the yard), if I just MENTION that to the Sec-8 office, they are on them to correct it or be kicked off the program.”*. Instead of evicting the tenants for the violation of Section 8 rules, however, some landlords mentioned that they threaten the tenants about losing the vouchers if they did not correct their behaviors. A landlord noted, for example:

“You might try telling the tenant that she has to do it by the book otherwise she may lose her voucher.”

In addition to the strategies to terminate or evict housing voucher tenants, several landlords talked about post hoc strategies after evictions, as evictions accompany legal disputes or financial issues in many cases. For example, many mentioned what they do to deal with physical damages left behind after voucher tenants leave the property, saying that:

“What can you do about a Section 8 tenant that left your unit damaged to the point you can't rent it out until its completely redone? I asked

[Location Hidden; state housing assistance corporation] *to help and even gave them over 60 pictures for proof and they have done nothing!*”

“I would return the security deposit to the tenant, less charges for damages. I hope the security deposit covers all the damages.”

“Of course. She was moving to another county, so she thought she didn't have to worry about it. I told the local Sec-8 office about it and they contacted the new county -- who put a hold on her voucher until she paid up with me. I was paid in full within the month.”

Others talked about legal disputes and what they do to win in court disputes. For instance, a landlord noted that landlords may need to have written evidence prepared in order to win in the court, saying that *“The strategy for winning in court is have all your evidence prepared and present it neatly, don't talk to the tenant, answer whatever questions the judge asks, and say nothing more.”*

Pattern-Based Auto-Coding based on Semi-Supervised Machine Learning

In addition to manually coding the 1,881 posts in the pilot data, I employed auto-coding approaches to answer the second research question ((How) does the semi-supervised machine learning approach confirm the results from qualitative coding?). Utilizing NVivo's 'automatic coding using existing coding patterns' function, I auto-coded the data for two purposes. First, I auto-coded the pilot data to confirm the reliability and consistency of the hand-coding results (1,881 posts). Second, I conducted auto-coding with the non-pilot data (16,926 posts), aiming to provide methodological

implications regarding the utilization of a semi-supervised machine learning approach to analyze a large volume of qualitative text data.

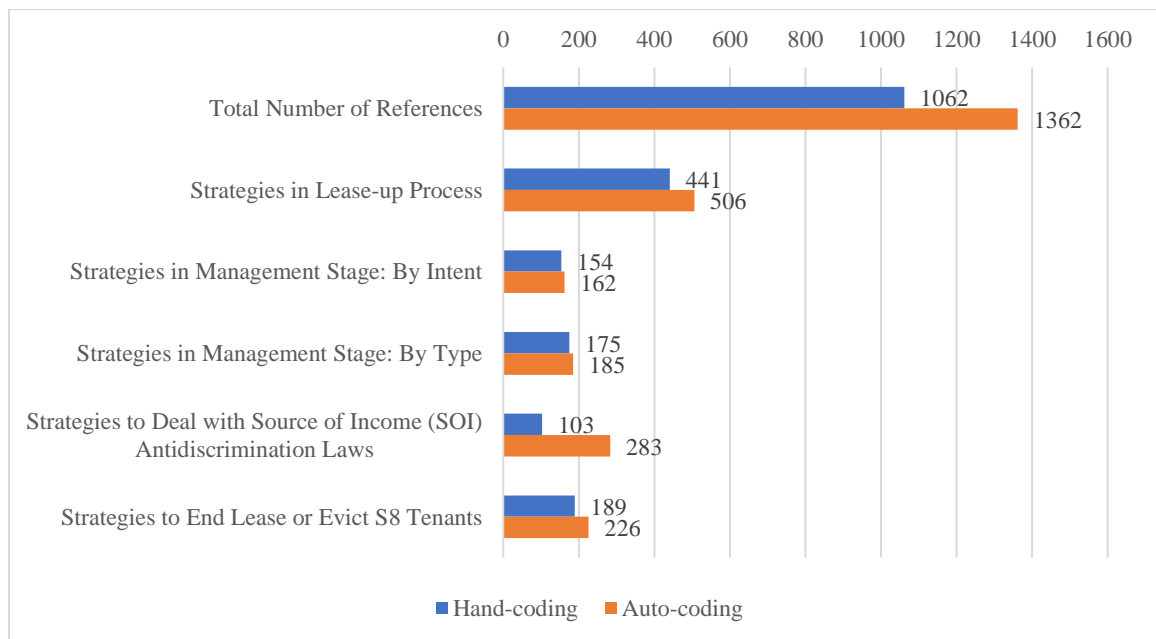
Below **Figure 6** shows the number of references in the pilot data coded by each approach. The results indicate that the pattern-based auto-coding approach yielded more references. Whereas 1,062 references were generated from manual-coding, 300 additional references were made from the auto-coding approach (1,362 references in total). In particular, compared to hand-coding that yielded 103 references for codes on ‘Strategies to Deal with Source of Income (SOI) Antidiscrimination Laws’, auto-coding resulted in 180 additional references (283 references in total).

A large portion of strategies to deal with SOI laws are overlapped with other strategies in each stage of the HCVP (e.g., strategies in lease-up process and management stage). For example, landlords in both SOI jurisdictions and non-SOI jurisdictions employ normal (pre)screening criteria, indirectly decline, or deliberately fail inspections to avoid housing voucher tenants. The difference is that the references for strategies to deal with SOI antidiscrimination laws specifically mention SOI protections in the posts. Thus, getting an additional number of references for this category could be explained by the fact that references for general strategies and the references for strategies to deal with SOI antidiscrimination laws share major keywords and patterns. This also means that when coding the same data (pilot data) with the pattern-based semi-supervised machine learning coding approach, the auto-coding did not catch the context (SOI antidiscrimination laws).

However, in general, the figure shows that the two approaches generated similar coding patterns. Except for the codes on strategies to deal with SOI antidiscrimination laws, the numbers of references for other categories from the two approaches were similar. For instance, strategies in the lease-up process yielded the largest number of references (441 in manual-coding and 506 in auto-coding). Although some nuance may not be caught in auto-coding, pretty similar results and patterns were generated from the two approaches in terms of the number of references. This is a natural result, as both approaches analyzed the same set of posts (pilot data), but the similar coding results produced by the two different approaches confirm that the results from hand-coding hold a certain degree of reliability.

Figure 6

Comparison of Results from Hand-coding and Auto-coding: Pilot Data



Next, in order to examine how the semi-supervised machine learning approach can be applied to larger non-pilot data, the auto-coding was conducted with 16,969 posts that were not included in the pilot data. In general, the coding patterns from the auto-coding approach with non-pilot data were generally similar to the results from hand-coding with pilot data. However, as below **Table 16** and **Figure 7** show, a distinguishable difference was found. About double the percentage of references belonged to the codes on ‘strategies to end the lease or evict Section 8 tenants’. Whereas about 17.8% of the references belonged to this category in the manual-coding with the pilot data, auto-coding results with non-pilot data yielded 1,653 references in this category, which is 34.44% among the entire 4,800 references yielded from this approach.

Table 16

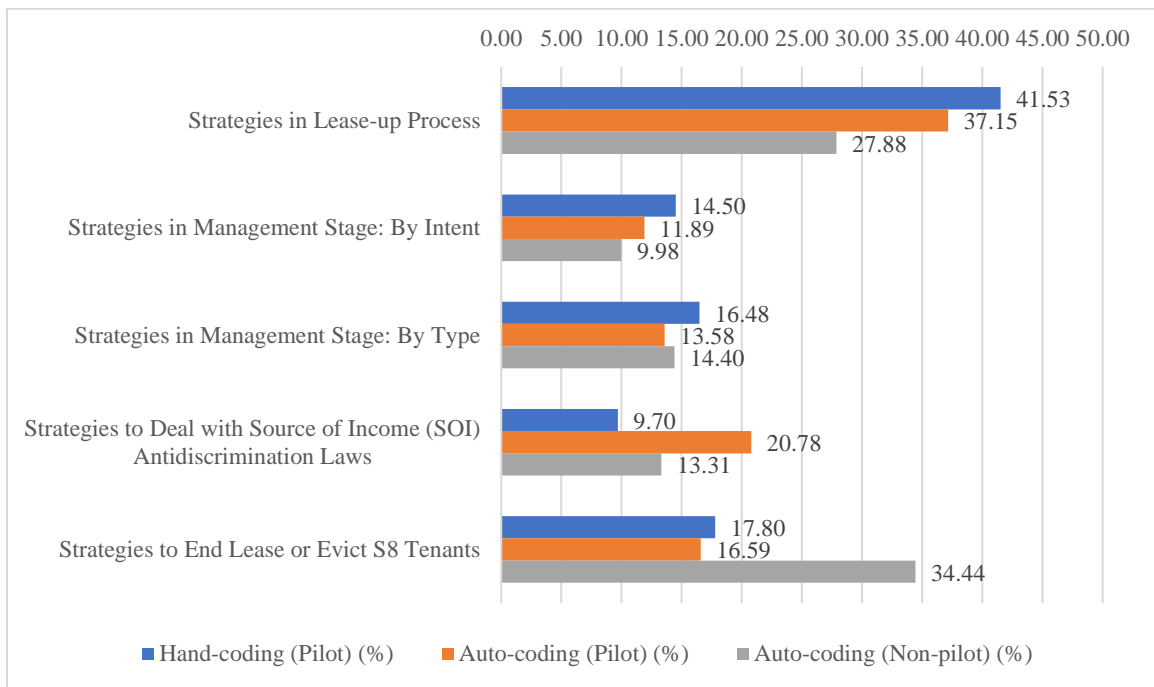
Number of References by Code: By Coding Method

	Hand-coding (% out of 1,881 pilot data)	Auto-coding (% out of 1,881 pilot data)	Auto-coding (% out of 16,926 non-pilot data)
Strategies in Lease-up Process	441 (41.53)	506 (37.15)	1,338 (27.88)
Strategies in Management Stage: By Intent	154 (14.50)	162 (11.89)	479 (9.98)
Strategies in Management Stage: By Type	175 (16.48)	185 (13.58)	691 (14.40)
Strategies to Deal with SOI Protections	103 (9.70)	283 (20.78)	639 (13.31)

Strategies to End Lease or Evict S8 Tenants	189 (17.80)	226 (16.59)	1,653(34.44)
Total Number of References	1,062 (100.00)	1,362 (100.00)	4,800 (100.00)

Figure 7

Composition of References by Code: By Coding Method



A larger portion of references belonged to the ‘strategies to end the lease or evict Section 8 tenants’ category could mean that the results from the pattern-based auto-coding approach might be biased for some reasons. For example, it could be because only part of the posts in the non-pilot data are about landlord strategies, whereas all of the posts in the pilot data that were selected and coded are specifically about the specific

topic. This would indicate that in case of analyzing data from online spaces where a variety of topics are discussed, just like the posts used in this study, a sophisticated approach to select the relevant non-pilot data may be necessary to enhance the accuracy of coding results based on semi-supervised machine learning approaches. Further investigation would be needed to explain the different coding patterns from hand-coding and auto-coding approaches.

Discussion

Based on the results from content analysis, this essay provides implications for understanding landlords and their strategies toward housing vouchers. The results indicate that landlords employ various strategies to deal with housing vouchers – either negatively or positively. Although a majority of strategies discussed in the online spaces were ways to avoid accepting housing vouchers or terminate housing voucher tenants, a notable number of strategies focused on managing the properties well or attracting voucher holders.

An important finding is that landlord strategies vary depending on the context in which the HCVP is implemented at the state and local levels. Depending on whether a rental property is located in neighborhoods with higher vacancy rates, areas with higher FMR, jurisdictions with SOI antidiscrimination laws, and areas with supportive local housing authorities, landlord reactions and strategies toward housing vouchers may vary greatly. The data also showed that landlords react to both economic benefits and

administrative and managerial hassles that are accompanied by participation in the HCVP. While some landlords valued the benefits of accepting housing vouchers and tended to actively seek voucher tenants and make efforts to meet the Section 8 requirements, others discussed the arduous administrative and managerial processes and sought ways to evade the program. These findings are in line with the findings from the second essay of this dissertation; landlords' sentiments toward housing vouchers are associated with the discussion of factors such as administrative burden, relationship with government, economic and financial factors, housing management, and program factors.

In sharing their previous experience with the HCVP and talking about strategies, landlords referred to their past experiences with two major counterparts – voucher tenants and local housing authorities. Referring to the negative experiences with voucher families (e.g., bad behaviors, rulebreakers, late payment, legal disputes, etc.), landlords shared various strategies to turn down housing vouchers or evict the voucher tenants. This also confirms the second essay's finding that landlords are more likely to feel negative when they discuss tenant factors.

The content analysis results also showed that when landlords seek information about the HCVP or need help in managing the properties with the program, a majority of landlords contact the local housing authorities. Landlords particularly emphasized the importance of HCVP caseworkers and local housing agencies for their participation in the program. They noted that housing authorities are not just the main source of information that landlords turn to for obtaining information and help, but the resources provided by local housing authorities can be a determining factor that may affect landlords' decision

to take part in the voucher program. These findings also extend the findings from the second essay that administrative burden and relationship with the government are significant factors that may affect landlords' perception of the voucher program.

Another policy implication is that sometimes even 'normal' managerial processes applied to everyone could become barriers specifically for voucher tenants. For instance, the data indicated that many voucher families fail to go through the 'normal' screening process because they do not have good credit scores, previous landlord history, and other qualifications that are required to be approved in the screening stage. This may imply potential policy needs for assisting voucher holders in terms of credit scores and other factors that could commonly screen them out during the 'normal' screening process.

This study helps understand landlord strategies toward housing vouchers, which have been rarely examined in the existing literature. Despite some existing discussions in the previous studies on how landlords strategically react to and deal with housing vouchers and voucher tenants, a systematic examination of landlord strategies has not been conducted. The findings of this essay extend and overcome the limitations of the literature. For instance, compared to Rosen (2014) whose analysis focuses on strategies of landlords who are currently accepting voucher tenants, this study explores how landlords react to housing vouchers regardless of their current acceptance of vouchers. Given the challenges the HCVP has had with expanding opportunities, this part of the story is critical.

Also, since this essay analyzes discussions among landlords at various stages of voucher implementation (e.g., housing search, management, renewal, etc.), the findings

of this study shed light on understanding a range of strategies adopted by landlords. In addition, the strategies examined in this research are not confined to any specific types (e.g., strategies for excluding or promoting housing vouchers), and the strategies are understood in relation to voucher's broader contexts (e.g., geographic location, voucher rules and regulations, relevant policies, etc). Together, the diverse nature of data in this research leads to a comprehensive knowledge of the underexamined mechanism of the HCVP by uncovering landlords' strategies.

Furthermore, similar to the first and the second essays, the use of online data is advantageous because there is little concern for social desirability bias. In particular, given the sensitive nature of research questions of this study, the posts anonymously written by landlords are useful sources to understand landlords' behaviors with few social constraints (Holtz, Kronberger, & Wagner, 2012; Im & Chee, 2006; Yesha & Gangopadhyay, 2015). Also, the employment of content analysis as the analytic strategy helps investigate the data both quantitatively and qualitatively. In addition to providing quantified evidence for landlords' strategies with quantitative analyses, the qualitative component of the analysis demonstrates detailed contexts of the strategies with narratives.

The results of this study can serve as evidence for further development of the HCVP and its related policies. For example, how do landlords strategize themselves to deal with voucher roles and regulations? What are landlords' strategies to indirectly refuse voucher tenants in states with Source of Income antidiscrimination laws? Answers to these and other questions suggested in this essay can be used to alter the HCVP. The

landlord strategies examined in this study shed light on the pivotal role of landlords in the successful implementation of the HCVP and potential policy tools and programs to further facilitate landlords' acceptance of housing vouchers.

Methodologically, the employment of a new feature of NVivo, pattern-based auto-coding, which is based on a semi-supervised machine learning approach, provides implications for the analysis of a massive amount of text data from online spaces. The results from the machine-based approach showed the possibility that it could be used to enhance the intra-rater reliability of content analysis when there is only a single coder. In addition, an exploratory attempt was made in this essay to code a large volume of text data based on the patterns in a training set that were manually made by human coders.

Although this study fills the lack of research on landlords and their strategies, it has a few challenges. For example, despite its benefits regarding the little concern for social desirability bias, the use of online forum data could be still limited by the possibility of false information. The categories in the content analysis are coded based off of their face value (Stepchenkova, 2012), and its underlying assumption is that the texts are reflecting reality. However, we cannot exclude the possibility that the anonymous authors may provide incorrect or fake information which does not reflect the reality. Given this, content analysis cannot be free from the possibility of false information like any other approaches to analyze human agencies.

Also, since the coding process is done by a single coder, the reliability of the coding could be an issue. To deal with this potential problem, I employed two different coding approaches (i.e., hand-coding and auto-coding) and re-coded part of the data after

some lapse of time (Mackey & Gass, 2015). Although these dual approaches to coding may enhance intra-rater reliability, there was not a perfect fit on some questions. As the pattern-based auto-coding results with the large non-pilot data yielded somewhat different results from the manual-coding results in some respects, further investigation would help understand why machine-based auto-coding with non-pilot data yielded different (& similar) results.

Finally, similar to the first two essays, the data of this study could have potential selection bias issues. Also, since the data do not contain actual personal information of individual authors of each post (e.g., income, geographic location, rental unit characteristics, etc.), it is not possible to analyze how individual landlords' characteristics may impact their strategies. Future studies could employ surveys or other multiple methods to supplement the findings of this study.

CHAPTER 5

CONCLUSION

This dissertation is an attempt to explore topics and issues that are discussed by landlords, important supply-side actors who have been underexamined in the literature. Based on idiosyncratic text data obtained from online landlords' forums, three essays of this dissertation shed light on concerns, perceptions, and strategies of private landlords regarding housing vouchers and voucher tenants. The three sets of research questions were answered in this dissertation with three analytic approaches. Deploying analytic approaches from multiple disciplines, I revealed the under-the-radar mechanism of housing voucher implementation based off of rich information from online text data.

As described in each chapter, this dissertation contributes to the literature and practice of housing vouchers in several ways. The findings of this dissertation expand the current knowledge of private landlords and help understand their thoughts and structural barriers that may impact the implementation of the Housing Choice Voucher Program ("HCVP"). The text data explored in this dissertation provide rich details about landlords' reactions to housing vouchers. The employment of analytic approaches brought from multiple disciplines allows effectively examining the high dimensional and multifaceted digital text data from new perspectives (Gentzkow, Kelly, & Taddy, 2019). The analyses of this dissertation suggest intriguing implications to figure out potential reasons for the limited effectiveness of the HCVP.

The analytic approaches and the results presented in this dissertation can serve as building blocks for an additional examination of various aspects regarding landlords and housing vouchers. Built upon findings in the three essays of this dissertation, future research can further investigate the role of landlords in the successful implementation of housing vouchers, additional policy mechanisms that may impact landlords' (non)participation in the voucher program, and other types of research questions on landlords and housing vouchers that have not been examined in the literature. Based on the understanding of landlords provided in this dissertation, governments and housing policy practitioners could consider more effective designs of voucher rules and regulations and develop supplemental strategies that could facilitate landlords' participation in the HCVP for enhancing voucher success rates and vouchers' locational outcomes.

As one of the largest rental assistance programs, the HCVP has played a role as a useful policy mean to deal with housing affordability and segregation issues. At the same time, however, discussions have been made regarding the limited effect of the program and landlords' hesitance to participate in the voucher program. Three essays in this dissertation provided additional evidence regarding the topics that landlords especially care about, their psychological sentiments toward the program and how the dimensions of the HCVP may be associated with the emotions, and landlord strategies to deal with housing voucher tenants and the voucher program.

In general, the essays in this dissertation extend the findings in the literature and provide pieces of evidence that explain why and how landlords avoid or welcome

housing vouchers. As demonstrated in the first two essays, a variety of factors may affect landlord perceptions and psychological sentiments about the HCVP. Also, as the third essay examined, multiple strategies are employed by landlords to participate in or evade the voucher program, depending on individual-level experience and circumstances (e.g., experience with past voucher tenants, consideration of benefits of housing vouchers, relationship with voucher tenants), program-level processes (e.g., lease-up process, management of rental properties, termination and eviction), and macro-level contexts (e.g., economic conditions, location of rental properties, Source of Income (“SOP”) Antidiscrimination Laws).

What this dissertation suggests is not about how to punish and push private landlords and make them participate in the program. It does not argue for removing every single component of the HCVP that may make the program less favorable for landlords by design, either. Rather, it shows that the successful implementation of the HCVP, a market-dependent rental assistance program, is hugely affected by landlords’ willingness to participate in the program and how they engage once they are in it. Three essays in this dissertation show that this may not be a zero-sum game between private landlords and the government.

The data from online landlords’ forums in this dissertation demonstrated that landlords are not simply motivated by the ‘voucher premium’ or ‘guaranteed rents’ that the HCVP could provide to the participating landlords. Rather, the analyses serve as additional evidence that multiple layered combinations of factors may impact landlords’ perception and strategies toward housing vouchers. As the essays showed, for example,

landlords react sensitively to various components of the HCVP such as administrative burden and relationship with government, rental property management, and legal procedures and potential legal disputes. At the same time, however, private landlords also lean toward making decisions based on their perception and concerns of voucher tenants. Depending on previous experience and information that is given to them, landlords decide whether they will make the property a welcoming place for voucher tenants or an unreachable place where voucher holders will never be able to use their vouchers.

As discussed in the essays, efforts to make the HCVP more attractive for landlords along the process of the program could be a key to lead more landlords to participate in the program (e.g., policy efforts to reduce administrative burden, assistance with the lease-up process and rental management, attempts to implement Small Area Fair Market Rent, etc.). However, what the essays also indicate is that landlords very carefully gauge the potential costs and benefits of participating in the program. Landlords' employment of direct and indirect strategies to evade the HCVP is not just because the program itself is not attractive because of administrative or managerial hassles. When talking about their previous experience and concerns about voucher tenants, such as tenants' behaviors, nonpayment of rent, damage in the property, rulebreakers, evictions, and legal disputes, the baseline actually is that dealing with such issues can be financially costly for landlords (HUD, n.d.). The various types of strategies explored in the third essay can be interpreted as the results of landlords' evaluation of costs and benefits to minimize potential risks. What this means is that although much efforts to make the program more attractive are crucial, and even though there have been legal movements to

make discrimination against vouchers illegal, the efforts ought to be made based on a broader understanding of what makes landlords hesitant to participate in the program.

Some clues were provided in the essays of this dissertation. One thing is that landlords make their decision to participate in the program and employ strategies not just based on their personal feeling and perceptions, but they actively look for information from multiple sources. For example, the data showed that local housing authorities are the major source of information that a majority of landlords turn to when they need information and help regarding the voucher program. Landlords also noted that landlord orientations and local housing agencies' landlord outreach efforts to provide more information about the program were helpful when they accepted and worked with housing vouchers.

The three essays of this dissertation also showed that online landlords' forums are another useful source for private landlords to discuss and share their thoughts and strategies about the HCVP. However, as noted in the third essay, not all information exchanged in the forums was valid. As the implementation of the program and the program's detailed rules and regulations slightly vary across the jurisdictions, sometimes invalid or outdated information was also shared by landlords in the online spaces. Also, the types of information shared in the online spaces may be biased and based largely on a small number of active users, which could lead to the dissemination of skewed or incorrect opinions about the program. In addition to developing the ways to attract more landlords to the HCVP, it would be also important for the housing authorities to provide accurate and up-to-date information to landlords through various communication means,

deliver timely and proper assistance that may help increase the voucher acceptance rate, and work closely with the landlords to help them navigate the ways to handle the administrative and managerial processes efficiently. Actively distributing a printed reader-friendly standardized guidebook, in addition to state-specific detailed guidelines and real-time assistance by caseworkers, could be some of the ways to allow landlords to have more accurate information about the program.

Landlords do engage with the housing agency when they have issues. For those in the program, we need to make sure the housing agencies are serving as a helpful resource. Maybe landlords in compliance get an incentive of some type if they are in good standing and have been following procedures well. There have been efforts to oversight discriminatory practices against housing vouchers – by means of SOI antidiscrimination laws, for example –, but how can we encourage their participation in the program? Perhaps more creative and experimental programs that award certificates to ‘good’ voucher landlords could be attempted. For example, programs such as the “Good Landlord Program” in cities in the state of Utah that provides discounted fees to landlords who completed training courses on the elimination of code violations, fair housing basics, and other topics (Utah Apartment Association, n.d.) may be applied to the HCVP.

Recalling the findings in this dissertation that landlords decide not to participate in the program in order to minimize the potential financial costs that may be caused by voucher tenants, there could be efforts to reduce the risk of participating in the program. A potential type of intervention could be providing voucher holders with assistance to be more attractive tenants. For instance, some landlords in the online forums mentioned that

who pays for the rents does not matter for them if and only if an applicant meets the (pre)screening criteria. A few landlords even noted that they are willing to accommodate the needs of their current ‘good’ low-income non-voucher tenants, if they were to apply for the voucher program, in order to keep them as tenants for a longer time. These examples indicate that for many landlords, finding good and less-risky tenants is of their interest, not simply declining the voucher program itself.

While it is illegal in many jurisdictions with SOI protections to reject voucher holders solely based on the credit score or housing court history (NYC Commission on Human Rights, 2021), the data in the dissertation indicate that ‘normal’ screening criteria are used as an approximation to screen voucher tenants and low-income renters who might be likely to cause damages and financial costs. Providing legal and personal assistance to voucher holders may be a way to make the voucher holders be more attractive applicants. In addition, active outreach efforts to let landlords learn about the rigorous process that qualified tenants must go through to obtain housing vouchers, as well as to provide information about the HCVP itself, could reduce landlords’ prejudice that accepting voucher holders is a costly and risky decision.

Even with the long efforts to help low-income renters reside in ‘opportunity neighborhoods’ at an affordable cost, there are still things to be done to improve the program’s ‘unsatisfactory’ policy outcomes (Galvez, 2010; Kleit, Kang, & Scally, 2016). One of the reasons is that voucher holders cannot find private landlords who are willing to accept the vouchers, which was examined in this dissertation focusing on three different angles. Moreover, without federal-level protections for voucher tenants and

given the intersectionality between voucher families and other protected classes under the Fair Housing Act, there is room for the voucher status to be used to indirectly commit statistical discrimination against the protected classes by means of declining voucher holders (Kleit & Galvez, 2011; Tighe, Hatch, & Mead, 2017). As the HCVP was designed to depend on private landlords' voluntary participation in the program, it may not be possible and desirable to compulsorily mandate every landlord to take part in the voucher program. As various evasive strategies are developed and employed to avoid accepting housing vouchers, even the legal protections of SOI would not be a panacea. This dissertation is a small clue to understand landlords and develop ways to make the HCVP more attractive. Building off of the findings and methodological attempts in this dissertation, future research could be done to further understand landlords, analyze text data from online spaces to build a better knowledge of actors in housing policies, and develop policy interventions and mechanisms to achieve the goals of housing affordability and poverty deconcentration. I hope the findings from open online spaces in the dissertation could serve as a building block that may help us move one step closer to the realization of policy goals that the HCVP seeks to achieve.

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Essay 1

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Conclusion

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APPENDIX A

ESSAY 2: FULL LIST OF DOMAINS AND CORRESPONDING KEYWORDS USED

IN THE ANALYSIS

HCVP Dimension	Word Bank (Keywords)
Administrative Burden/Relationship with Govt	admin, agency, authorization, burdensome, bureaucracy, case_worker, city, contractor, county, government, govt, hassle, housing, housing_agency, housing_authority, hud, inefficiency, inform, inspect, inspection, inspections, inspector, issue, learning, local, office, paperwork, procedure, process, property, red_tape, regulation, report, requirement, responsive, rule, state
Economic and Financial Factors	agent, amount, benefit, bill, billing, business, cash, charge, check, collecting, commercial, cost, damage, deduction, deposit, fair_market_rent, fee, fund, gap, garnish, guaranteed, guaranteed_rent, high_rent, higher_rent, incentive, income, insurance, late_fee, loss, low_rent, lower_rent, market, market_rate, market_rent, money, pay, payment, pay, payable, paying, payment, portion, premium, profit, rate, rent_collection, spend, tax, utilities, utility, voucher_premium
Geography and Location	abandoned, area, disadvantaged, distressed, local, neighborhood, place, province, rural, slum_lord, slumlord, suburban, urban
Housing Characteristics	apartment, balcony, bathroom, bed, bedroom, blanket, broke, building, door, driveway, duplex, electricity, exterior, flat, floor, fourplex, furnished, gas, home, house, installment, interior, kitchen, lead, microwave, mold, outlet, paint, parking, pipe, plant, porch, property, replace, room, single_family, size, storage, studio, triplex, water, wheelchair, window
Housing Management	address, agent, break, business, caused, company, cover, damage, door, electric, floor, forced, fund, gas, insurance, letter, management, manager, microwave, month, move, negotiate, notify, office, plumber, purchase, repair, replacing, report,

	request, rule, screw, security, security_deposit, service, sewer, sink, unit, update, utility, warn, water
Lease-Up	3x, accept, ad, advertisement, afford, agreement, applicant, background_check, call, company, contract, cosign, credit, credit_report, criteria, deposit, discrimination, ignore, income, information, insurance, internet, lease, leasing, leasing_office, mention, month-to-month, move, move in, office, online, promise, prove, refuse, report, require, respond, screen, screening, security_deposit, sign, signed, site, sort, source_of_income, standard, term, three_times, turn_down, turning, unreliable, vacancy, vacant, verifiable, verifiable_income, welfare, x3
Legal Factors	30_day, 90_day, abandonment, accept, agreement, attorney, check, close, contract, cop, court, enforcement, evict, evicted, eviction, file, garnish, hearing, housing, illegally, judgment, law, laws, lawyer, leave, legal, lessee, lessor, liability, liable, lien, local, notice, occupy, police, policy, possession, program, proof, prove, provider, quit, sheriff, state, stating, sue, system, tax, term, vacant, vacate, write, written
Perception and Experience	bad, current, devil, experience, experiences, former, free, friend, horror, now, nuisance, past, past_experience, past_tenant, previous, previously, story, suction, unaware
Program Factors	accept, agreement, application, approved, assistance, broke, confirm, contract, covers, delay, demand, deposit, difference, eligibility, fails, fair_market_rent, fix, gap, housing, law, lead, local, month, month-to-month, mtm, notice, notify, outlet, pass, portability, portable, portion, process, program, repair, repairs, require, required, response, responsible, rule, search, state, stops, system, time, transfer, type, violations, write, year

Related Policy	antidiscrimination, discrimination, fair_housing, fair_housing, incentive, outreach, protected_class, protection, source_of_income
Tenant Factors	abuse, african, animal, applicant, application, asian, attitude, avoid, baby, bartender, black, boy_friend, boyfriend, breach, broke, brother, cat, child, civil, crime, dad, damages, daughter, delay, depression, dirty, disable, discourteous, discussion, dog, drug, employed, entitle, entitlement, extra_occupant, extra_tenant, family, father, filthy, foreign, friend, gang, guest, hispanic, homeless, husband, immigrant, income, insurance, issues, jail, job, jobless, jobs, kid, kids, lazy, locked, lousy, marijuana, mental, minority, mom, mother, noise, noisy, parent, parents, partner, party, pet, place, poor, pregnant, problem, race, recidivism, resident, response, sex, single_mom, sister, smoke, son, stripper, substance, tenant, trash, trouble, unauthorized, unemployed, unreliable, vacation, veteran, violence, waiter, weed, white, wife, work

Note: Derivative forms of the keywords were also included in the analysis.

APPENDIX B

ESSAY 2: DESCRIPTIVE STATISTICS

Variable	Mean	S.D.	Min	Max
<i>Dependent Variables: Affective Processes</i>				
Positive emotions, overall (%)	0.026	0.024	0.000	0.250
Negative emotions, overall (%)	0.015	0.018	0.000	0.217
Anxiety (%)	0.002	0.005	0.000	0.083
Anger (%)	0.003	0.008	0.000	0.100
<i>Independent Variables: Containing At Least One Keyword Related to Each Domain</i>				
Admin Burden / Relationship with Govt	0.574	0.495	0	1
Economic and Financial Factors	0.683	0.465	0	1
Geography and Location	0.286	0.452	0	1
Housing Characteristics	0.507	0.500	0	1
Housing Management	0.717	0.451	0	1
Lease-Up	0.843	0.364	0	1
Legal Factors	0.740	0.439	0	1
Perception and Experience	0.489	0.500	0	1
Program Factors	0.792	0.406	0	1
Related Policy	0.061	0.240	0	1
Tenant Factors	0.825	0.380	0	1
<i>Control Variables: Author & Post Characteristics</i>				
Word Count	120.548	143.488	20	5446
Mean of Words/Sentence	18.053	13.957	3	525
Percentage (%) of Words>6 Letters	15.249	5.914	0.000	51.560
Percentage (%) of Swear Words	0.064	0.377	0.000	10.340
Region (1=Northeast)	0.169	0.375	0	1
Region (2=Midwest)	0.168	0.374	0	1
Region (3=South)	0.149	0.357	0	1
Region (4=West)	0.108	0.311	0	1
Type of Post (0=Post, 1=Response)	0.723	0.448	0	1
Active User (Posted more than 10 times)	0.507	0.500	0	1