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The Importance of Place in an Era of Placelessness? Distance's Influence  
on Community Satisfaction and Attachment

Matthew L. McKnight

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of

Master of Science

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## ABSTRACT

### The Importance of Place in an Era of Placelessness? Distance's Influence on Community Satisfaction and Attachment

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The powerful influence of global consumerism and its strong effect on rural communities has led to calls for the “death of distance” and for the placelessness of community. However, skepticism remains that all unique elements of communities of place have been erased from rural life. Using data from Montana (N=3,508), this research investigates how distance, size, and other spatially-bound factors influence sentiments of community satisfaction and attachment in communities of place. Findings suggest that distance can decrease community satisfaction in highly rural communities and increase attachment in rural communities along the urban fringe. Perceived satisfaction with community services was a key unanticipated finding as the strongest predictor of community satisfaction *and* attachment. Therefore, this research argues that even though rural areas are being transformed through global consumerism, levels of community satisfaction and attachment continue to be diverse across place in significant but nuanced ways because of distance and community services.

Keywords: distance, place, rural, sentiment, community satisfaction, community attachment

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I dedicate this master's thesis to Ralph B. Brown, my mentor, colleague, and friend. I owe my whole professional career to Ralph. The topic of this thesis, distance's influence on community satisfaction and attachment, was Ralph's idea. My hope is that Ralph's academic legacy will live on through this paper, and many more to come.

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## INTRODUCTION

It is reasonable to think that place no longer matters. Clarion calls such as the “Death of geography” and the “Death of Distance” note the place-shattering influence of modern distance destroying technologies in a global world (Cairncross 1997; Martin 2002). Today, the waves of globalization and consumerism wash over social institutions of power and heavily influence individual choice (Bauman 2001, 2007; Friedman 2006). The force of neo-liberalism has impacted American community life by lowering people’s connectivity to particular community participation (Putnam 2001). When taking these global changes into consideration, it is hard to acknowledge that communities differ anymore from one another.

Even rural places that were once thought of as symbols of traditional community have become increasingly tied to economic and cultural institutions of urban life, blending rural and urban life (Brown 1993, Brown, Hudspeth, and Odem 1996). Rural communities that have been agricultural/production industries are restructuring into markets of consumption to feed globalization by treating rural areas as amenities to be consumed (Green 2001; Ritzer 2005). Migration from metropolitan areas to rural communities creates cultural changes, which occasionally clash with rural cultural interpretations of community (Salamon 2003), blurring the lines of rural and urban ways of life (Lichter and Brown 2011). More recently, highly rural areas also can feel these effects through out-migration (Ulrich-Schad, Henly, and Safford 2013) and economic dependence on recreation or extraction (Carrington and Hogg 2011; Smith, Humprheys, and Wilson 2008). These results lead community scholars to suggest that community differences may now be replaced with cultural and economic uniformity (Flaherty and Brown 2010).



While one cannot refute that the influence of global consumerism and monoculture are pervasive, key spatial trends continue to occur across communities of place. Some scholarly works in particular have recognized the influential impact that place can have on local politics (Wuthnow 2013), poverty (Nord, Luloff, and Jensen 1995; Voss et al. 2006), and social capital (Rutten, Westlund, and Boekema 2010). This is especially important for rural sociologists who have mentioned how influential new neo-liberal policies have been in creating spatial marginality in rural places (Lichter and Johnson 2007; Lobao 1996). Even in wider circles, there has been clear calls to incorporate spatial effects into sociological research place-based phenomenon (Gieryn 2000).

Distance is one way to measure how place continues to matter in forming community by testing how well it predicts individual sentiments of physical communities. Subjective perceptions of communities of place have shown signs that they may be influenced by distance. Research has shown that community satisfaction has shifted over time because of changes in distance. Residents from both rural and urbanized areas usually rate their community high on satisfaction but some places report lower levels of community satisfaction than other places (Campbell, Converse, and Rodgers 1976; Campbell 1981; Marans and Rodgers 1975; Ploch 1985; Rodgers 1980). In particular, longitudinal research on rural residents across the 20<sup>th</sup> century report that rural resident views of how well their community fit with their conception of an ideal community significantly decreased by the end of the 20<sup>th</sup> century (Brown et al. 1998). This shift paralleled the history of diminishing distance between urbanized zones and self-containing rural communities (Brown and Schafft 2011; Galpin 1915). Decreased levels of living in an ideal community for rural residents also occurred during a time where the population size of rural communities was decreasing through the rural brain-drain and the incorporation of

communities along the urban fringe into metropolitan zones (Carr and Kefalas 2009; Fuguitt, Heaton, and Lichter 1988). This trend could mean that because rural communities are shifting, rural resident's perceptions that their communities are not as ideal as the past may be affected by the lessening of distance between urbanite consumer ideology and rural notions of sustainability.

In addition, research on sentiments of community attachment have long shown that the degree to which people feel about their connection to their community does not differ in rural (Flaherty and Brown 2010) or urban settings (Kasarda and Janowitz 1974). Both rural and urban residents alike feel they are a part of some community. However, when it comes to behavioral indicators of community attachment, rural areas show key differences. Social bonds, or behavioral indicators of community attachment, can be stronger in rural areas because of the smaller size of the community allows for more daily interactions with other residents (Wilkinson 1991; Wuthnow 2013). However, as more rural communities become more closely knit with urban dwellers or new rural residents from urban places, they may create more social bonds with those that did not traditionally exist in the community. Therefore, though a sense of community exists across place, rural communities that are smaller and outside of metropolitan areas may have stronger sentiments of community attachment because they report more social bonds to larger amounts of their community than other larger rural communities closer to urbanized areas that create more intertwined networks but do not connect to as high a percentage of their community residents as small-town communities do.

This research argues that sentiments of community satisfaction and attachment still change across places. Distance to urban centers can play a major role in how residents view their own community and its ability to provide them with goods and services as well as how well the rural community connects to each other. Remoteness may very well still play a significant role in

how satisfied and attached a resident is to their community because of the lack of services that offer more opportunities to connect as a community. Additionally, smaller rural communities of place are qualitatively different than other rural places because of the scale at which their daily interaction takes place (Wuthnow 2013). Other spatial elements of place could also be influencing sentiments of community satisfaction and attachment depending upon whether rural communities have particular services, natural resources, or demographic differences.

With this in mind, this study examines how sentiments of community satisfaction and attachment are affected by the distance residents live from urban centers. This research argues that even though rural communities today have closer ties with urban centers through urbanization and suburbanization, the death of distance has not yet fully occurred. The life of a rural community continues to be predicted by spatial sensitive elements of distance, population size, and how strongly community services are in the community. Accounting for place still continues to matter in studying rural community, even in an age of increasing placelessness.

## LITERATURE REVIEW

Similar to early sociologists who observed the transformation of community through urbanization during the industrial period, scholars now suggest a reversal trend where more urban dwellers are moving to rural areas causing a new transformation in how rural communities operate (Lichter and Brown 2011; Salamon 2003a). As early as 1915, rural areas were becoming more connected with regional towns (Galpin 1915). Main streets, places of economic and social importance to small-towns, closed because of increasing regional area competition near the end of the twentieth century. Rural community life became more dependent upon more economic trade centers further away (Brown et al. 1996). By the turn of the twenty-first century, rural regional commuting zones, or rural areas economically and socially dependent on a regional

center, are increasingly becoming the norm in larger rural areas (Salamon 2003). Some other rural communities that are more remote and less populated have either experienced mass immigration for natural resource industry (Smith, Krannich, and Hunter 2001), waste services that are not wanted closer to urban centers (Murdock, Krannich, and Leistritz 1999), or experience higher levels of poverty because of higher levels of out-migration (Foulkes and Newbold 2008). Rural communities who are lucky enough to entice former residents to return who left for educational and vocational pursuits may help enhance their community, but returning residents also bring back new more current views from more metropolitan areas (Reichert, Cromartie, and Arthun 2014). This new state of rural community change includes the lessening of distance through interconnecting spatial boundaries between rural and urban communities. Rural and urban places are becoming more intertwined spatially, socially, and economically than ever before.

As the blurring of rural community continues to occur, it is unclear what changes in community satisfaction and attachment have occurred as well. Several studies in the past have provided details into how this blurring of spatial boundaries influence community satisfaction and attachment (Buttel, Martinson, and Wilkening 1979; Campbell 1981; Goudy 1990; Marans and Rodgers 1975; Ploch 1985; Rodgers 1980; Theodori and Luloff 2000), with only a few including a variable measuring distance (Erickson, Call, and Brown 2012; Flaherty and Brown 2010). There has been a history of debate in community studies about whether ecological traits such as size and density are significant when studying community (Flaherty and Brown 2010; Kasarda and Janowitz 1974; Wirth 1938), yet more recent work in sociology at large has required sociologists to again take into consideration spatial elements when observing social phenomenon because of the importance in accounting for differences across space (Gieryn 2000;

Trentelman 2009). This research informs this debate by providing more detailed measures of distance and other spatial effects that influence rural communities of place.

### *Community of Place*

Community of place, or spatially-bounded community, differs from other community definitions by consisting of a geographically bounded space wherein people live, interact, and have a sense of what that place means to them (Manzo and Perkins 2006; Nasar and Julian 1995; Salamon 2003a). Studying community of place is important to community literature because of the value social actors assign to a place that in return affects what kind of community exists in that place. Early scholarly conceptions of place came from human geography. Yi-Fu Tuan, one of the first geographic theorists of place, noted that physical space is imbued with social meaning by the social actors that live within it. Places are geographical areas embedded with certain attributes that social actors assign to them (Tuan 1977). As particular notions of place are codified in norms of reciprocity, they become more permanent aspects of the community experience between those who live in that place. A place becomes imbued with the meanings that social groups label it and subsequently takes on unique characteristics. Because social interactions occur in a place, a place can also become a symbol of the values, beliefs, and behaviors that a group of social actors attach to it. The meaning of the place wherein the community resides is shaped by what social actors live within that space and what value they attribute to place (Trentelman 2009).

Therefore, community of place can be considered more than just a physical location. Any community has spatial elements to it such as size, density, physical landscape, but those living in a community attach meanings to what those spatial effects mean. Gieryn (2000) emphasized that a “place” must have (1) a geographic location, (2) material form, such as a built environment,

and (3) invested meaning and value—what the place means to people who live in it. In other words, place is subjectively interpreted space. It is not only a geographic location. The location of a place provides a geographic space for social activities to occur, and can influence the social meanings and interaction between people and communities (see Altman and Low 1992; Relph 1976; Tuan 1977).

Places may have different values depending upon the cultural and personal norms that are created by those living in that place. Rural, suburban, and urban communities of place have different values that they attribute to the place where each lives. Hummon (1990) argued that American life has long been divided by place differences created from varied social dynamics. Specifically, he suggested that residents living in urban, suburban, and rural areas created their own unique community ideologies based off of how each of those groups valued their own places. Urbanites valued more diversity and access to many different goods and services. Residents in suburban areas showed less interest in diversity and more in privatization of community. Rural residents value neighborliness and community involvement. Residents in all three of these typographical places create their own biased views towards places different than their own. Building off of Hummon's work, place is related to community in that social actors fashion their own view of the place in which they experience what kind of community they themselves create and re-create. Because community is rooted in place it can control what meanings of place exist as well as what kind of social interactions occur there.

Additionally, the amount of people that exist in a particular place can also effect what kind of community exists that place. Rural small-towns in the US differ from urban metropolitan areas because of the scale in which daily social interactions occur. Wuthnow (2013) commented, "It isn't just that people in small towns are inherently friendlier, easier to get along with, or more

civically oriented. The difference [in small towns] is that smallness shapes social networks, behavior, and civic commitments” (p. 361.). From this approach, not only is it important to acknowledge the spatial effects of place or the social actors that exist in a community of place, but also acknowledging that the size in which social interaction occurs in a community of place. In other words, place is shaped not only by the values that social actors attribute to place but also by how many social actors interact within place. The amount of social actors that live and interact in a community matters because when a community is smaller there is less options of interaction it creates a “small-town” feel and it has fewer amounts of available relational networks. Both the distance from larger urban centers and the population size of a community affect the types of communities that are formed in rural places.

The effects of distance and smaller size are intensified in highly rural, or remote, areas. The extensive distances to remote rural communities makes it difficult to provided adequate services, such as needed healthcare (Wagenfeld 2000). Additionally, the smaller size of remote communities requires most community residents to specialize in a particular industry such as recreation/tourism or resource extraction that fuels the on-going economic regionalization of rural areas for the global market (Carrington and Hogg 2011; Reeder and Brown 2005). However, since these remote communities usually rely on one particular specialized industry, seasonal effects or economic downturns can be devastating to the life of the community (Brown, Dorius, and Krannich 2005; Carson 2011; Kelly et al. 2011; Smith et al. 2008). Remote distance from urban centers and small population size continue to play a major role in how community is formed and experienced in highly rural communities.

### *Community Satisfaction and Attachment*

Two dimensions that explain what community exists and how they are maintained in place are community satisfaction and attachment. Community satisfaction and attachment are highly related theoretically but are separate concepts (Brown et al. 2000). Both have often been measured as the sentimental and subjective feelings residents have about their communities and therefore are tied greatly to community sentiment literature often found in community psychology (Crowe 2010; Flaherty and Brown 2010; Kasarda and Janowitz 1974). Community sentiment has been studied as a higher-level concept as the sentimental, or affective, feelings that people associate with their communities (Hummon 1992; McMillan and Chavis 1986). While community sentiment is linked to space, time, and interactions with people, community sentiment is not an objective external experience. Community sentiments are the subjective and imagined views that a person has about their community. In other words, community sentiments denote the subjective experience and subsequent attitudes and feelings that a resident may have about their community of place. Lower level concepts of community sentiment are community satisfaction and community attachment (Crowe 2010; Hummon 1992).

Community satisfaction is dimension of community of place that is similar to but separate from community attachment. Community satisfaction is used as a subjective indicator of objective conditions that occur in a community of place. Three main concepts that are associated with this form of community satisfaction are services and the social environment. Services have been identified as an important element of community satisfaction since the 1990's. Instead of exclusively being defined as a local community indicator like community attachment, community satisfaction is a "more global scope of local community life" (p. 433), meaning that it can resemble how well a community is serving an individual in light of what options are



available in the mass consumer society (Brown et al. 2000). Second, the subjective evaluation of the social environment is also related to community satisfaction (Filkins, Allen, and Cordes 2000; Goudy 1977; Herting and Guest 1985). It has recently been suggested that evaluations of local services and physical environment are even stronger predictors of community satisfaction than merely the social environment (Bernard 2014). This means that it is important to consider the subjective evaluation of community services and natural amenities in addition to other elements of the social environment when seeking to understand community satisfaction.

Evidence of how community satisfaction relates to local community and its relation with market shifts was investigated in Brown (1998) by observing community satisfaction scores across the twentieth century. Brown found that overtime rural residents rated their communities as less satisfying than they did at the beginning of the century as their ideal community. Possible explanations could account for this trend. One explanation that is that as large rural transformations to local markets, out migration, and farming practices occurred in the latter half of the twentieth century, rural residents felt a sense of loss about their communities. Another explanation is that as more rural areas came in contact with the better goods and services provided in more metropolitan areas, they sensed a loss of opportunities in their own communities. In either case, this explanation shows how community satisfaction is a subjective indicator of objective conditions in a community of place and how it has been affected in rural areas at the end of the 20<sup>th</sup> century.

In contrast to community satisfaction, community attachment measures the amount or intensity of connections a resident has to a specific geographically bounded place. Community attachment literature grew out of Kasarda and Janowitz's (1974) work on the systemic model that claimed sentiments and social bonds were better predictors of community than size or

density. Though there is no agreed upon definition of community attachment, many scholars note that it encapsulates a resident's sentimental and behavioral bonds to their community (Beggs, Hurlbert, and Haines 1996; Crowe 2010; Flaherty and Brown 2010; Gerson, Stueve, and Fischer 1977). This definition of community attachment includes both subjective attitudes about community as well as the objective measured behaviors of community. In addition, because community attachment only determines how connected and individual is to their community, it does not moralize the connection as being positive or negative, and therefore could inherently be one or the other depending upon the circumstance in which people find themselves (Basso 1996; Brown et al. 2000).

#### *Distance's Relationship to Community Satisfaction and Attachment*

In spite of the large body of community sentiment research, it remains unclear how community satisfaction and attachment are changing because of the blurring lines across distance from rural to urban areas. Although some research provides some inclinations to what may be occurring across distance, the question about the relation between distance and community satisfaction and attachment has not been directly studied (Brown and Schafft 2011; Flaherty and Brown 2010; Kasarda and Janowitz 1974; Wuthnow 2013).

Spatial differences in community satisfaction have led to conclusive yet general results. Rural and urban residents usually rate their community high on satisfaction (Campbell et al. 1976) and even though rural areas traditionally rate their communities higher than urbanites do (Campbell 1981; Marans and Rodgers 1975; Ploch 1985; Rodgers 1980), some rural places report lower levels of community satisfaction than the other rural counterparts. For example, rural communities with population's less than five hundred residents report less satisfaction with community services than rural communities with larger populations (Ellis et al. 2012). Overall

there has been a shift in rural America at large where at the end of the 20<sup>th</sup> century more rural residents reported that their communities did not fit with their ideal community than at the beginning (Brown et al. 1998). This shift paralleled the history of diminishing distance between urbanized zones and self-containing rural communities. This could mean that because rural communities are changing, rural resident perceptions that their communities are not as ideal as the past maybe affected by the lessening of distance between urban consumer ideology and rural notions of sustainability.

Also, in contrast to urban places, rural places may experience feelings of being “stuck in place” where even though they say they are satisfied with their community there may be other reasons why they want to leave it, such as population loss or loss of economy (Erickson et al. 2012). Community satisfaction could therefore vary across distance where pockets of lack of services or access to services could potentially reduce community satisfaction. Yet, on the other hand, rural areas that have higher physical amenities and sustainable economies may show higher levels of community satisfaction (Reeder and Brown 2005).

A new emerging technological change to rural communities that may be affecting community satisfaction is the Internet. Being far removed from urban norms and products, Internet access now provides many rural residents with a connection into mass society without being completely immersed in the daily activities of urban life. Erickson et al. (2012) found that access to Internet could potentially decrease community satisfaction in rural areas by providing rural residents with an appetite for ideas and goods not found within their own communities. In this sense, rural residents may perceive their own communities of place as less positive when they perceive a lack of service seen in urban areas while still residing within their rural communities. Yet other studies find that Internet access in rural areas can lead to more

community involvement (Stern and Dillman 2006; Stern et al. 2008; Sternberg et al. 2009; Wellman et al. 1996). From these two viewpoints, it remains to be settled how dimensions of community could be affected differently by of Internet access in rural areas

In contrast to findings of community satisfaction, differences in rural and urban sentiments of community attachment have been largely inconclusive (Buttel et al. 1979; Goudy 1990; Stinner et al. 1990; Theodori 2001; Theodori and Luloff 2000). Specifically, research looking at the ecological effects on community attachment has led to conflicting results (Hummon 1990; Taylor, Gottfredson, and Brower 1985; Theodori and Luloff 2000), and research on sentiments of community attachment has long shown that the way people feel about their connection to their community does not differ in rural or urban settings (Flaherty and Brown 2010; Kasarda and Janowitz 1974). In the end, most studies of sentiments of community attachment report that both rural and urban residents feel like they are a part of some community in similar ways. Therefore, the effect of spatial differences in community attachment continues to be inconsistent and requires further research.

That being said, behavioral indicators of community attachment show key differences rural areas. Social bonds can be stronger in rural areas because the smaller size of the community allows for more daily interactions with other residents (McKnight and Brown 2014; Wuthnow 2013). Yet rural areas that are more closely knit with urban dwellers or new rural residents from urban places can create more social bonds with those that did not traditionally exist in the community (Brown and Schafft 2011). Therefore, though a sense of community exists across place, rural communities that are smaller and exist outside of metropolitan commuting zones may report stronger community attachment than other larger rural communities along commuting corridors.

In addition to behavioral elements of community attachment, there remains plenty of highly remote rural areas that continue to exist outside the commuting fringe that may report different levels of community sentiment than other rural areas. In 2010, 33.7 million Americans still lived in rural areas with populations less than 25,000 and outside of metropolitan areas (Wuthnow 2013). Remote rural areas consist of their own unique characteristics because of their isolation. It is well documented that some key remote regions of the US have high poverty rates (Lichter and Johnson 2007) or lack access to health services such as mental health or primary care physicians that could allow for better overall health in the community (McDonald, Harris, and LeMesurier 2005; Sanders et al. 2014). Therefore, remote rural areas may be operating differently when considering community satisfaction and attachment. Qualitative research on small-towns suggests that the strong community ties may still contribute to frontier residents' strong satisfaction with their community, depending upon whether public symbols of community continue to exist, such as main streets or town cafes (Wuthnow 2013). Beyond these findings, the community sentiment literature knows very little of how remote rural residents affectively feel about their communities.

With this understanding of how distance, size, and remoteness influence the community sentiments of residents in communities of place, this research investigates how community satisfaction and attachment have been affected by the recent rural transformations that have affected spatial aspects of community. This research asserts community satisfaction and attachment that are influenced differently across distance. Community satisfaction should be lower in communities beyond the urban fringe because of the perception that they do not have access to as many resources. Community satisfaction should go back up in remote rural areas because their connection to place outweighs their inability to access the consumer market.

Community attachment should increase in communities that are more rural and less populated. As noted in the literature, the lower population size of a community usually has a positive influence on community sentiments of satisfaction and attachment because of the more bonded social fabric that exists in smaller rural communities, so far as race and income are controlled for. The Internet may also be lowering satisfaction with rural residents by injecting new views of what opportunities are available outside of rural communities or possibly be too remote to use online delivery services. And finally, specific place-based indicators that focus on the economic, natural, and demographics elements of community may reveal how localized circumstance can create marginal effects on community satisfaction and attachment. In light of these expectations, this research tests one hypothesis on distance:

- 1) Across distance, community satisfaction will drop in communities beginning in the urban fringe and go back up again in highly rural areas, and community attachment will increase from urban to highly rural communities.

This hypothesis would be ideally studied in an area with highly rural populations and urban centers to see how distance from metropolitan areas affects community satisfaction and attachment. An ideal study area would also have a diverse amount of communities, suburbanization, and differing relationships to the physical landscape.

### *Montana—the Context*

To more clearly understand how the narrowing of spatial and social boundaries has affected community satisfaction and attachment, Montana is the study area used to test this hypothesis. Montana is an ideal setting to study emerging rural transformations. Montana is the third most rural state in the US, behind Alaska and Wyoming, with 6.8 people per square mile, but also has three comparative urban centers over 50,000 residents (Census 2014). Eighty-two

percent of Montana's counties are considered frontier areas which allows this study to also consider highly remote populations that are not always accounted for in studies of rural places (RAC 2014) yet considers other rural areas closer to urban centers along commuting lanes that have undergone recent suburbanization.

Montana has also experienced a large increase of in-migration as a retiree state (Wrinkler et al. 2013), with a net migration rate of 46.5 from 2000 to 2010 (Young and Zimmerman 2013).<sup>1</sup> Most of the immigration to Montana has been to the higher amenity western portion of the state (Young and Zimmerman 2013), creating a suburbanization of rural communities near Missoula and Kalispell where recreation and retirement areas are more pervasive. However, eastern portions of the state that exist on the high plains experience higher outmigration than western communities, particularly from young people which creates brain drain (Carr and Kefalas 2009; Young and Zimmerman 2013). The eastern portion of the state has fewer recreational amenities but has more agricultural and mining counties, with new residents moving in to several highly rural eastern Montana communities because of the oil fracking boom from the Bakken Shale Formation (Eaton 2014). Montana a state experiencing suburbanization with more newcomers, while at the same time revealing rural areas that still exist well beyond the urban fringe, making it a useful context to study how recent rural transformations relate to community satisfaction as well as attachment in highly varied rural areas while comparing it to the urban communities that exist in Montana.

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<sup>1</sup> Calculated using data from Young and Zimmerman (2013) on net migration and US census population in 2010.

## METHODS

### *Data Collection*

The Montana data for this study comes from the Montana Health Matters 2010 survey (MHM). MHM collected a state-wide random sample of rural and highly rural populations with an urban comparison group. Respondents were asked questions relating to their communities and health. Specific categories of community questions collected were community satisfaction and attachment, social bonds, length of residence, and evaluation of local community services.

Data collection for this study came from the United States Postal Service's computerized Delivery Sequence File from which a random sample was drawn. This file contains every known address in Montana. Once the addresses were acquired, each household was drawn using a two-stage, stratified sampling design. The first stage consisted of ZIP codes which were randomly drawn with replacement from highly rural, rural, and urban strata following the Veteran's Health Administration (VHA) definition of rural (West et al. 2010). Rural was considered areas outside of Census Urbanized Areas and highly rural as counties with 6 or fewer residents per square mile. These three areas were converted into 62 ZIP codes (West 2009). The second stage consisted of drawing a random sample of 5,700 households from the 62 first stage ZIP codes. Approximately 1,200 of these addresses were returned from the list provider without a household name. These "no name" addresses were left in the sample to avoid any potential coverage errors.

Once the 5,700 households were selected, a multi-method, five-wave mail/telephone survey was implemented using the Dillman approach from September 2010-July 2011 (Dillman, Smyth, and Christian 2009). A small honorarium was included in the first mailed surveys to increase response rates. At the end of the data collection there were 3,510 respondents of which there were 1,391 from rural areas, 1,628 from highly rural areas (< 7 people per square mile),



and 491 from Urban areas for a comparison group. The overall adjusted household response rate was 52 percent. Weights were created for the sample that take into consideration multi-stage cluster sampling design, ineligible households, and survey nonresponse, making the data with the weights a representative sample for the state of Montana.

Missing data was resolved using multiple imputations using chained equations. Multiple imputations generates possible values for any missing values based off of the variance that already occurs in the dataset. It draws multiple imputed samples of generated values for missing values into one larger dataset (SSCC 2013). The *mi impute* command in Stata 13 was used to create 20 imputations, or new sets of imputed data, to account for the missing scores. Each imputed dataset was separated by 150 iterations. The *mi estimate* command was used to analyze each dataset and combine datasets using Rubin's rules which resulted in a final sample size of 3,508. These results were weighted and stratified using Stata's *svyset* command to create a more representative sample of Montana for analysis.

### *Data Operationalization*

#### *Dependent Variables*

To study the effects of distance and place on community, four dependent variables are used in ordinal logistic regression analysis. To capture a more multidimensional view of community experience (Brown et al. 2000), one indicator of community satisfaction and three community attachment indicators are used. The community satisfaction measure asked respondents, "how satisfied are you with living in your community?" on a Likert scale from 1-7 with 1 being dissatisfied and 7 being satisfied. Three measures of community attachment are used and follow the systemic model approach. Two community attachment variables asking

about “common” and “fit” follow a seven point Likert scale and asked respondents “how much do you have in common with most of the people in your community” and “how well do you feel that you fit into your community.” Both of these measures have been validated by the past community literature (Brown et al. 2000; Filkins et al. 2000). The final community attachment measure asked “how well you like living in your present community,” also commonly referred to as a “sorry to leave” measure on a five point Likert scale from 1 to 5 (Flaherty and Brown 2010 Kasarda and Janowitz 1974).

### *Independent Variables*

Distance from urban centers is used as the key independent variable. As discussed above, changes in rural community life through urbanization, suburbanization, and economic trade centers, have closed the gap in distance from urban people and rural populations, but some key unique spatial differences may still exist. Using ArcGIS 10, each respondent address was geocoded. Then straight-line distance between each responded and the closest urban centers with a population greater than 50,000, was measured and coded for each respondent in the survey.<sup>2</sup> For a more informed analysis this distance measure was then re-coded into four thresholds. For practical purposes, each threshold measures the approximate distance it would rationally take for residents to travel to an urban center in hours: (1) “0-55 miles = 1 hour,” (2) “55.01-110 miles = 2 hours,” (3) “110.01-165 miles = 3 hours,” and (4) “165.01+ miles = over three hours away.”

A satisfaction with community services scale is provided as another control variable of community attachment. Community services can shape perceptions of community sentiment and direct resident interaction (Brown et al. 1996; Filkins et al. 2000). Ten attitudinal measures of

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<sup>2</sup> The points to which respondents distances were measured were centroid points of each urban area’s main census place. This means that even those who live within an urban area will potentially have a distance score above 0.

different community services are used to create the scale, each ranging from 1-7 with 1 “Badly needs improvement” to 7 “Exceptional.” Each of these questions asked about how satisfied an individual was with the specific service in their local community. The ten different measures of community services used to create the scale are: Housing in community, shopping facilities, law enforcement, roads, fire protection, healthcare, restaurants, recreation in and near the community, availability of child daycare, and facilities for the elderly. An additive index was created and divided by ten, weighting the scale back onto a 7 point scale. The ten measures were indexed together because they were subjective views of objective services. Therefore, though these questions have subjective answers, they may influence other subjective perceptions that residents have about their community, making this scale key to understand the relationship between community services and community satisfaction and attachment.

Two social bond variables are used to measure the effect of social bonds between community members. These indicators of social bonds mirror variables from other systemic model research and measure informal social bonds (Flaherty and Brown 2010; Kasarda and Janowitz 1974). The first informal social bond variable asked respondents about how many people knew by first name, “what percentage of adults in this community would you say that you know on a first name basis?” This variable was coded as (1) “0% - 24%,” (2) “25% - 49%,” (3) “50% - 74%,” and (4) “75% - 100%.” The second informal social bond variable considers the number of friends that live in the same community, “About how many close friends do you have who live in your community?” This response was open ended allowing the respondents to record how many friends lived in their community, ranging from 0 to 80. Additionally, length of residence was measured as the proportion of one’s life spent in the community by taking the years a respondent lived in their community and dividing it by the respondent’s age. This was

done to measure the amount of the life-span a respondent has lived in their community as opposed to only measuring years lived in community. Its use has been verified in past research (Flaherty and Brown 2010).

The Internet is also controlled for in this study to account for rural residents' ability to connect with other places through distance-destroying technology (Martin 2002; Morgan 2004). Internet access is included to account for Montana residents who are able to connect to the global community. Access is coded (1) as any type of electronic access to the Internet and (0) for those who have no access in any form, including no Internet access provided by a cellular provider.

Other variables of interest to community attachment are also used as control variables. Self-reported health is based on a self-reported measure ranging from 1 for "poor" to 5 for "excellent."<sup>3</sup> Including this variable accounts for differences in rural and urban health perceptions. Age is coded as the age respondents reported and is used as a continuous variable ranging from 16 to 100. Sex is coded 1 as "female" and 0 as "male." Marital status is coded as 1 for "married" and 0 for any other option. Race is coded 1 as "American Indian/Native American" and 0 as "any other race" because of the particular demographic challenges for Native Americans being the largest minority group in Montana at 3.41%.<sup>4</sup> Education is dichotomously coded as 1 for "four years of college or more" (BS/BA or more) and 0 for "less than four years of college" for a clearer depiction of how completing a college degree relates to sentiments of community satisfaction and attachment. Total household income is measured with fifteen different categories ranging from "less than \$10,000" to "\$150,000 or more a year." Unemployed is also included

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<sup>3</sup> In the survey, this scale was coded with "excellent" coded as one to "poor" coded as five. In order to make better sense of this variable as a continuous variable in analysis, the scale is coded in the reverse.

<sup>4</sup> Approximately 95% of respondents in the sample were White with 2.17% being any other race besides White or Native American.

and coded as persons looking for work or not currently looking for work compared to all other categories: employed, homemakers and retirees.<sup>5</sup>

Two independent community level variables are used to measure how the spatial boundaries of community influence local community sentiments. Population size of the community is used and coded on a 7 categorical as such: (1) less than 500 (2) 500 to 999 (3) 1,000 to 2,499 (4) 2,500 to 4,999 (5) 5,000 to 20,000 (6) 20,001 to 50,000 (7) more than 50,000 (US Census 2013). Recent qualitative literature has suggested that the scale at which social interaction occurs in a community can affect what kind of community experience exists in that place, at least in communities with very small population size (Salamon 2003; Wuthnow 2013). In addition, percentage of population loss from 2000 to 2010 for every community in the survey is included. These percentages by community were taken from the US Census factfinder and from other city-based sources for areas that were too small to be included on the US Census.

Since Montana is a state that covers very large areas of economically different and amenity rich places, four additional control variables addressing county attributes are included. County density is considered continuous, ranging from .7 persons per square mile to 56.2 persons per square mile (US Census 2014). Economic and social indicators of county are also included from the 2004 ERS county typology codes (USDA 2012). Mining dependent counties consist of counties where “15 percent or more of average annual labor and proprietors' earnings” are from mining. ERS county typology codes measuring recreation and retirement counties are also used. Recreation counties are coded using four different data points from the respective county: percentage of employment in service and real estate jobs, percentage of total personal income, percentage of seasonal housing units, and per capita receipts from motel/hotels. All four

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<sup>5</sup> Homemakers were included in this group because they have a different economic situation than those who asserted they were unemployed and therefore in a different economic situation.

data points were converted into a weighted index. Counties were considered recreation counties if they had a weighted score of 0.67 or higher (USDA 2012a). Retirement counties consisted of counties where the number of residents that were aged 60 and above increased by 15 percent over the past ten years (USDA 2012b).

As Montana is a highly varied amenity state, the ERS natural amenity scale and county typology codes are used to control for place-based differences across Montana. The natural amenity scale uses six different indicators measuring the temperature, topography, and water areas which included: warm winter, winter sun, temperate summer, low summer humidity, topographic variation, and water area (USDA 2012). These measures together create a seven point scale from 1 to 7 with 1 being low amenity and 7 being high amenity. This scale is county-level data. In the sample, there were no counties with amenity scores of 1 or 7, and therefore varies from 2-6. For simpler comparison in regression, these 5 scores were combined in to a dichotomous variable that was split at the mean. It was then coded as (1) for higher natural amenity counties and (0) for lower natural amenity counties.

### *Data Analysis*

Analysis includes descriptive data and ordinal logistic regression models. Figure 1 illustrates how far sample communities in the MHM survey are from urban centers. Figure 2 and 3 illustrates how reported community satisfaction and attachment change the further the respondent lives from urban centers. Table 1 provides a descriptive chart for all the variables used in the study. Lastly, table's 2 through 5 provide ordinal logistic regression models for the four dependent variables.

## RESULTS

### *Descriptives*

Figure 1 plots the distance of sample communities from urban centers.<sup>6</sup> A first glance at the figure shows that communities sampled in the MHM 2010 survey have a range starting from for urban communities at 0 all the way to the furthest community at 281 miles from the closest urban center. Three dashed lines representing how many hours communities are from urban centers splits the figure into the four distance categories used for analysis. Each of the first three distance categories share similar frequencies of communities and their gradual distribution across distance. The fourth distance category shows that nine sample communities exist 3 or more hours from urban centers. Further investigation into the characteristics of these nine remote communities reveal that all of them exist in far eastern and North-eastern Montana, creating a regional effect. Since all of these communities exist on the high plains, with lower scores of amenity, it is useful that the last distance variable recode accounts for this particularly unique region in Montana.

Figure 2 and 3 display how individual respondent scores on community satisfaction and attachment change the further the respondent lives from the closest urban center. Figure 2 shows that community satisfaction does not vary in any meaningful way from urban centers all the way to remotely rural areas. This suggests that all respondents felt equally satisfied with their community, at least descriptively. This confirms some past notions that community satisfaction does not vary markedly from various places of residence (Campbell et al. 1976).

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<sup>6</sup> Each community's data point in figure 1 was found by taking the average distance of every respondent living a specific community.

Figure 3, however, does show that community attachment is reportedly higher the more remote a resident becomes. Figure 3 combines all three community attachment variables into one standardized variable for the sake of simplified presentation. Figure 3 shows that the further a resident's location is from an urban center, the higher reported levels of community attachment.<sup>7</sup> Even prior to inferential statistics, this descriptive finding suggests that sentiments of community attachment do increase the more rural a resident lives. This is a key finding because past research has only shown that behavioral elements of community, like social bonds, increase the further away people live from urban centers. Figures 2 and 3 convey some very important details about distance's relationship to community sentiment variables. It confirms descriptively that community satisfaction does not vary across distance but that community attachment does. Table 1 includes the descriptive statistics for each variable used in regression analysis.

### *Ordinal Logistic Regressions*

Table 2 includes the results of select variables predicting community satisfaction. Model 1 looks only at the recoded distance variables and their relationship with community satisfaction in order to compare its significance with community satisfaction with other before including other controls. The results show no significance for distance when trying to predict community satisfaction alone. Once all individual level variables are accounted for in model 2, distance continues to not significantly predict community satisfaction, but model 2 does show how some key individual level variables are significantly associated with community satisfaction.

Satisfaction with community services is the strongest predictor of higher odds of community

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<sup>7</sup> The reader may also be interested to know that the behavioral elements of community attachment, social bonds, follow the same overall trend in the data. As distance from urban centers increases, so do the scores on close friends living in the same community and how many people each respondent knows by first name in their community. Both of these are considered informal ties.



satisfaction. Higher levels of community satisfaction were 101% more likely when satisfaction with community services is higher. Both social bond variables are significant predictors of community satisfaction, with higher levels of how many a respondent knows by first name in their community being 57% more likely to predict a high level of community satisfaction over lower levels. This suggests that social networks in communities, as well as goods and services provided by the community, add to higher community satisfaction. Surprisingly, length of residence is not significant in model 2. Other variables such as age and self-reported health were significantly associated with community satisfaction but minimally influenced the chances of higher community satisfaction. In contrast to other significant variables, unemployment is also significantly associated with community satisfaction but with unemployment being 47% more likely to be associated with lower levels of community satisfaction.

Model 3 in table 2 adds community and county level data to the ordinal logistic regression model. Once these variables are added with the individual level data, the furthest distance category becomes significant. The recoded distance variable reveals that after accounting for all other variables in the model, distance of 3 hours or more from the nearest urban center is 45% more likely to be associated with lower levels of community satisfaction. Internet access is not significant in either model 2 or 3. The only added community variable that shows a significant association with community satisfaction is the population size of a community. Length of residence becomes significant in model 3. The population size of a community has less impact on community satisfaction than satisfaction with community services, length of residence, and people known by first name.

Additionally, because higher population size of a community is also associated with lower levels of community satisfaction, community satisfaction is more likely to decrease in

larger communities. Data analysis not shown reveals that population size is the independent variable that influences the distance of 3 hours or more from urban centers to become significant. Here, the first part of the distance hypothesis is found not to hold true past descriptive data, that highly rural respondents have an increasingly higher community satisfaction. The population size finding suggests that smaller communities have higher satisfaction. This finding is worthy to note, because the community literature has debated ever since Wirth's work whether or not size of a community of place really matters to community experience (Flaherty and Brown 2010; Wirth 1938). Overall, community satisfaction is predicted by remote distance, satisfaction with community services, social bonds, and population size of community. The findings disprove the distance hypothesis that posits that distance will effect community satisfaction by having it increase in remote areas.

Next, findings on community attachment dependent variables are reported. Table 3 reports the predicted values of select variables on how well a respondent feels they fit into their community. Model 1 shows that the distance of 3 hours or more from urban centers is significant on its own, while other distance measures are non-significant. This pattern changes in model 2 when individual level predictors are added. Model 2 reveals that after accounting for other factors in community satisfaction, a distance of 3 or more hours from an urban center becomes non-significant with the rest of the distance measures. The three strongest predictors of the odds of high community satisfaction in model 2 are: people known by first name, satisfaction with community services, and length of residence, each at the  $p < .001$  level. Self-reported health was also significantly associated with higher community satisfaction. Adding community and county level variables in model 3 makes distances over 3 hours from the nearest urban center significant once again, but changes the direction of its effect. While alone, distance over 175 miles from

urban centers is associated with higher levels of fit in community, but once controlled for by community and county level measures it predicts lower levels of fit in community. Internet access is non-significant in both model 2 and 3. Also important to note is that residents living in counties with higher levels of amenity closely predicts lower levels of fit in community ( $p=.057$ ).

Table 4 predicts select variables' association with the second community attachment dependent variable that asks respondents how much they have in common with their community. Model 1 shows that distance's relationship with community satisfaction has the same pattern as fit, with distance over 3 hours from urban centers being the only significant measure. Once again, in model 2, the association distance and community attachment is explained away once individual level variables are added. Additionally, people known by first name and satisfaction with community services, were the strongest predictors of high community satisfaction. Length of residence is not significant in table 4, though self-reported health continues to be highly significant. Unique from the other variables of community experience, commonality with others in community is significantly related to whether or not a respondent is married or female. Internet access continues to be non-significant in any model predicting commonality with community.

The change in model 3 when adding community and county level variables is that county density is significantly associated with community satisfaction. County density's relationship with commonality with others in community is that the more density population a county is, people report less commonality with their community. However, density's prediction of higher odds of community attachment is minimal. Also similar to fit in community, lower odds of commonality with community is almost predicted by higher natural amenity ( $p=.054$ ). It is surprising that higher natural amenity areas are nearly associated with lower levels of community

attachment, but recreation and retirement dependent counties are not. Analysis not shown reveals that, overall, residents in the sample who live in higher amenity counties have lived in their communities for a lesser proportion of their lifespan than those who live in less natural amenity counties. This may suggest that higher natural amenities residents report lower levels of community attachment because they have had less interaction to create stronger social networks with those who live in the community. Overall, the hypothesis has not been found to be true, that distance significantly predicts higher levels of community attachment the further respondents live from urban centers.

Table 5 includes the last community attachment variable predicting how well respondents like living in their community. Differing from the last two community attachment measures, model 1 reveals that two distance measures in the model are significant predictors of higher levels of respondents enjoying the community where they live: distance between 1-2 hours and distance over 3 hours from and urban center. Another difference found between this community attachment indicator and other community attachment indicators is found in model 2 with the two middle distance measures becoming significant instead of the higher remote category. When accounting for individual factors, a distance of 1-2 hours and 2-3 hours from the nearest urban center have a significant relationship with higher odds of respondents liking the community in which they live.

Other significant predictors of how well respondents like living in their community are satisfaction with community services, know by first name, close friends in same community, length of residence, age, and self-reported health. Differing from the other two community attachment variables, length of residence was the strongest predictor of the odds of high community satisfaction, by being 111 percent more likely that an increase in a resident's

proportion of their length of residence predicts high odds of community satisfaction.

Unexpectedly, satisfaction with community services was the second strongest predictor of like living, with distance being third. For the first time in the regression models, Internet access becomes significant, with Internet access predicting lower odds of respondents liking the community in which they live. In other words, this finding suggests that having access to the outside world via the Internet can significantly lower how well someone likes where they live. Potentially this is because access to other favorable media, culture, social networks, or other ideas seen on the Internet may be absent from communities in which respondents live, creating a lower satisfaction with their community of place.

Model 3 in table 5 adds community and county level variables to the model predicting how well respondents like living in their present community. All significant variables in model 2 continue in model 3, albeit that some odds ratios and significance scores slightly vary. The only community or county level variables that significantly predict how well residents like living in their present community is population size of community and county density, with county density minimally effecting whether a resident likes living in their present community. Also, Internet access continues to be highly significant in model 3. Population size of community lowers the odds of how well respondents like living in their present community, but is not as impactful as length of residence, satisfaction with community services, or distance. Population size's relation to how well residents like living in their present community as well as its relationship to distance of 1-2 hours and 2-3 hours from urban centers means that people living in smaller rural places may enjoy living in that community more than larger communities and that living close along the urban fringe, or beyond it without being too remote, are ideal communities to continue to live in. This also indicates that respondents that live 1-3 hours from

urban centers are still very connected to their community of place. In this sense, rural-urban continuum codes may not be as effective because those living in areas along the urban fringe, and those who live much further, are considered just as rural as one another in the classification of rural-urban continuum codes and therefore may report similar community attachment erroneously. Overall, how well a respondent likes living in their present community is predicted not only by social characteristics but also distance, services, and population size.

## DISCUSSION

This study set out to understand how sentiments of community satisfaction and attachment are still affected by distance in an age where rural and urban communities are increasingly intertwined. This research hypothesized that lower levels of community satisfaction would be found outside of the urban fringe but would increase again in highly rural communities. It further hypothesized that community attachment would be higher the further away rural communities were from urban centers. This research also sought to explore how community satisfaction and attachment are related to additional local and county level spatial effects.

Overall, this research found the relationship of distance, size, and additional spatial effects of community sentiments to be significant, but in nuanced ways. The findings suggest that even though large socioeconomic changes are occurring to rural communities, rural communities that remain isolated or small still continue to exhibit different and unique criteria of community satisfaction and attachment than their suburbanized rural or urban counterparts. This supports researchers favoring spatial and ecological effects of community which conclude that though many rural places are becoming more urban, smaller towns and rural areas continue to exhibit traditional forms of community (Wuthnow 2013).

Distance was a significant predictor in three out of four variables measuring community satisfaction and attachment. Distance from urban centers showed two important relationships to community sentiments. First, remoteness continues to play a factor in how community satisfaction and attachment are perceived. Community satisfaction and a resident's subjective rating of how well they "fit" in their community revealed that highly rural populations as reporting dissatisfaction with their communities of place after accounting for social bonds and population size. Second, the third community attachment variable that asked about whether the respondent enjoyed living in their present community reported that rural residents living along the urban fringe or even farther out, enjoyed living in their communities significantly more than those living within fifty miles of urban centers. This suggests that even though rural and urban communities are blurring together, distance still reveals pockets of rural places that have different subjective sentiments towards their communities than urban residents. Although distance was not as influential as other factors, distance still matters in understanding how community forms in rural places. Just as other social phenomenon affect community satisfaction and attachment, so still does distance.

However, these findings also suggest that rural areas do not gradually become "more ruralized" because they exist farther away from urban centers. On the contrary, highly rural areas with improved community services report higher levels of community sentiment than less serviceable rural areas that may exist closer to urban areas. This suggests that lower levels of community sentiment should be studied more by comparing marginalized rural communities versus booming rural communities instead of on a rural-urban continuum. These assertions are confirmed in rural community research that suggests that it is not appropriate for researchers and policy makers to study rural areas as one homogenous body, nor as simply a rural-urban

continuum (Lichter and Brown 2011, Lobao 1996). Including highly rural communities in this study shows clearly how marginalized regions can also be remote, and therefore need to be treated as uniquely different when comparing them to other rural populations. Adding distance to the study of community sentiment in conjunction with other spatial variables provides for a more robust and clear analysis of rural community diversity.

In addition to distance, community population size was found to be a significant predictor of community satisfaction and one community attachment variable. The systemic model posited by Kasarda and Janowitz (1974) argued that population size was not significantly associated with sentiments of community attachment, as used by supporters of the Wirthian model that valued ecological concepts instead. Research building off of Kasarda and Janowitz's results has considered population as relatively unimportant in predicting community sentiment. However, this research argues that findings of Kasarda and Janowitz (1974) used a basic rural-urban continuum to measure population size and therefore was not detailed enough to pick up nuances that could be occurring across distance. Additionally, even though a categorical scale of population size was used in the analysis, population size was still significant. This means that even more precise measures of population size would potentially create an even more significant effect on sentiments of community satisfaction and attachment.

Additionally, as community population size increases, residents report lower levels of community satisfaction and dislike living in their communities more. This finding confirms past research that argues that the size of a community can influence how community is experienced (Wuthnow 2013). This may suggest that rural areas with small populations may find their place more enjoyable because of their appreciation of the smaller scale with which daily interaction occurs. This finding explains some of the nuance in the distance measure because though a



community might be remote, it may still gain some positive community satisfaction and attachment benefits because they are also smaller and tighter knit than larger rural communities or urban centers. Though, exactly how these two variables interact in more specific ways will need to be pursued by future researchers.

The most surprising and noteworthy predictor of sentiments of community satisfaction and attachment was satisfaction with community services. Previous studies have noted how the goods and services provided in a community can influence individual perceptions of community satisfaction (Brown et al. 1996; Filkins et al. 2000), but not community attachment. A lack of community services may reveal a lack of community action that could result in stronger subjective perceptions of community attachment (Theodori 2004). Therefore, there is a need for future work on community sentiments of attachment to build on collective action (Agnitsch, Flora, and Ryan 2006; Brehm, Eisenhauer, and Krannich 2004) and well as community development (Green and Haines 2012) to show how an increase in satisfaction with community services can positively impact sentiments of community attachment.

In contrast, county level indicators of amenities were not significant. The county level indicator of natural amenities is close to being significant in two of the community attachment models, but community services is significant and much more impactful in predicting community attachment. Though this may be because few residents were surveyed in extremely high or low areas of natural amenities in the sample, this research does suggest that satisfaction with better community services is a more significant predictor of community sentiment than the natural beauty of where a resident lives. Rural community residents may enjoy living in rural places, but in addition would also prefer to have access to more opportunities that exist in more urban areas or rural trade centers. Descriptive analysis (see appendix) on the use of outdoor

recreation shows that overall, participation in hunting, fishing, camping, and hiking is mostly the same throughout Montana, except remote eastern communities. Furthermore, these descriptive open response questions report that living in rural and nature places was important to residents, but regression analysis suggests that those who live in areas with higher natural amenity may also be less attached. This type of cognitive dissonance displays a dimension of the nuanced life of rural populations. Natural amenities may be important rural residents, but access to better services may win out in the end. Of course, since the measures of community services and natural amenities were at different hierarchical levels in this research, more research is needed to fully understand the battle between which is more impactful in determining community satisfaction or attachment: community services or natural amenities.

An important finding in this study was the negative relationship Internet access had on one of the community attachment variables. If this holds true, then this hints at how access to social media, goods, and other services available on the Internet may be damaging to sentiments of community attachment when residents wish their community would provide good and services that they know about through access to the Internet. Internet research helps to explain that though sentiments community attachment may be effected by the Internet, behavioral elements of community may not. Morgan (2004) argues that even though distance-destroying technologies have brought opportunities to people limited by distance, spatial reach should not be confused with social depth. He argues that social depth, or the social bonds that embed people into communities of place, have a much deeper impact on daily living and activities than the spatial reach of distance-destroying technologies. The empirical evidence in this study confirms this is the case when considering community. Even though Internet access was shown to be a significant predictor of a community attachment variable, social bonds, length of residence, and

local issues such as satisfaction of community services were stronger predictors of community satisfaction and attachment. Even though communities of place have been shaped by distance-destroying technologies such as the Internet, what occurs social in a community of place continues to matter when studying community.

It is important to mention that the systemic model variables taken from research descending from Kasarda and Janowitz (1974) were significant in the model. Social bonds and age are significant in all four models. Additionally, length of residence is significant in three of the four models. All of these variables predicted a great portion of the variance of community satisfaction, confirming past literature that suggest that stronger social cohesion can lead to higher levels of community satisfaction (Goudy 1977; Herting and Guest 1985). In addition to these variables, self-reported health also was a strong predictor of community satisfaction and attachment, presumably because better health allows individuals to interact with more people in their community as well as have the opportunity to be a fuller participant in the community.

This research has three main limitations. First, the research lacks multilevel modeling. This study did not use multilevel modeling but instead uses nested regression techniques, which assume higher level variables are treated in the same way as individual level variables in regression estimates. HLM modeling is not currently possible in this dataset because of the lack of spatial weights at each level in the sample. Though this is a limitation, strongly significant variables in the study would be just as significant in a two-level HLM model, and using HLM would show even more statistical significance at the county level.

Second, a straight line measure of distance was used to determine how far away respondents were from urban centers. Though the distance from every household to an urban center was pin-pointed by geo-referencing each address into ArcGIS 10, residents realistically

travel along highways to urban centers instead of travelling straight “as the crow flies.”

However, statistical significance was reached using the straight line distance variables. If roads were used as the exact distance travelled the results would only be intensified because each value of distance would increase to account for the curves and boundaries of roads.

Third, the data comes from an exceptionally rural state, which arguably may not represent other states that are more urban. Though the results from this study come from a highly rural and sparsely populated state, they can still be very useful if applied appropriately. Other western states are known for their vast amounts of space between cities and communities, which very well could play a unique role in how distance, size, and other spatial factors influence community experiences different than in less remote and higher populated states. Other countries with large amounts of remote areas, such as Canada or Australia, have similar situations with remote populations (Carson 2011; Kelly et al. 2011; Smith et al. 2008), which means this study’s results can also provide beneficial information to researchers that study phenomenon in these remote areas of the world.

Additionally, though the dataset used in this study has a small population variance size from less than 500 people per community to just over 50,000 people per community, significance effect sizes from spatial variables in predicting community sentiments was reached. This means that in states with remote populations *and* highly populated metropolitan areas these spatial differences in community sentiments could potentially be even greater. However, such assumptions about the use of spatial effects in more urbanized states should be empirically replicated in different regions to see how these spatial effects relate to sentiments of community satisfaction and attachment.

## CONCLUSION

Has the destruction of place-sensitive community become a reality? Not fully. Place continues to matter empirically, even in an age of increasing placelessness. This research shows how place and distance are theoretically and empirically justifiable in studying community sentiments. Furthermore, this research shows that there is evidence to suggest that community of place differences are essential to include in studies of community sentiment. Though urbanization and suburbanization has shifted spatial elements of rural community, there continues to be a large population of Americans, almost thirty million, who live in rural areas beyond the urban fringe that are influenced by spatial effects that still create distinct communities from urban areas, qualitatively and quantitatively. More specifically, community sentiment research needs to acknowledge distance as an empirically viable concept that shapes community sentiment. Kasarda and Janowitz's (1974) notions that rural places have been swallowed up in the mass consumer economy is too absolute and overlooks the potential effect that distance play in creating rural community. Place still matters in a post-modern age of consumer culture by shaping resident perceptions of community sentiment.

In addition to distance, community studies in sociology need to acknowledge that better community services increase community satisfaction as well as attachment in rural communities. Rural areas that do not have as many venues or opportunities to create lasting communal relationships from frequent involved interaction may feel a sense of dis-association with the communities in which they reside. Combining community sentiment literature with recreation/tourism and community action research may help to develop a stronger understanding of how community services influence sentiments of community satisfaction and attachment.

More specifically, community attachment literature has long debated about how rooted community attachment is to place. Future studies should look deeper into how community attachment works in an interconnected rural-urban world, and should be careful to account for how residents no longer stay rooted only in one community of place because of commuting or using the Internet. This may require more innovative conceptual changes to the literature that not only accounts for the multidimensionality of community attachment through using the more complex measures of community sentiment used in community psychology (McMillan and Chavis 1986; Peterson, Speer, and McMillan 2008), but also how social networks that exist within place-based communities interact or are mediated by commuting or online social networks.

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## MAIN FINDINGS

Figure 1

Sample of Montana communities by distance from urban centroids

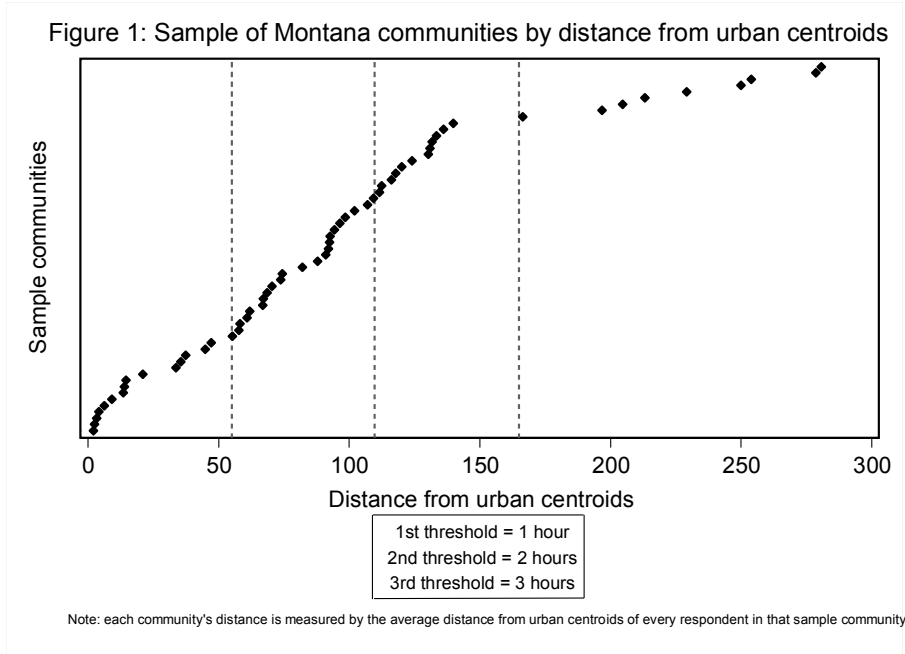


Figure 2

Community satisfaction by distance to urban centroids

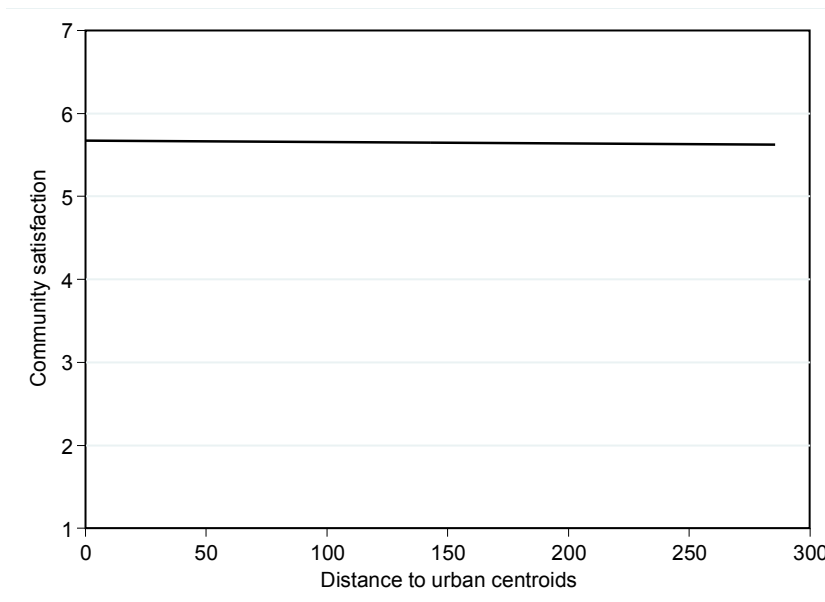


Figure 3

Community attachment summary of index of fit, common, and like living variables by distance from urban centroids

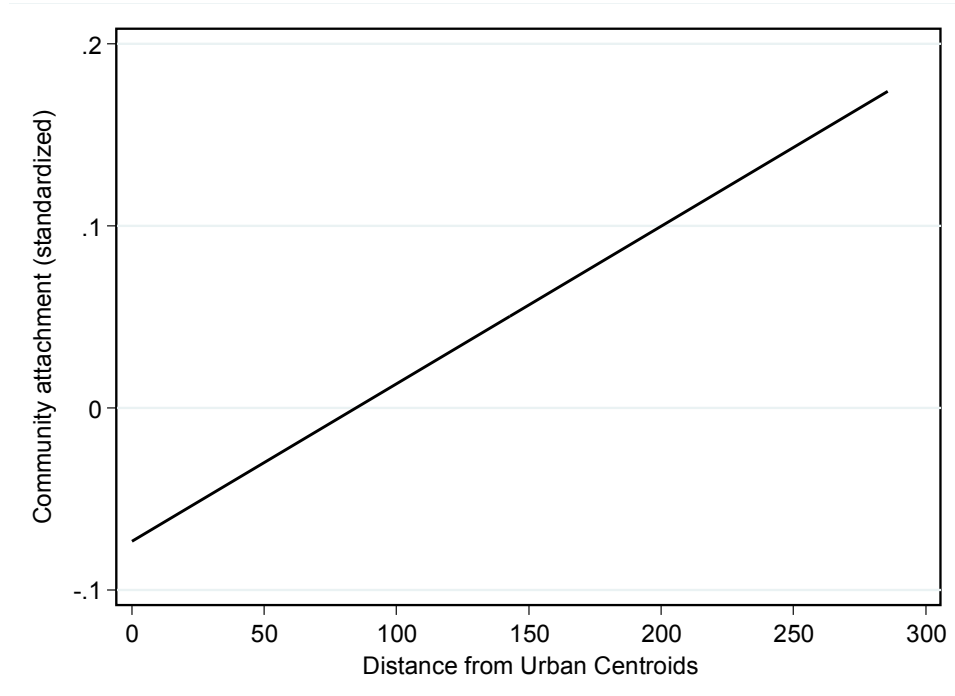




Table 1

## Variable Descriptives (N=3,508)

Variable name	Mean	Standard deviation	Minimum value	Maximum value
<i>Dependent variables</i>				
Community Satisfaction	5.66	1.43	1	7
Fit in community	5.35	1.40	1	7
Have in common with most of the community	4.59	1.25	1	7
Like living in present community	3.74	1.07	1	5
<i>Individual level</i>				
Distance				
0-1 hour (ref)	.28	.45	0	1
1.01-2 hours	.43	.49	0	1
2.01-3 hours	.21	.41	0	1
3+ hours	.09	.28	0	1
Satisfaction with community services	4.35	1.08	1	7
People known by first name	1.68	.94	1	4
Number of close friends in community	12.19	12.82	0	80
Length of residence	.507	.34	0	1
Internet access	.80	.40	0	1
Self-reported health	3.51	.99	1	5
Age	56.90	15.39	16	100
Female	.57	.50	0	1
Married	.72	.45	0	1
Race				
Native American	.03	.18	0	1
White (ref)	.94	.23	--	--
Hispanic/Latino (ref)	.01	.10	--	--
African American/Black (ref)	.00	.02	--	--
Asian/Pacific Islander (ref)	.00	.06	--	--
Other (ref)	.01	.09	--	--
Bachelor's degree or higher	.34	.47	0	1
Income	8.12	4.02	1	15
Unemployment	.06	.23	0	1
<i>Community/County level</i>				
Community population size	4.09	1.93	1	7
Community population loss	8.36	16.11	-16	91.62
County density	18.13	17.27	.7	56.2
Mining	.02	.15	0	1
Recreation counties	.27	.44	0	1
Retirement counties	.21	.41	0	1
Amenity scale	.61	.49	0	1

Table 2

Ordinal logistic regression models predicting community satisfaction at individual and community/county level

	Model 1	Model 2	Model 3
<i>Individual level</i>			
Distance from urban centers			
0-1 hour (ref)	--	--	--
1.01-2 hours	1.01	1.125	1.050
2.01-3 hours	1.069	1.161	1.016
3+ hours	1.099	.826	.554**
Satisfaction with community services		2.005***	2.211***
People known by first name		1.572***	1.388***
Number of close friends in community		1.017***	1.019***
Length of residence		1.182	1.380*
Internet access		.916	.941
Self-reported health		1.151**	1.125*
Age		1.020***	1.017***
Female		1.089	1.107
Married		.843	.786*
American Indian / Native American		.915	1.067
Bachelor's degree or higher		.888	.911
Income		1.015	1.017
Unemployment		.571**	.592**
<i>Community/County level</i>			
Community population size			.799***
Community population loss			1.004
County density			1.003
Mining			.379
Recreation counties			.912
Retirement counties			1.023
Amenity scale			.938

N=3,508 \*  $p \leq .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 3

Ordinal logistic regression models predicting fit in community at individual and community/county level

	Model 1	Model 2	Model 3
<i>Individual level</i>			
Distance from urban centers			
0-1 hour (ref)	--	--	--
1.01-2 hours	.996	1.006	.909
2.01-3 hours	.959	.915	.798
3+ hours	1.389*	.742	.587*
Satisfaction with community services		1.723***	1.732***
People known by first name		1.977***	1.977***
Number of close friends in community		1.027***	1.027***
Length of residence		1.647***	1.655***
Internet access		1.071	1.065
Self-reported health		1.413***	1.411***
Age		1.006*	1.005*
Female		1.044	1.039
Married		1.089	1.064
American Indian / Native American		1.053	1.021
Bachelor's degree or higher		.970	.983
Income		1.012	1.013
Unemployment		.992	.962
<i>Community/County level</i>			
Community population size			.997
Community population loss			1.004
County density			.994
Mining			1.003
Recreation counties			1.093
Retirement counties			1.127
Amenity scale			.830†

N=3,508 \*  $p \leq .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  †=.057

Table 4

Ordinal logistic regression models predicting have in common with community at individual and community/county level

	Model 1	Model 2	Model 3
<i>Individual level</i>			
Distance from urban centers			
0-1 hour (ref)	--	--	--
1.01-2 hours	.945	.967	.861
2.01-3 hours	1.018	.985	.860
3+ hours	1.957***	1.194	.799
Satisfaction with community services		1.646***	1.687***
People known by first name		1.930***	1.870***
Number of close friends in community		1.018***	1.019***
Length of residence		1.195	1.182
Internet access		1.025	1.027
Self-reported health		1.176***	1.171**
Age		1.001	1.000
Female		1.133*	1.135*
Married		1.286**	1.244*
American Indian / Native American		1.004	.999
Bachelor's degree or higher		.933	.935
Income		1.008	1.010
Unemployment		.893	.894
<i>Community/County level</i>			
Community population size			.973
Community population loss			1.003
County density			.991*
Mining			.687
Recreation counties			.990
Retirement counties			.899
Amenity scale			.838†

N=3,508 \*  $p \leq .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  †=.054

Table 5

Ordinal logistic regression models predicting liking living in community at individual and community/county level

	Model 1	Model 2	Model 3
<i>Individual level</i>			
Distance from urban centers			
0-1 hour (ref)	--	--	--
1.01-2 hours	1.292*	1.447**	1.424**
2.01-3 hours	1.252	1.422**	1.209*
3+ hours	1.683**	1.342	1.206
Satisfaction with community services		1.526***	1.626***
People known by first name		1.231***	1.121*
Number of close friends in community		1.014***	1.015***
Length of residence		2.106***	2.466***
Internet access		.774**	.776**
Self-reported health		1.127**	1.110*
Age		1.016***	1.014***
Female		.991	1.003
Married		1.041	.998
American Indian / Native American		1.237	1.398
Bachelor's degree or higher		.870	.894
Income		1.017	1.019
Unemployment		.751	.781
<i>Community/County level</i>			
Community population size			.843***
Community population loss			1.000
County density			1.008*
Mining			.599
Recreation counties			.984
Retirement counties			1.224
Amenity scale			1.028

N=3,508 \*  $p \leq .5$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## APPENDIX

Table 6

Participation in outdoor activities over the course of one year between remote residents and all other residents

Outdoor Activity	Distance from urban centers	0 times	1-4 times	5-9 times	10-14 times	15 times or more
Hunting	More than 3 hours	188 (77.05%)	28 (11.48%)	10 (4.10%)	7 (2.87%)	11 (4.51%)
	0-3 hours	1,954 (72.48%)	317 (11.76%)	129 (4.78%)	100 (3.71%)	196 (7.27%)
Fishing	More than 3 hours	198 (81.15%)	29 (11.89%)	6 (2.46%)	3 (1.23%)	8 (3.28%)
	0-3 hours	1,643 (60.27%)	552 (20.25%)	216 (7.92%)	126 (4.62%)	189 (6.93%)
Camping	More than 3 hours	190 (77.55%)	41 (16.73%)	6 (2.45%)	4 (1.63%)	4 (1.63%)
	0-3 hours	1,476 (53.81%)	721 (26.29%)	286 (10.43%)	109 (3.97%)	151 (5.50%)
Hiking	More than 3 hours	157 (64.61%)	46 (18.93%)	16 (6.58%)	7 (2.88%)	17 (7.00%)
	0-3 hours	1,127 (40.69%)	688 (24.84%)	342 (12.35%)	197 (7.11%)	416 (15.02%)

Table 7

Open ended responses on why residents like living in their present community, do not, or what is keeping them from moving

	Why do you like living in this community?	Freq	Why don't you like living in this community?	Freq	What is keeping you from moving someplace else?	Freq
1.	Small rural town/country	592	Other reasons	74	Spouse/family	130
2.	Friendly people/friends	474	Want more facilities (stores, shopping, entertainment, medical)	71	Job	128
3.	Outdoor activities	246	The people	54	Lack sufficient funds to move	93
4.	Scenic beauty	215	Weather	41	Other reasons	62
5.	Family	178	Lack of job opportunities	37	Selling home	53
6.	It's their home/always lived there/raised there	171	Lack of family	35		
	Total:	2,410		456		486
	Percentage of sample that answered the question (N= 3,508)	69%		13%		14%