

KANSAS THROUGH THE EYES OF KANSANS:
PERCEPTION OF KANSAS LANDSCAPES

by

ROXANE MARIE FRIDIRICI

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Approved by:


Major Professor

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Chapter 1

PERCEPTION OF KANSAS LANDSCAPES

This research sought to define landscape preferences held by Kansans about the landscapes of Kansas. Kansas is not usually perceived by outsiders as an attractive or desirable landscape, but it is home to many people, and it is generally accepted that people prefer an environment which is home to them, or home-like. Landscape preference is complex because preference is defined by each person by his or her personality and personal experience. What is found to be desirable in a Kansas landscape by a Kansan is a combination of unique elements and their environment.

Background

Land, and landscapes are integral to geographic study. The very name, "geography" implies the "description of the earth." Too often this description can mean a concentration on learning about the exotic or far-away to the detriment of knowledge of the familiar areas with which we are most intimately connected. Geographers can frequently speak with more authority and fervour about a distant city or country than about the place in which they live. This is not a failing only among geographers, but also among the population at large.

Landscapes with which we are most familiar do not usually fit our notions of landscapes which need study or special consideration. Landscape familiarity breeds, not contempt, but complacency and farsightedness, in the sense that we are frequently unable to see clearly what is in front of our eyes. The combination of taking for granted and not valuing the landscapes which are common to our everyday experience results in these landscapes being neglected in landscape research. As both a commodity and a resource, common landscapes have the greatest impact on most people's daily lives.

Assessment and evaluation of landscapes have become increasingly important as pressure on the land from competing uses intensifies. Decisions are made daily which irrevocably alter the appearance and the utility of landscapes. These decisions are frequently made by figures of authority rather than the citizen who remains on the bottom of the decision ladder, yet who may be most drastically affected by such decisions.¹

Kansas has been less drastically affected by land use changes than some other parts of the United States. But there is a growing awareness that problems arising from differing perceptions of what is valuable or necessary in an environment are impinging more and more frequently upon Kansas landscapes. In the area around Riley County, Kansas, there have been some notable examples of such changes. For example, there was Tuttle Creek Dam, which dislocated people and changed the appearance of a sizable portion of the Blue River Valley. Milford Reservoir caused more farmland to be converted to very different appearances and uses. Jefferies Energy Center and its smoke plume

hover on the horizon for many miles. Fort Riley Army post has annexed portions of the county for artillery impact ranges. The latest proposed land use change is the Onaga Dam. Local people do not feel it is necessary for flood control, Kansas Power and Light Company and Jefferies Energy Center do not need the water impounded. Yet the proposed dam and lake have been hanging over the heads of the inhabitants of the area since the 1930's and have recently been under serious consideration once again. This change to the environment would disrupt the lives and the economic security of many people, beginning by totally altering the landscape and the land use of the area. The effect would ripple out beyond the immediate area to be flooded and into the surrounding countryside. Options for earning a livelihood would be changed, the microclimate of the area would change, and the visable landscape would be changed.

Landscape, a term used by painters, geographers, planners, architects and earth scientists, is inevitably an ambiguous one. It includes both humans and nature, and is a mingling of the "physical and cultural features which any glance around us displays."² Included are the visable aspects of the shape of the terrain, the relative variation of individual components of weather, light and seasonal change, and the presence or absence of people, animals and cultural artifacts.³

Geographers have a traditional interest in the physical environment and human activity. One aspect of this interest is research into landscape perception, assessment, and evaluation.

The Study of Perception

Many linguists and anthropologists believe that "cultural information, knowledge, or world view resides largely or even exclusively in the organization of the lexicon."⁴ What is possible to express in a language, how an individual chooses to phrase a statement, or in what terms an object is described can provide insight into the manner in which the observer sees the world.

Though a group of people may voice similar opinions about some object or some portion of the countryside, each individual in that group has brought to bear upon the landscape, not only their physical senses, but also a whole range of past experiences, cultural biases, knowledge gained from books and school, values, beliefs, and viewpoints from some stage of professional or life-cycle development.

Organized research into this area of study is still very young. No real body of theory has been developed, and the main findings by scholars cannot be generalized to fit every case. There is no well-developed methodology to follow. Indeed, there is not even a single, universally-used name for the area of study. It is variously called environmental perception, environmental psychology, ergonomics, psychological ecology, and psychogeography.⁵ The broadest and most easily recognizable name is simply environmental perception.

Strictly speaking, perception refers to receiving information from the physical world through the senses, while another term, cognition, refers to awareness or the end product of information

received by the senses which has been influenced and defined by attitudes, experiences and so forth. In most of the literature, however, these two separate functions are referred to jointly as the single term "perception." This area of research seeks to show that what is understood to be fact is actually conditioned by prior theoretical constructs. If beauty is in the eye of the beholder, then other abstractions -- "usefulness," "old," "flat," "humid" -- are also defined in the observers' minds by the aggregate of personality, learning and experiences.

The experiences, information, values, aspirations, and so on which influence the world-view, can be called modifiers. Data received by the physical senses are screened by these modifiers, and this modified information provides the recipient with a perception of the world, in this case, of a landscape, that is no less real because of its subjectivity and individuality than the most objective and precise scientific descriptions. This perception, this impression of the landscape, is unique to the individual.

The perception of a landscape influences, to a large part, the human activity that takes place there. "Perception is not just another ingredient of the socio-economic pottage, but is a factor which is present in all human activity...It can have a marked effect on the appearance of the landscape and on the behavior of the individuals operating on the landscape."⁶

Many of the studies of landscape perceptions are an examination of historic attitudes toward a particular environment (Blacksell, 1975) or a comparison of attitudes between different cultural groups inhabiting the same landscape. Others

have focused on landscape aesthetics (Calvin, 1972) or on wholly natural landscapes, particularly those threatened by some crisis (Leopold, 1970). These studies are often based on the presence or absence of certain features, or on developing a ratio which given the most agreeable mix of several landscape components such as sky, trees, and water. Few studies deal specifically with the unexotic, near-to-hand landscapes which its inhabitants experience every day, in which they live and work, and with which they have historical and cultural ties; searching out the interconnections between these people and their environment.

It is a common convention that people express the greatest preference for an area they perceive as home, or home-like.⁷ People value environments which in some way recognize or reflect their preferred lifestyles. A strong emotional or symbolic attachment develops to a particular place. This bond is often formed in early childhood and provides the framework for further environmental and societal development. This identification of an individual with a particular place has been termed "topophilia."⁸ Responses to the landscapes of home are inseparable from the social and psychological context of these experiences. The social creation of a "home" environment seeks to play up uniquenesses, accent small differences in the landscape, and note a code of local, place-specific signatures on the land.

Lewis⁹ notes that the culture of an area is reflected in its landscape, and that almost all of the items of the landscape reflect that culture. Furthermore, though the most common landscapes are perhaps the hardest to interpret, they are very important to developing an understanding of an area.

Human activity changes the landscape, and to some extent, tries to mold it into a form more pleasing to the eye, or more useful to human endeavors. Residents seek to recognize or reenforce attributes in their local environments which are reflections of the residents' own scale of preferences.¹⁰ Having changed the natural environment, theirs is a proprietary interest in the land and the living or the ammenities it provides. This vested interest further enforces the attachment which is felt for the landscape.

It is very difficult to look at a landscape which is familiar, a landscape very similar to many others in the area and see it afresh. With nothing as contrast, details become blurred or are easily overlooked, and cultural artifacts which clearly denote some historic interaction between humans and the environment become so much a part of the scene that their significance is lost.

It is easier to study unique or spectacular landscapes, or to gather impressions of people's perceptions of a new environment. But to study only the aesthetic content of highly-scenic areas, or areas almost untouched by human activity ignores those landscapes which provide daily experiences. "To focus exclusively on highly-valued landscapes and locales may occasion concern, lest concentration on the uniquely desirable adversely affect how we treat the everyday landscapes in which we pass most of our time."¹¹

Kansas as a Study Area

Kansas is not a state that springs to most minds as possessing unique or highly-valued landscapes. A study by the Ozark

Regional Commission to help promote tourism in Kansas found that people who have not visited the state perceive it as a place devoid of scenery or things to do. "Drab" was a word used by several respondents. Many people have no image of Kansas, which results in the same conclusion as those with a negative image, that is, they have no desire to visit the state. Kansas was seen as a necessary evil on the road to Colorado. The climate, hot, cold, and violent, was also viewed as undesirable.¹²

Historically, Kansas has fared little better. In 1541, Coronado came to Kansas seeking the Seven Cities of Cibola and gold. He found vast, empty prairies, Indians and herds of buffalo, and returned empty-handed to Mexico. A series of calamities followed the early history of the state -- border wars in the 1850's, guerilla raids in the Civil War, Indian troubles and rancher/farmer disputes. The climate ranged from winds, droughts, prairie fires and blizzards to tornados and plagues of locusts and grasshoppers. After the drought of 1860,¹³ Kansas lost nearly a third of its white population. Many homesteaders had come to Kansas believing themselves to be on an expedition to "that Fairyland" (in the words of Miriam Davis Colt), and found instead a demanding and often harsh environment.

In the 1930's, the Dustbowl overran parts of the state. Kansas became a minor by-word for undesirable landscapes.

When Dorothy stood in the doorway and looked around, she could see nothing but the great gray prairie on every side. Not a tree nor a house broke the broad sweep of the flat country that reached the edge of the sky in all directions. The sun had baked the plowed land in a great mass, with little cracks running through it. Even the grass was not green, for the sun had burned the tops of the long blades

until they were the same gray color to be seen everywhere. Once the house had been painted, but the sun had blistered the paint and the rains washed it away, and now the house was as dull and gray as everything else.¹⁴

There is also the Kansas of jackalopes and the dubious authenticity of Boot Hill, of Carrie Nation and her hatchet, and a reputation for a sort of unrelenting bucolic folksiness that results in Kansas being characterized as the place where a tooth pick seems a socially acceptable implement, and "You bet" replaces "You're welcome."¹⁵

Kansas inspires in outsiders a certain amount of respect for its mercurial weather, bumper grain harvests, and natural gas and oil deposits. But there is a lack of awareness of Kansas's presence and the complex interface of culture and environment contained within the borders of the state. National magazines and network news stories which divide up the country into like units cannot decide where to place Kansas. In the "Midwest" with Indiana and Ohio? The "Ozark Region" with Arkansas and Missouri? The "Northern Great Plains with North and South Dakota? Or the "Middle West" with Colorado?

Kansas suffers from a lack of image for the rest of the country. It has no spectacular mountains with accompanying ski resorts, no football teams going off to Bowl games every year, no booming industries, no oceans, no quaint 18th century villages. Even its best-known town, Kansas City, is, for the most part, in Missouri.

People who would claim to be sympathetic to, and familiar with the Kansas landscape, seem to lose their sense of perspective. The following is, in truth, written about the area around

Baca County, in Eastern Colorado, but the location is identified as being somewhere in Kansas, Oklahoma, or Colorado.

As far as vision permits there is nothing but vistas of drab rolling ranch land, perfectly level crop land and cloudless blue sky. In the summer it is hot, and hot dry winds roil the dust. In the winter it is cold and bleak. Parallelling the road is a monotonous train of power-pole crucifixes strung together with wire; here and there in the distance, the dipping pelican beak of a oil rig, the tripodal sunflower form of a windmill, the lazy conversion of a cattle brood...Every ten or twenty miles as asymmetrical bulge begins to grow on the horizon. As the bulge gets larger and larger, a sign commands to reduce speed. For a few unpleasant kaleidoscopic instants the traveler glimpses desolate symbols of what is surely a peopled but uncivilized settlement. There is no town square, no verdent common, no tidy row of gabled clapboard homes. Instead a few cement block buildings with pickups herring-boned in front of them...A sidestreet lined with what look like unpainted barns, metal sheds, a few scraggly trees, playing children. A mobile home and a rusted tractor cab by the side of the road. A cement silo elevator and a water tower looming up over everything else. A moment later signs advise speed can be resumed. The town is over. The prairie continues. This is the Great American Dust Bowl, a land rendered vaguely romantic and allgorical by the ballads of Woody Guthrie and the novels of John Steinbeck.¹⁶

But it is not only outsiders who have a negative image of Kansas. The Ozark Regional Commission's study found that the poor image of Kansas is also found in Kansans themselves. Kansans often hold a low, almost apologetic attitude toward their state.¹⁷ One manifestation of this attitude can be seen in the recent attempt to rename a highway "The Yellow Brick Road" and a city "The Emerald City," in an attempt to capitalize on the commonly-held association of Kansas with the Wizard of Oz. The current slogan from the State Department of Economic Development, "Kansas--Land of Ahs" springs from the same inspiration.

Many people might think that Kansas has very little to inspire an exclamation of joy or delight, an "ah." The landscapes of Kansas are very subtle, and to the eye accustomed to beauty as a scene with a mountain on the left and a village to the right, the vastness and the sweep of Kansas landscapes can seem empty, and the linear patterns boring to non-Kansans. According to C. Rubenstein, Kansans are among those Americans who experience the greatest psychological well-being. They experience less stress and have greater feelings of personal competence and are more satisfied with their community, homes and neighborhoods than people in other parts of the country.¹⁸ If people see a reflection of their own values and preferences in landscapes, and if a landscape which fosters positive feelings is important in creating a sense of security and contentment, Kansans must be reasonably pleased with the environment which surrounds them.

What Kansans see and prefer when they view their landscapes through all of their various perceptual modifiers is the subject of this thesis.

Statement of Problem

The purpose of this thesis is to examine the preference for Kansas landscapes held by Kansans; and assess the variability of landscape preferences and subjective written responses with respect to age, sex, and locational experiences of respondents. This research will scale landscape preferences for 35 different Kansas landscapes. In addition, written responses assessing the content of the landscape as it affects preference are examined for characteristics of the respondents. The subjective responses

will be analyzed to see if they conform to expected categories as outlined in the literature of perception.

Together, these analyses should provide an overview of how a particular group of people views the landscape in which they have spent most of their lives, and over which they can exert the greatest influence. Information such as this would provide some insight not only into how people see landscapes, but of their awareness of problems confronting their environment and of aspirations Kansans hold for their home.

Justification

In an article written in 1945, D. Whittlesey referred to the importance of "man's sense of terrestrial space," referring to the nature and expression of geographical knowledge.¹⁹ J. K. Wright coined the term, "geosophy," referring to the geography of knowledge and beliefs of all kinds investigated in the light of their distributions, relationship, and expression in the landscape.²⁰ This term was never widely adopted. However, this interest in the mind's construction of geographical knowledge forms the basis for studies on perception.

It was not until D. Lowenthal in 1961 combined this idea of Wright's with data on cultural variations in perception and with extensive discussion of the psychological literature on perception that landscape perception and evaluation studies as we know them today began.²¹ Many geographers, including Meinig, Lewis, and Tuan have written about perceptions of the landscape. Others, such as Sonnenfeld, Lowenthal, Fines and Shafer have researched group responses to landscapes by various projective techniques.

Fieldtrips to sites, photographs (both black-and-white, and color) and slides have all been used as means of presenting the landscape to the response group.

Geography generally aims to reveal facts and relationships about how humans utilize the earth's resources to make a living, to move about and communicate, and to organize social and political groups, but there is also a value in researching what in the environment gives pleasure and pride.²² Studies of landscape perception provide a construct of the world which exists in the minds of people. Perception studies give background and perspective to other work in human geography by showing the relationship between people's beliefs and actions and the larger cultural and environmental picture in which they occur.

Without an awareness of perceptual differences between groups of people, researchers are liable to draw ethnocentric conclusions when a group's response to their environment does not fit the researchers' ideas. L. S. Fonaroff pointed this out in his study of several attempts by the Bureau of Indian Affairs to alter the economy of the Navaho Indian. Their failure resulted from a lack of understanding of the Navaho view of the environment, one quite different from that of the Anglo administrators.²³

This study will provide further understanding of how we experience the landscape. Insight of this sort will enable us to see a collection of physical features as a total environment, and to see how different values placed upon the landscape may influence the everyday use of place and space.

Plan of Study

Chapter 2 offers a review of relevant literature in the field of landscape preference and perception. Perception as a general field of study, and specific research done in this area will be examined. The methodology for this research, which has been influenced by previous work, is outlined. This includes an examination of the use of projective techniques and the research design of this landscape evaluation.

Chapter 3 examines the preference scaling and subjective written results of the evaluation testing. It also includes comparisons between the written responses of the participants in this research and two well-known schemata of landscape views.

Chapter 4 summarizes the findings of the research and indicates some of the problems encountered in the course of analyzing the results. It will also highlight the importance of such research to environmental studies, and make suggestions for further research in this area.

FOOTNOTES

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Chapter 2

REVIEW OF PRECEDENCE IN THE LITERATURE AND RESEARCH DESIGN

Review of Literature

The literature of landscape perception will be briefly reviewed on several levels. First, writings which provide a general discussion of the concept of perception will be examined. Explanations of how and why different people hold different images of the same landscape are reviewed to include those which focus on physiological processes and those which reveal the personal and cultural interactions which occur within the landscape.

Secondly, landscape perception is investigated in terms of the images by which specific regions are seen and the levels of attachment which result. Thus, people develop a "sense of place" about a region due to its perceived qualities. In this case, the perceptions of Americans about America and about the Great Plains region are most applicable to this research.

Another approach to landscape perception is to examine categories of observers, rather than landscapes, to focus on the similarities and differences of people who view a landscape in like terms.

Fourthly, several studies of landscape evaluation and assessment will be described and discussed. Elements from several of these studies have been combined in the methodology of this

research project, and it is desirable to review them, as well as some examples of more quantitatively-oriented studies.

Perception of a Process

One of the best explanations of perception as a physiological process is that found in Patton.²⁴ Patton describes the sequence of the physical processes of perception, beginning with the reflection of various wavelengths of electromagnetic radiation off objects, through to the decoding of the image as affected by the stored memory and on-going cognition. As described by Patton, the process is very simple, it happens automatically all the time. But it is also a subtle interrelated connection of physical processes such as light transmission, the physiological operation of the body, and the psychological processes which are affected by nonvisual aspects of memory and other subconscious links with thought processes.

Patton's explanation, along with the basic definitions provided by Saarinen,²⁵ provides a very clear but simple presentation of the concepts of a very complicated field of research.

Landscape Preference and Attachment

Many authors have attempted to analyze what is a beautiful or desirable landscape, and why it is perceived this way. They have tried to reason whether there is an absolute standard that all people would consider attractive, or whether environmental desirability is a personally and culturally-based trait.²⁶ Other writers explain that perception of a landscape's image by various people is affected by color, symbolism, psychology, ethnocentrism and many other factors. Landscape perception is affected by

cultural differences as well as personality differences. Yi-Fu Tuan, in Topophilia²⁶ gives several examples of how this can be observed in different time periods and culture areas.

Perception is also studied because of its importance to geographers in their study of the social and physical environment. Studies include descriptions of variables which affect landscape preference, historical attitudes toward different landscapes, and descriptions of how people differ in their preferences and perceptions through personal attitudes and experiences. Much of the work of D. Lowenthal falls into this area of study. Works such as "Finding Valued Landscapes,"²⁷ "The Place of the Past in the American Landscape,"²⁸ and "Environmental Structures: Semantics and Experiential Components,"²⁹ broaden the scope of geographical concerns in perception and at the same time, speak of the image Americans hold on their landscapes.

Implicit is that Americans have influenced the appearance of their landscapes by political, social and historical attitudes, and by the appreciation of certain landscape traits such as bigness, or the importance of individual features rather than the aggregate appearance. These landscape traits are reflections of aspects of the national character. Much of Lowenthal's work is buttressed by examples from literature of a historical nature or by quotes from persons of historic importance, such as Thomas Jefferson. These quotes not only clarify the attitude Lowenthal is describing, but also provides examples of how attitudes, often casually expressed in the context of other concerns, could affect the landscape and its image for the people of that era.

The use of literature as a descriptor of landscape perception is also used by Salter and Lloyd, who researched landscapes as perceived by the writers of creative literature.³⁰ They discuss the landscapes of settlements, of agriculture, of livelihood and of social spaces, personal spaces and entertainment, transportation, and of personal action through the works of such writers as Ray Bradbury, Willa Cather, Jack Kerouac, Edgar Allen Poe, and John Steinbeck. The connection they find between the landscapes in literature and those of human geography is stated in a quote from Lawrence Durrell's Justine, "We are the children of our landscape; it dictates behavior and even thought in the measure to which we are responsive to it. I can think of no better identification."³¹ The authors do not specify to what degree they identify with the determinism implied in this statement, a determinism which similarly appears and is left undiscussed in other works on the preception of the environment. Instead, they concentrate on noting the signatures of culture upon the landscape as refelcted in the literature, because they believe observations of these signs enhances the ability to observe the real world more acutely.

Other geographers have provided more formalized schemes for the observation of the interaction of culture, landscape and perception. Pierce Lewis agrees with Lowenthal that human landscapes have cultural meanings, and that the culture of an area is reflected in it landscapes. His premises for landscape interpretation are laid out in "Axioms for Reading the Landscape."³²

D. W. Meinig has observed that the ways in which a varied group of people might describe a common landscape can be organized into ten factors. These are: the landscape as Nature, the pristine environment; as Habitat, a place for humans to live; as Artifact, a stage for the marks of humans; as System, an organization of many parts; as Problem, a condition in need of correction; as Wealth, the source of economic gain; as Ideology, a translation of values and beliefs to tangible features; as History, a link with the past; as Place, an individual piece of the variety of the earth; and as Aesthetic, the beauty and physical appeal of a landscape.³³ Certain landscapes will have a much stronger History or Habitat component than others will, just as some people will be more inclined toward seeing the Problem or the Wealth component in a landscape than others.

Neither Lewis's nor Meinig's work is tied to any particular landscape, though America is the implied culture area, nor to any specific culture or demographic group. Other writers focus more specifically on one physical and cultural area. They examine the factors a particular group of people was found to have for a particular landscape at some given point in time.

Some writers on landscape perception prefer to investigate one area as fully as possible, including both the physical features of the landscape, and the human traits and activities which have been shaped and which have influenced the landscape. Historical and literary writings which emphasize these attitudes may be included. Lowenthal's "The American Scene," is an example of this approach. In "The American Scene," Lowenthal outlines a

series of idealized images and visual stereotypes which he feels are reflected in contemporary American landscapes. Size (the cult of bigness), wildness, formlessness, and eight other traits of the landscape are described as elements which are reflections of the American character and value system.³⁴

E. Cotton Mather's "The American Great Plains" describes the Great Plains region. Certain cultural traits have evolved out of myth of the area in its earliest days and persist there in the present. These traits are both an outgrowth of and a reaction to the physical environment of the region.³⁵

People-Based Landscape Studies

Rather than generalize the reactions of a large group of people toward a broad region of the country, other studies focus on how to group the people who view the landscapes. One such study is B. R. Little's "Specialization and the Varieties of Environmental Experience." Little developed categories for the analysis of personal constructs elicited from subjects about various environments. His first category was personalistic, or focusing on the personalities in the landscape--"nice people probably live there." The second was physicalistic, focusing on the physical character and limitations of the landscape, followed by global-aesthetic, which concentrates on a higher order, qualitative "atmosphere," either physical or personal -- "a June morning sort of day." The functionalistic category speaks of the use or function of a place, or relates the physical aspect with the behavior which would take place there. Finally, the egocentric category concentrates on the effect of the place on self, or on the role played in that location--"right next door to my house."³⁶

In an attempt to underline the value system of various environmental groups, M. Miller postulated the existence of twelve separate values these groups might hold. These values underlie the specific group's concerns, and their motives for environmental legislation, but they also reflect differing groups' views of environments and landscapes. This difference is especially apparent between what might be called rural environmental groups and urban groups. The twelve values are expressed as premises as follows: Landscapes and the environment should be protected because they have 1) Aesthetic value, 2) Arcadian value, 3) Conservation value, 4) Ecological value, 5) Economic value, 6) Equity value, 7) Harvesting value, 8) Health value, 9) Material Self-Interest value, 10) Moral value, 11) Mystical value, 12) Religious value.³⁷

This concept of ranking values held by environmental protection groups approaches the idea of ranking or assessing and evaluating the landscapes themselves.

Landscape Evaluation and Assessment

The research method used in this study has been influenced by previous work done in landscape evaluation and assessment. Some techniques have been adopted from these and other studies, along with some alterations to avoid problems encountered by prior researchers. Therefore, the studies examined in this section will be discussed in greater depth.

K. D. Fines' study of landscape evaluation in East Sussex, England was generated as a policy tool in response to economic development and population pressures exerted in the area. Its goal was to develop a visual classification system to serve as

a guide for planning and development policy decisions.³⁸ Forty-five respondents' reactions to 20 color photographs of landscapes and townviews were obtained. The respondents ranked and valued the photos in terms of beauty against a control photo with an assigned value of 1.0 on a scale of 0 to 32.0. Six categories -- unsightly, undistinguished, pleasant, distinguished, superb and spectacular -- were created.³⁹ Later, ten persons among the respondents, who had the most considerable degree of experience in a design discipline were selected. The experienced group had a larger range of values in their responses, and the scale of values used for the final analysis of the study was based only on the mean values calculated for this select group.

By imposing a value on the control photo, Fines influenced the ranking the respondents could give other photos. Fines assumed that landscape beauty is a culturally shared value, regardless of the variety of subgroups within the population, and that landscapes would be equally valued at all times for all purposes. Furthermore, the number of landscape images and respondents used to gather the data was quite small. The number of respondents was reduced by using the values of the design-experienced group as the value scale. Besides reducing the sample size of respondents, this culling process places reliance for landscape values of a whole community upon ten persons. By selecting persons trained in design, public opinion and public participation was ignored.

This is a problem common to many landscape evaluation surveys. D. Lowenthal pointed out that public consultation of landscape aesthetics and land use is often illusionary, and final

judgement rests in the hands of those with power or special knowledge, who are entrusted to impose their private values on landscapes which are a public resource.⁴⁰

Luna Leopold, in 1970, used 46 factors she felt relevant to the landscape aesthetics of a riverine area to evaluate the unique area of Hells Canyon on the Snake River. The study was in response to requests for application to construct hydropower dams on the river near Hells Canyon. Three categories of factors were developed for evaluation: physical, biological and water quality, and human use and interest. The 46 criteria were selected as independent variables to describe landscape aesthetics along the river. At each selected site, the riverscape was evaluated by users of the area for each of the 46 factors, which included such items as river width, algae amounts and types, trash and litter, along a scale of 1 to 5. A "uniqueness ratio" was calculated for each site on the basis of the scores from each factor.

Leopold stated two premises in undertaking this study. The first was that landscapes which are unique in either a positive or a negative way are of greater significance to society than ones which are common. Second, a place of beauty is important because of its scenic qualities.⁴¹ She does not include in the study any perception analysis of the sites nor public response to the selected factors as components of landscape aesthetics. All factors are weighted equally, so that algae, river fauna, flow variability, and vistas have the same importance as components of aesthetics, although some of them may have more visual impact than others. In the same vein, cultural features (historic

features, urbanization, land use) are scaled in the same manner as physical features (river depth, bank erosion, drainage area). Yet, some of the factors, such as drainage area, would be difficult to evaluate in looking at a single site.

Finally, this study assumes that "uniqueness" is indicative in comparing sites, and that uniqueness is critical to landscape value. Difficulties could arise in applying this type of evaluation to other landscapes, because few landscapes can truthfully be recognized as unique. In the case of Kansas, the Konza Prairie is a unique and valued resource in that it is a remnant of the tallgrass prairie. But it is hardly distinguishable from miles of other roadside scenes without previous knowledge of its special character.

Leopold's study places great emphasis on the natural features of the landscape, as is logical for the area being researched. Such emphasis would be misplaced if the same method were applied to a different environment. This study examines a landscape known to be in crisis, and the possibility of its loss may enhance its qualities in the eyes of the respondents.

Landscape evaluations are often used to determine landscape preferences of particular groups of people. One model of natural landscape preferences was developed by Shafer, Hamilton and Schmidt to predict why one landscape was preferred over another. One hundred 8 by 10-inch black and white photos of the United States with trees in foliage were selected for use as landscape images. Ten physical zones -- sky zone, immediate vegetative zone, intermediate vegetative, distant vegetative, immediate non-vegetative, intermediate non-vegetative, distant non-vegetative,

stream, waterfall, and water and rocks in lake were developed and were assigned to all parts of each photo on the basis of a 1/4 inch overlay grid. Three tonal variations were also noted.⁴²

Preference scores for each of the photos were obtained from Adirondack campers in the summer of 1967. The photots were then analyzed on the basis of the zones and tone, and 50 rank values were derived for each photo.⁴³ The question arises as to whether or not the use of black and white photos might have increased the tendency to view the photos as art rather than as representations of the landscape.

The photos and the zones seem to have a distinct bias toward landscapes containing much water and vegetation. The United States as a whole contains many natural environments which do not possess either of these landscape elements in abundance. The research implied that it was the landscapes of the United States as a whole which was being evaluated for preference. The region of the Adirondacks in which the evaluation was given does have water and trees in abundance, yet the campers were shown pictures from the whole of the United States. There seemed to have been some confusion on the part of the researchers as to exactly what natural landscapes were to be evaluated in this study.

The results of the evaluations are very difficult to interpret or to apply. It was found, for example, that a positive effect for the landscape can be obtained if the perimemter of distant vegetation is multiplied by the area of water.⁴⁴

Another study of preference for natural environments is much broader in scope. Preference for slides of five natural landscapes or biomes -- tropical rainforest, temperate deciduous forest, coniferous forest, savanna, and desert -- were examined for groups ranging in age from third graders to senior citizens, including a group of professional foresters.⁴⁵ On the first pass through the slides, the respondents were asked to rate how much they would like to live in similar areas; on the second pass through, they were asked to rate how they would like to visit a similar area. Elementary school children showed a significant preference for the savanna over all other landscapes. Older respondents preferred more familiar landscapes equally to the savanna.

The research seems to indicate that there are significant age-related changes in landscape preference. Limited support is provided for the hypothesis that people have some innate liking for the savanna-type environments in which early humans developed. This preference is modified through experience over a lifetime, and a person comes to prefer the landscape which he or she is most familiar. Certain landscapes are viewed as exotic and interesting to visit, but not desirable as a habitat.⁴⁶ Ethnocentrism becomes stronger with age.

Studies Emphasizing Statistical Methods

In recent years, there has been a trend toward more statistically-oriented methods of landscape evaluation. One such study of people's reactions to natural environments was undertaken

by Calvin, Dearing and Curtin in 1972. A group of respondents were asked to view 80 preliminary color photos of varied natural scenes, and were asked to write several words describing their reactions to the landscape shown. A number of descriptive adjectives for possible use in describing the landscapes were obtained, and were selected by the investigators to provide binary opposite scales such as ugly-beautiful. In the final segment of the experiment, 15 scenes and 20 verbal scales were used. The respondents were allowed two practice runs to familiarize themselves with the procedure. They were then given 3 minutes to write about each of the 15 slides.⁴⁷

The results were used in a factor analysis in which two predominant factors explained 85% of the variation. Scenes described as "colorful, beautiful, wild, and primitive" or scenes described as "dark, ugly, artificial and civilized" made up the first factor called "natural scenic beauty." This one factor accounted for 65% of the total variation. Twenty-four percent more of the variation was explained by the factor called "natural force," which included scenes described as turbulent, loud, rugged, complex," or "tranquil, hushed, delicate, simple." An additional 5% variation was comprised of "warm, fertile" and "cold and barren."⁴⁸

It can be assumed that to some extent, this grouping of factors was affected by the choice of the slides used, and by the investigators' development and pairing of the binary opposites scales. The scenes showed few, if any, signs of human activity that were not highly negative, such as trash piles or mining spoils banks. There were no signs of human habitation, no

villages or urban scenes for contrast to the natural environment. Of the 15 natural scenes, 7 pictured water, usually rushing streams or waterfalls. This emphasis may show a bias on the part of the investigators, who might be thought to believe running water is a necessary element in a natural landscape. It might also have influenced the word choices, and thus, the factors found to be most significant.

M. Blacksell and A. Gilg developed the Coventry-Solihull-Warwickshire (C-S-W) Technique to allow central and local governments to fulfill their obligations to evaluate the aesthetic quality of different landscapes for the purpose of protection and enhancement under the 1947 Town and Country Planning Act and and 1949 National Parks and Access to the Countryside Act in Great Britain.⁴⁹ A landscape preference measurement (visual quality) was used as the dependant variable in a step-wise multiple regression, with measured landscape elements as independent variables. It is possible to determine from the regression to what degree each of the measured landscape elements accounts for the variation in the subjective visual quality scores. The regression coefficients were then used as weights, and could be applied to each landscape element to simulate visual quality.⁵⁰

This method expresses the elements of the landscape -- landform, landuse, rivers, and measures individual and group preferences for landscapes and distinguishes the expression of landscape preference in terms of measured components. Taken as a whole, these three segments produce a final evaluation of an area's landscape which allows flexibility for application to other areas in the future.⁵¹

This method shows promise for gross landscape evaluation. It does not speak to the preference individuals or groups may have for one specific landscape or landscape element within the whole area evaluated, or one landscape element which is preferred over another. Areas which have an overall high landscape preference may contain undesirable features, and vice versa. The technique serves primarily to highlight certain areas for further study; it does not explain what is valued in a landscape or why.

Russell et. al. found 105 commonly-used adjectives of the affective quality of the physical environment in descriptions to select landscapes. The adjectives were factor-analyzed, and two independent factors of affective quality were found; "pleasing" and "arousing." These were shown to correlate highly with respondents' affective reactions of pleasure and arousal to the environment, and were hypothesized to summarize the emotive capacity attributed to the environment by numerous common descriptors, such as boring, peaceful, overwhelming, homey and majestic.⁵²

The study is interesting because the sites to be used in the analysis were selected, and persons already in those environments were approached and asked to become respondents. In many other studies, the respondents are shown images, or are transported to the sites. Beyond this interesting technique, the study seems to have found what it was designed to find. Many of the 105 adjectives used are synonymous, such as overwhelming and overpowering. Much effort was expended to arrive at the conclusion that a landscape which is attractive and interesting or exciting will be found more desirable than one which is unattractive and boring.

The Application of Environmental Perception

As perception is more fully researched, more people are looking at the application of the results of studies done in this field for their application for human use in the environment. Some of the earliest work in applying perception studies was in perception of natural hazards. One such study by I. Burton and R. W. Kates is a familiar example of such an application. "The Perception of Natural Hazards in Resource Management"⁵³ argues that culture affects whether land is viewed as useful or not, and that in using any resource available, humans are challenged by a variety of harmful forces which may or may not be correctly estimated in their magnitude, location, and time. Land use decisions, environmental and resource legislation, and population patterns can all be dramatically affected by the perceived presence or absence of a hazard.

D. Patton provides several interesting examples of the effect of the "clamoring of people with different visions of the landscape."⁵⁴ In one case, debate over the use of redwoods in the Coast Ranges of California resulted in the creation of Redwood National Park. The question had arisen as to whether this area should be viewed as an economic resource, timber, or as a national treasure, and in the polarizing debate that followed, it became necessary to make some permanent decision about the future of the redwoods. As the conservation forces were strongest, the area became a national park by an act of Congress.⁵⁵

In another instance, a company wishing to develop a low-lying island in the Chesapeake Bay found itself strongly opposed by both government and the public, not because the plan would have had adverse economic effects, or because of lack of space and privacy

for inhabitants, or because of population pressures. The inhabitants has an image of what they desired for the island: familiarity, little change, woods and fields untouched, tidal creeks free to pollution, and most importantly, no strangers. No matter how well-designed and planned, any development would disturb this image. The negative reaction to the proposed development rested more upon disturbance of a cherished way of life which included certain landscape features than on any economic or political basis.

There is a persistent notion that nature enhances psychological well-being. This notion was tested by R. S. Ulrich. Subjects viewed 60 color slides of either 1) nature with water, 2) nature dominated by vegetation, or 3) urban settings without either water or vegetation. Alpha amplitude (a measurement of cortical arousal correlating with states of consciousness or unconsciousness), heart rate and emotional state were measured while the subjects viewed the slides. Results seem to indicate that nature scenes have a more positive influence on psychophysiological states than the urban scenes. Water, and to a lesser extent, vegetation, holds interest and attention more effectively than do urban scenes.⁵⁶

Experiments have also shown that it is possible to manipulate the standards by which people evaluate public policy regarding environmental quality,⁵⁷ especially by use of various authority sources such as Ralph Nader. This is an example of providing more stimulus to the "knowledge/information/belief" component in perception, altering the modifiers which color the perception held. This is an important area for further study and

consideration by groups concerned with controlling environmental quality standards and decisions.

There are many other studies with different goals, using various other techniques to test perception about the environment. The research done in this thesis concentrates on one group's views about its home state. The methods and the analysis are much more simple than some which have been described. The hope is that by allowing respondents the greatest amount of leadway possible, the clearest picture of what they saw and perceived could be revealed.

Methods and Materials of Research

In a study which investigates preferences of certain landscapes, it is important to realize that these preferences are highly subjective. They are known only to the individual who holds them, though that individual may not understand why these preferences are as they are. They cannot be directly observed; they must be inferred from statements or from some element of behavior.

Research into landscape preference and evaluation implies that a value is to be placed upon the landscape examined or on a feature within the landscape. A value placed on some object is a statement of a relationship. It represents an estimate of the object's worth to an individual or under certain sets of circumstances.⁵⁸ Preferences are held with differing degrees of intensity, depending on the range of alternatives available and the order in which these alternatives are presented. Both novelty and familiarity can enhance landscapes⁵⁹ depending upon the frame of reference and the mental state of the viewer.

Projective techniques in landscape evaluation. Landscape evaluation is a complicated process. What are perceived to be desirable landscape qualities are independent of the actual physical landscape being viewed. Preconceived notions of what ought to be visible may overwhelm the physical reality. Favored spots may acquire what are thought of as desirable traits, such as cleanliness, spaciousness, or greenness, or may have an aura of "home," and thus be judged desirable. Conversely, the physical features may reinforce a predisposition to dislike a landscape. Just as positive features can be magnified, flaws can also overwhelm the viewer. The deflated visitor to some historic site or natural wonder may exclaim that it is so much smaller, dirtier, or more crowded than had been envisioned.

Preference for a certain landscape is not based solely on its perceived beauty. Beauty's components can hardly be agreed upon among any contemporary group, much less over a time span. Preference does not imply that a landscape is "ecologically healthy" or "rich in resources" or other value-laden qualities. These terms and others like them are dependent upon the person hoping to live on or to utilize the lands described. What constitutes a preferred landscape may be something very different to the planner than to the longtime resident of an area, or to the tourist or the prospective new businessman.

These problems complicate the task of arriving at how a population views its native landscapes. Too often, landscape evaluations are based on the assumptions of the investigator as to what should be valued or desired, rather than reflecting the value system of the inhabitants or the users of the landscape.

Lowenthal quotes Eric Newton as writing "Certain natural phenomena are fairly universally recognized as more pleasurable than others -- well-wooded country as opposed to moors, mountains as opposed to plains, bright colors as opposed to dull ones."⁶⁰ In making such a statement, Newton automatically selects against many of the landscapes of Kansas, characterized as they are by open, rolling plains, baked in the summer sun, with trees growing predominately along streams. If a respondent were to describe a landscape to Newton as being wide-open, with nothing to break the skyline but a single tree, Newton might interpret this as meaning the respondent dislikes the landscape, though the respondent may have been expressing a very positive image.

In an attempt to more carefully examine subjective responses to phenomena such as landscapes, geographers began in the early 1960's to adapt psychological techniques, among them, projective techniques, to measure these phenomena. Projective methods vary in format, but as a whole, they are designed to provide freer, less inhibited responses that include both conscious and unconscious attitudes of respondents and a minimum of investigator bias. First developed with a high degree of experimental rigour and clinical depth by psychologists, adaptation to field studies and a broader application to other disciplines have slightly reduced these qualities.⁶¹ Nevertheless, these tests provide less artificial, less jargon-ridden responses and are more reflective of the respondents' lives and concerns. The tests frequently allow the respondent to answer a request for information about impressions or feelings in an open format, rather than asking for a selection from a predetermined list of choices.

Projective tests of landscape preference or evaluation often use pictures in some form as surrogate images of the real landscape. Pictures can and do distort, edit, bound, and freeze the landscape, and may elicit response to a work of art, rather than to the landscape. Landscapes portrayed by a photograph also involve only one sense, sight, which may limit the impact of a scene upon an individual. Nevertheless, the practical aspects of transporting respondents to a variety of locales, while maintaining a consistent landscape to view makes photographs an adequate substitute. Research has given evidence that responses to slides tend to be consistent with responses to the same environment in the field.⁶²

Research Design

The research reported upon here is based on two premises. The first is that "although a viewer's personal experience provides the context which the information received from the landscape is processed, the characteristics of the landscape itself are the major determinants of response."⁶³ That is, viewers will, for the most part, respond to the landscape they are shown, rather than to some internal construct or association of personal experience, beliefs, etc., although these filters will affect the expression of the response.

The second premise is that "the factors contributing to the aesthetic or emotional response to a landscape are capable of being identified."⁶⁴ Furthermore, other research has shown that photos taken at one location but in different directions tend to receive similar ratings, supporting the proposition that a single photograph can be used to represent a place.⁶⁵

In this research, 35 slides of different Kansas landscapes were selected to be shown to respondents. A brief description of each view is given in Appendix A. The slides were chosen to be as representative of Kansas landscapes as possible. They were taken in diverse locations, of as great a variety of scenes and representative landscape elements as was possible with the limited number of slides used. Various times of the day and seasons of the year were represented. The number of slides was chosen with attention to completing the evaluation within a class period, maintaining the respondents' attention, and most fully representing the variety of landscapes which occur within the state.

Slides were not chosen for use which showed scenes of a highly artistic or photogenic quality. It could be argued that this practice may have adversely affected the preference ratings given the landscapes. On the other hand, an especially photogenic scene or artistic composition or a slide which showed some spectacular, fleeting event, a rainbow or a dramatic sunset, might have elicited responses to the slide as art work, or to the single outstanding feature, rather than to the landscape as a whole. Lenses or filters which might have altered the image of the landscape were also avoided.

The respondents were chosen from large, lower-level classes taught within the Department of Geography at Kansas State University. It was felt that a good mix of class majors and personal backgrounds would be obtained this way. In addition, the subject matter covered in the class lent itself to a discussion of perception, and the respondents would view the research

as a part of class and answer more fully and seriously than they might otherwise.

The slides were randomly ordered in the slide tray before each class's evaluation. Each class saw the complete set of slides twice. The first time they viewed the slides, they were asked to rate the desirability of the landscape of each slide along a 100 millimeter bar scale with a pencil stroke. This is an adaptation of a projective technique used in psychological testing. It is felt to give an accurate, spontaneous measure of preference. The scale ranged from zero, which was "negative/dislike" to 100, "very desirable." Only the two extremes and a midpoint were indicated on the bar scale. Respondents were given about 20 seconds to view each landscape and record their degree of preference with the pencil stroke.

The same slides in the same order were shown the group for a second time. The respondents were given about 45 seconds to write sentences, phrases, or words that indicated what it was they were responding to in rating the landscapes, what they saw beyond the physical features present, and what they felt about the scene.

It was explained to them that they were not to critique the photograph composition or technique, and they did not have to rationalize why they felt a certain way. They were asked to be as spontaneous and complete as possible in their answers.

Finally, the respondents were asked to fill out an attached data sheet. Later the evaluations were sorted, and non-Kansans were removed along with any respondent who did not properly complete the evaluations. Non-Kansas were defined as persons who did not consider a Kansas town as their hometown, and who had not lived in the state most of their lives.

The Data Sheets and Variable Categories

The 115 Kansas respondents were asked to provide their name, age, sex, and major. A sample of the data sheet used appears in Appendix C. Of these, sex and age were the two desired study variables. They were also asked to list their home town, where they had lived the longest, if they had ever lived on a farm, and if so, for how many years. All these answers were combined to produce a variable called Hometown Population. They also allowed cross-checking to clarify whether a person stating they living on a farm really lived on a farm, or just visited an uncle once in awhile. Five response groups were created out of the hometown population variable.

The hometown information also gave the respondent's home quadrant, or the variable East/West location within the state. The quadrants were derived from a combination of the grouping of respondents' hometowns, crop-reporting regions of the state, and subjective understanding of areas of the state.

The respondents were also asked if they had ever lived in a large metropolitan area (cities of populations of 1,000,000 or more persons), and if so, where they had lived and for how many years. This information provided the variable Urban Experience.

Finally, the respondents were asked to evaluate themselves with respect to how much of Kansas they felt themselves to be familiar. The variable, familiarity with Kansas, was to determine if perceived knowledge of the state affected preference for landscapes.

Map 1, Respondent Distribution and Hometown Size, shows the location of respondents and sizes of hometowns, and the quadrant divisions. A breakdown of variable categories and the number of respondents within the response groups of each variable appears in Table 1, Numbers of Respondents in Each Variable.

Numerical Preference Evaluation Procedures

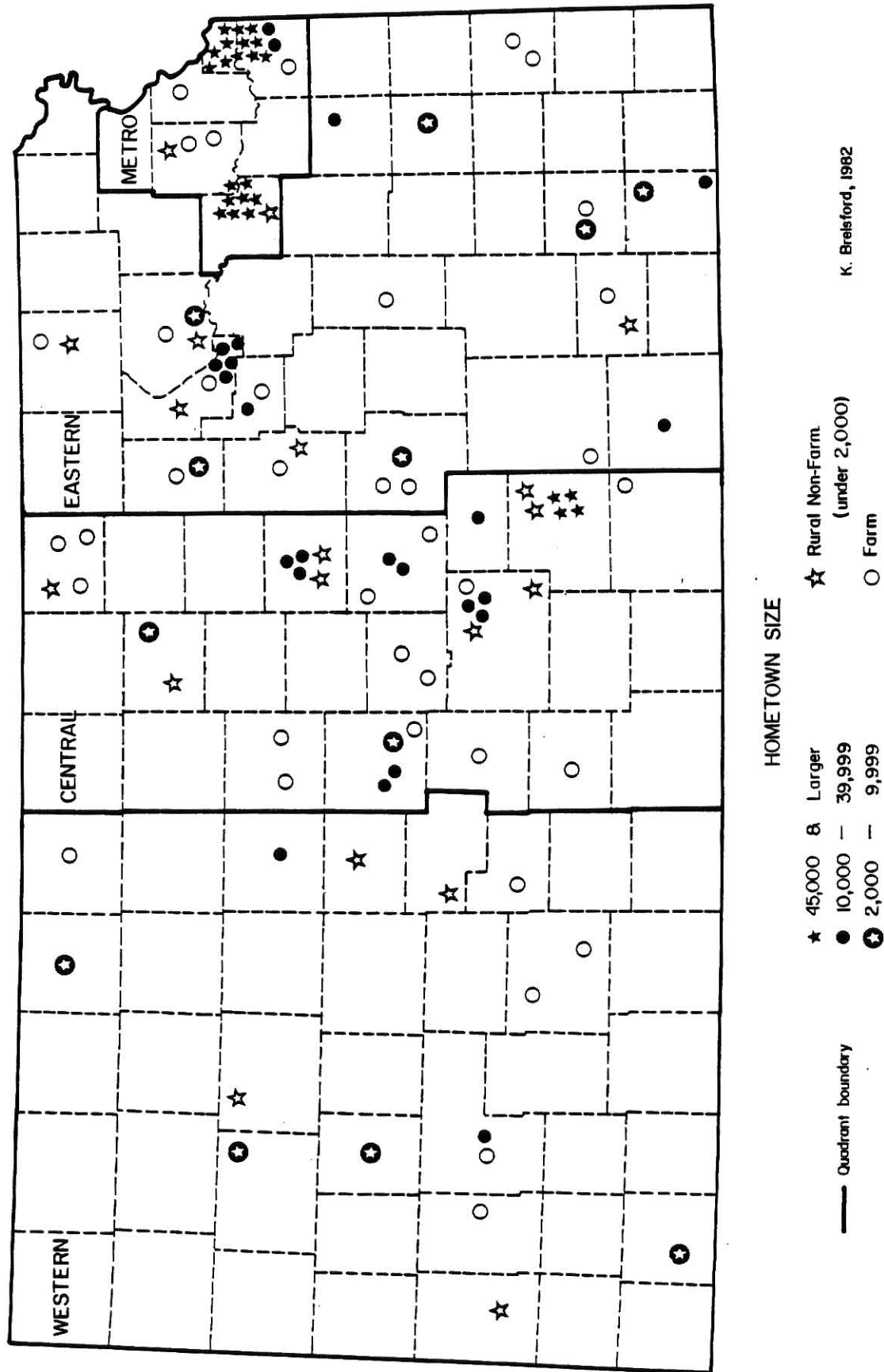
Preference scores for each landscape were obtained by measuring the distance from the negative extreme of the 100 millimeter bar scale to a point where the pencil stroke fell. Scores from 1 to 100 were possible; all scores were interpolated as whole numbers.

As four separate classes had done the landscape evaluations, and had seen the slides in four separate orderings, the numerical responses had to be correctly associated with each of the 35 randomized slides. A computer program was written which provided a print-out of each respondent's ratings for each of the slides in a standard order of Landscape A to Z and continuing Landscape AA to Landscape II. An average and a standard deviation of scores was computed for each respondent and for each landscape.

The computer program then stratified respondents into response groups for each of the six variables. Each respondent's evaluation sheet has been sequentially numbered, so it was possible to check to see if the ordering was done correctly by the computer. It also made it easy to check anomalies against the original evaluation for correctness and for comparison with the written responses.

An average preference score for each slide was calculated. This preference score serves as an average of how desirably this landscape was viewed by this group of respondents. A standard

RESPONDENT DISTRIBUTION AND HOMETOWN SIZE



K. Breisford, 1982

Map 1

Table 1
Numbers of Respondents in Each Variable

Variable	Response Groups of the Variables			
	17 to 25 years old 107	26 or more years old 8		
Sex	Male 55	Female 60		
Hometown Population*	Farm 37	Rural non- farm to 2,000 17	2,001 to 10,000 12	10,001 to 44,999 24
				45,000 or more 25
East/West Location	Metro 29	East 33	Central 37	West 16
Metro Experience	Yes 43	No 72		
Familiarity with Kansas	Very little 35*	Some of state 17	About half 27	Most of state 30
				Almost all 6

* Based on 1980 Census of Population and Housing -- Advance Reports for Kansas.

** One group was not asked this question. All respondents under very little are members of this group.

deviation of the responses to each slide within each of the response groups was also calculated. These preference scores identify which of the landscapes shown were viewed most or least positively by the respondents as a group. The slides could be ordered in terms of preference from highest to the lowest, if so desired, for further examination of the qualities which caused them to be preferred as they were.

Use of the Test

At this point it would be possible to compare the results of the landscape preference scores between each group within the six variables tested. Men could be compared with women; those from a farming background compared to those of an urban background. However, many of the preference scores appear to be very close numerically. A t-test was performed between the response groups of each variable to indicate which scores could be safely assumed to be significantly different at the 95% confidence level (See Appendix B).

The t-tests were made between response groups of each variable rather than among the variables. So, male respondents were compared with female respondents, and urbanites compared to farmers; farmers were not compared to men. The results of such comparisons, though perhaps interesting, were beyond the scope of this study.

Selection of Landscapes for Further Examination

The first set of landscapes chosen for closer examination were those slides which had very high or very low preference scores. The ten highest and the ten lowest-rated landscapes were examined for common themes or physical traits. The written

subjective responses of these slides were compared for each slide and for the high and low groups to determine if these landscapes elicited similar responses, if similar words were used, or descriptions given by the respondents. This would provide an indication of traits in a landscape which are seen as desirable or undesirable.

The six variables by which the respondents were classified were examined one at a time, comparing pairs of the response groups and noting t-scores which indicated slides viewed in a significantly different fashion by that pair of response groups.

The significantly different landscapes were examined to find particular characteristics of the landscape which differed between the response groups. Then, written responses to select significant slides were compared for the paired response groups. Again, attention was focused on discovering some common themes, physical traits or abstractions which seemed to influence the difference in the desirability of the landscape for the two groups. Agreement on traits was also of interest.

Analysis of highly subjective material such as these responses becomes, itself, very subjective. The recognition of this fact is probably the best defense against misinterpretation by either the researcher or the readers of such research.

FOOTNOTES

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Chapter 3

RESULTS OF RESEARCH

Numerically Most and Least Preferred Landscapes

Before examining the differences in the preferences between response groups of the variables, it might be well to make clear what qualities of a landscape, as a general rule, are valued and which are disliked. By examining the 10 landscapes with the highest average preference scores and the 10 with the lowest preference scores, some common traits of preference and non-preference may be seen.

Table 2
Landscapes Having the
Highest and Lowest Preference Scores

Most Preferred Landscapes	Preference Scores	Least Preferred Landscapes	Preference Scores
T	81.8	M	48.1
F	78.7	Q	44.7
B	74.4	G	44.4
DD	73.0	HH	42.4
U	70.4	EE	41.2
CC	70.0	P	40.6
E	69.7	S	39.9
I	67.7	Z	38.7
N	66.4	BB	36.2
AA	66.3	R	27.3

Factors in High Preference Scores

There are some common landscape elements which influenced high preference scores. It must be understood that some of these elements are transitory in nature. Changes in lighting, in season, the presence or absence of people or animals would affect the rating the scene received. However, it is apparent that these elements are important in the preference of many landscapes. Factors affecting preference were determined by a combination of the researcher's subjective visual understanding of the scene and an overview of the written responses.

Color. As a whole, the most preferred landscapes were ones in which the colors were vivid or there was strong color contrast. The scene having the highest preference score (T) is a good example -- deep blue sky, emerald green vegetation, and deep red soil. In the second most preferred landscape (F), the light and dark shading of the colors is very striking, dark storm clouds, puffy white at their tops, and the bronze and gold of vegetation. Landscape B is less striking, but the colors are still bright and crisp. The exception to this preference to color in a desired landscape is Landscape CC, which shows homes in suburban Johnson County. The sky is gray, trees leafless, and the colors dull. Some other factors must have caused this landscape to become one of the most desirable. The houses are obviously large, older homes in a middle or upper-middle class neighborhood. The lawns are large, with well-tended shrubs; the street is winding and tree-lined. The appeal of this landscape may be the lifestyle which is represented, an obtainable representation of the American Dream and an acceptable form of urban life.

Sky. Any region which has the broad access to sky views as does Kansas must be influenced by the appearance of the sky. Kansas has no mountains, and the hills are often low and flat-topped. Roads frequently run along the ridgeline so that the usual view of the landscape can contain nearly 180° of sky. Kansas has fewer areas where trees shut out the sky than do many other states, particularly in the East, South, or Northwest. Towns are smaller and except for Wichita, Kansas City and Topeka, do not have urban canyons of multistoried buildings to shut out the sky.

Kansas is also in the center of an area of frontal weather systems, resulting in frequent and sharp changes in weather conditions, cloud formations, and color. The sky beomes a giant backdrop for the landscape, and many otherwise bland scenes are transformed by their setting against a particular sky.

The most striking example of this is Landscape F, the second most preferred landscape. The storm clouds, white and puffy above, shading to purple gray below angle rays of strong golden sunlight onto an otherwise very typical scene of the Flint Hills.

In Landscape U there is little to the scene other than green shortgrass pasture or winter wheat, a few tufts of bleached prairie grasses, a post rock and a broad expanse of the subtle pastel shades of early sunset.

Most of the preferred landscapes have a clear blue sky, or skies the dark gunmetal color associated with summer storms. The importance of the sky element in preference may also explain the frequency of terms such as "open" and "vast" to describe a desirable landscape.

Human impact in harmony with nature. Nature is composed of features such as plants, animals, earth and water. Imposed upon these may be the artifacts of human occupation of the landscape such as houses, crops, automobiles, and roads. A field of corn cannot be considered completely natural, because it appears in the landscape in its present form only through human activity, but it is composed of natural objects.

The preferred slides focused on landscapes in which natural objects predominated, and in which the impact of human activity appeared to be limited. Distant houses or people, a post rock of native limestone or a stone wall seem to be acceptable. But town views, evidence of degradation of the environment, industrialization, or scenes with little vegetation are not viewed favorably by these respondents.

Once again, Landscape CC is something of an anomaly. A suburban neighborhood can hardly be considered a natural environment. But the houses are all surrounded by large trees and rolling lawns, and there is no traffic, litter or other objectionable features. Landscape N is a view looking toward the town of Manhattan from a high hill outside the city. Trees hide much of the detail, and only the nearest or tallest buildings rise out of the early autumn leaves. The river can be seen below. This is a very pleasant image of a city, with all the troubles and traffic hidden away below the leaves.

An important aspect of achieving harmony between humans and their cultural artifacts and the natural environment seems to be distance or scale. A town at a distance, as in Landscape N, or automobiles, distant and dwarfed by the rest of the scene, as in Landscape F, are much less intrusive than they might otherwise

be. The landscapes in which they occur can then be more highly preferred.

Other preferred landscapes suggest a sense of cooperation with nature. The scenes shown in Landscapes B, DD, U, I, and AA show well-tilled fields promising good harvests, animals grazing in green pastures, and people enjoying a summer's day by a lake. In each of these, there is obvious human interaction in the environment, but there is no apparent negative repercussion. Indeed, the human activity has become almost natural, the pure-bred cattle taking the place of deer and antelope.

Factors in Low Preference Scores

Undesirable traits found in the ten least desirable landscapes are less easy to typify. They seem to be a combination of factors or vague associations, rather than definite elements.

Strong human impact/lack of natural elements. This factor is composed of different but related ideas, and the presence of either aspect in the landscape seems to be undesirable. Landscape Q shows a well-kept industrial scene. The elevators and bins look tended, no graffitti or trash; the sky overhead is blue, the bins are glinting silver in the sun. But there is no sign of any greenery or any natural object. Everything is asphalt, metal and concrete.

The least desirable of all slides, 35th in the preference rating, was R, a scene of rush hour on Metcalf in Kansas City. Though the little sky which could be seen was overcast, there were many bright colors from the cars, signs and traffic signals. However, the overwhelming objects in the landscape are masses of cars,

powerlines and advertisements. There is no vegetation; in fact, human or any other natural object would seem out of place in this claustrophobia-inducing landscape. A landscape with many of the same elements, Z, is also among the ten least desired landscapes. Here, the scene is more familiar, the downtown of Emporia with a line of cars and the scale of this scene is much more human. There are shops and a sidewalk, a tree or two, and a blue sky overhead. It is still not seen as being a desirable landscape.

Colorlessness. Landscapes P and S are examples of this factor. The predominant color in both of these is a muddy gray. Sky, earth and vegetation are all shades of the same drab color. BB is less monochromatic, but the dull sky, leafless trees, and the expanse of concrete highway makes for very subdued colors. Even a pastoral scene such as the landscape shown in II can be seen as undesirable if composed of dark shades and shadows.

Once again the effect of color on the preference of a landscape is important. It suggests that landscape preference may be greatly affected by time of day and change of season which influence the colors present in a landscape.

Undesirable associations. This category of undesirable landscape elements is meant to include landscapes which for some reason other than their physical appearance (or in addition to their physical appearance) may have a connotation of undesirability to the respondents. This could have been said of the urban street scenes or spoils banks. But each of those also had other factors contributing to the negative preference, such as drab colors, lack of natural elements or adverse human impact.

Landscape G, however has an intensely blue sky and bright sunlight. Although the shrubs and trees are not well-tended, they are not objectionable. The old red brick building, white house and general store, and the gray of the gravel on the railroad crossing grade provide pleasant color contrasts. There is not the impression that the buildings are deserted or dangerous in the sense of an urban ghetto. Yet it was rated poorly. Some respondents saw this as being on the "wrong side of the tracks," as a place where people are too poor or too discouraged to maintain and improve their surroundings. Others saw it as a place which lacks pride in the town and its people. Dotted all over Kansas are similar remnants of little towns which have already, or seem destined to slip into ghost towns. This image may be a strike at Kansans' pride in their home, an embarrassment or a sign of failure.

In contrast, Landscape EE shows a relatively new apartment building. Strong late afternoon sunlight illuminates the building, a power pole, and a blossoming redbud tree. This landscape was rated 31st among the slides. A clue to this preference may be the number of college students who have lived in various small apartment buildings, and are all too familiar with their shortcomings. These shortcomings were perhaps projected upon the image they held of this landscape.

Landscape M is more difficult to explain. The scene shows a low-water road running by the side of a lake, water lapping at the berm of the road. It is winter; the sky and the water are deep blue, the tree branches are bare, and clumps of ice cling to stalks of grass by the water. The undesirable rating may have been due to the intrusive car and road in an otherwise natural

scene. Or, perhaps the scene conveyed the strong winds and icy temperatures of the winter day. Or perhaps the ice was mistaken for litter thrown into the water.

Landscape HH shows pickup trucks and cars lined up outside a small-town bar with a Coors beer sign over the door. The landscape received a low preference rating; many people saw it as a bad neighborhood, or a sleazy place to go drinking. They preferred not to associate with the rednecks they were sure were inside. But for some, this image conjured by a very familiar and homey atmosphere which they felt comfortable with and enjoyed. They had had good times in some small bar very much like this, and that positive experience altered their perception of this landscape's desirability.

Problems of Averaging Scores

Whenever a series of responses from different people are averaged, as they were here, to get an average score, there are some problems of making interesting results or points of view which differ from the norm. The mean score may actually reflect both strong preference and strong dislike and may not conform to the model choice.

Landscape HH, just discussed, is one example of this. Another is Landscape V. This scene shows an abandoned house, shed, and windmill, weathered and graying against a blue sky with white clouds. While not a favorite image, it was rated as 14th most desirable which was considerably higher than G, the landscape with the general store and railroad crossing. Landscape V may have been seen as a historical marker of the past and an artifact of a lost way of life which is worthy of respect. G, on the other hand, represents failure and rural poverty.

Landscape S, the 32nd slide in preference was strongly disliked by most people, but like Landscape HH, the low preference score hides some interesting responses. The scene shows a motocross trail etched into the ridges of a spoils bank, with a pool of water in the swale below. The colors are drab, the vegetation leafless. Yet a few young men recognized the trail for what it was, and reacted very positively. One rated the landscape at 100. They wanted to try their skill at riding on the trail, and saw this as a positive aspect of a landscape otherwise devoid of positive features. Their perception of this landscape's potential recreational use conflicted with a majority opinion that the landscape was severely deteriorated.

One method of checking for landscapes in which there were extremes in the preference ratings of individuals is by computing the standard deviations of the landscape's preference scores. High standard deviations suggest more disagreement than lower values. Both Landscapes S and HH have unusually high standard deviations.

Looking at the average preferences scores for a landscape ignores the impact of the presence or absence of transient features. The landscape is rated a single time, under fixed conditions of sun, vegetation and the presence or absence of people or animals. This is an unfortunate aspect of landscape evaluation, and it must be kept in mind when interpreting results. An element which occurs in a single scene and is like or disliked may have very little meaning for landscape preference as a whole.

Commonly Agreed-Upon Landscapes

Examination of standard deviations of landscapes' preference scores is also a means of seeing which landscapes have strong agreement in their scores. A low standard deviation indicates that the range of the preference scores given that landscape occurred in a narrow band around the mean (the preference score).

Landscapes B, C, F, T, U, and CC all have low standard deviations. Of them, all but Landscape C is one of the 10 most preferred landscapes. Landscape C is not one of the least preferred landscapes, either; it falls in the middle as 18th in order of preference.

It would seem that it is easier for people to agree upon landscapes they find desirable than landscapes which are not. If a scene is pleasant, most people will like it. If it is unpleasant, most people will dislike it, but there will be a few who have seen some redeeming characteristic in it.

Preference Variability Among Different Response Groups

Having noted some of the general characteristics of desirable and undesirable landscapes, attention can now be given to the examination of those landscapes which are viewed in a significantly different fashion by members of paired response groups. As was outlined in the methodology section, those landscapes were selected by comparing the t-scores of paired response groups within the six variables. A confidence interval of 95% was chosen to select the pairs of response groups which viewed a particular landscape differently. The results of the t-test are summarized in Tables 3 and 4.

Table 3

Frequency Each Slide Was Viewed Differently
By Paired Response Groups

Landscape Identifier	Number of Instances	Landscape Identifier	Number of Instances	Landscape Identifier	Number of Instances
A	0	M	1	Y	0
B	1	N	0	Z	9
C	1	O	0	AA	2
D	5	P	0	BB	0
E	2	Q	3	CC	4
F	3	R	4	DD	0
G	0	S	1	EE	1
H	6	T	7	FF	7
I	5	U	2	GG	1
J	5	V	4	HH	4
K	5	W	7	II	1
L	3	X	0		

It is obvious from the results in Table 3 that several landscapes are very commonly agreed upon by all of the groups. The landscapes depicted may have been found desirable, undesirable, or simply nondescript, but they were viewed with similar degrees of preference by almost all of the respondents. Other landscapes had several instances of differing degrees of preference by paired response groups. Numerous instances of disagreement indicates a landscape about which there is a polarization of opinion. Landscape FF, for example, was for many people a pleasant if somewhat bland view of rolling pastures. Others, however focused sharply on the distant power plant and smoke plume of Jefferies Energy Center, to the detriment of the preference score for the landscape. Some respondents seem more willing to overlook

Landscapes Viewed as Significantly Different
By Paired Response Groups

Variable	Response Groups	Landscapes
Age	17-25 years/26 or more years	H, L, R, S, T, V, W, Z, AA, CC, FF, HH
Sex	Male/Female	C, Q
Hometown Population	Farm/Rural non-farm	-----
	Farm/2,001-10,000	I, J, W
	Farm/10,001-44,999	J, CC, HH
	Farm/45,000 +	D, E, F, I, J, K, L, M, T, V, W, Z, FF
	Rural non-farm/10,001-44,999	CC
	Rural non-farm/45,000 +	E, K, T, W, Z, CC
	2,001-10,000/10,000-44,999	H
	2,001-10,000/45,000 +	D, H, K, R, H, FF
	10,001-44,999/45,000 +	B, D, E, W, FF
East/West Location	Metro/East	D, F, J, T, V, W, Z, FF
	Metro/Central	Q, R, T, V, GG
	Metro/West	K, L, FF
	East/Central	F, H, W, Z
	East/West	D, T, II
	Central/West	H, T
Urban Experience	Yes/No	I, J, K
Familiarity with Kansas	Very little	-----
	Some of state/half	CC
	Some of state/most	-----
	Some of state/all	Z, HH
	About half/most	H, Z
	About half/all	Z
	Most of state/all	Q, R, Z, AA, EE, HH

a single element which is intrusive, or are more accepting of its necessity in their lives. For others, one such feature is enough to negate the rest of the landscape's attractiveness.

Two of the landscapes with frequent instances of disagreement were rated among the 10 most preferred landscapes on the basis of preference scores. These were Landscapes I and T. Landscape T was the most preferred of the landscapes used in this research. Landscape Z, another frequently disagreed upon slide, was among the 10 least desirable landscapes.

Only two of the paired groups showed no disagreement over landscapes. These were farm/rural non-farm and those familiar with some of the state/those familiar with most of the state. Especially in the case of the latter pair, the distinctions made between the two groups, or the internal differences of the groups, are small. This may be the reason for the congruence of their perceptions of preference.

Similarly, other pairs had only one or two landscapes over which they differed. Rural non-farm/2001-10,000 population, rural non-farm/10,000-44,999 and 2,001-10,000/10,001-44,999, some of the state/about half the state/all of the state are pairs of response groups which show disagreement on only one landscape. Obviously the members of each of these response groups view landscapes similarly to their pair response group. Some of the differences between these groups may be artificially induced by the ranking cohorts. A person in Kansas who grows up in a town of 11,000 people sees and appreciates landscapes similar to a person who lives out in the country in a small unincorporated village.

The largest number of disagreements over preference occurs when the division between the response groups is clear -- Farm/45,000 or more population. The differences between the age groups also show many instances of disagreement, but some of this disagreement may be somewhat artificial, as the older group was small in number.

Men and women disagreed upon only two landscapes. There is an inclination to sometimes think women have more aesthetic, softer tastes in landscapes, while men like the wide open spaces and rugged terrains. At least in Kansas, among a college-educated population, the difference in landscape preference is not significant.

Another unexpected result is the difference in preference between residents of the eastern part of Kansas as compared to residents of the western part of the state. There has been a tendency to draw a demarcation line north to south and say "Here the West begins." People from one part of the state are felt to have different lifestyles and preferences from the other. According to these results, they do not frequently disagree as groups on landscape preference. The greatest number of significantly different results on the basis of east/west location occurs between the Metro quadrant, which includes Kansas City, Topeka, Lawrence, Leavenworth, and Atchison, and those of the Eastern quadrant, which encompasses the rest of eastern Kansas. Disagreement over landscape preference in this instance is more a result of the degree of urbanization than of eastern versus western location.

The Metro quadrant and the Western quadrant disagreed on only three landscapes. However, those who had not ever lived in a metropolitan area (the Urban Experience variable) viewed only 3 landscapes differently than those who had.

Under the variable of familiarity with Kansas, respondents who felt themselves familiar with most of Kansas and those who felt themselves to be familiar with almost all of Kansas disagreed on six landscapes. The number of respondents in each group may be the most important difference. The response group familiar with most of Kansas, but the most of Kansas group had a greater number of respondents and a wider range of responses. Though a form of the t-test which compensates for small sample sizes was used, the high t-scores between these two response groups may be resulting from the sample size.

Other groups with small numbers of respondents were the response group of 26 or more years, populations of 2,001 to 10,000, and those located in the Western quadrant. As noted previously, the differences between the age groups show up sharply. But for the others of these small groups, there were not so many differently perceived landscapes as to imply that the lack of numbers of respondents was skewing the results.

These numerical results highlight some of the landscapes for further examination. These t-scores indicate which groups differ significantly in their preference for a particular landscape. The written, subjective responses can help to clarify what elements of the landscape are influential in the rating each response group gave to the landscapes.

Results of Written Subjective Responses

Written responses refer to the phrases or sentences written by respondents as rationales for the numerical preference rating they assigned to each landscape. There are immediate and striking differences between analyzing written responses as compared with numerical responses. The difference in the form the response takes is obvious, but there are also differences in the perspective of the respondents and the information provided. Subjective responses are much more complex than the numerical responses. A person may indicate several positive elements in a landscape in the written response, yet give a low numerical preference rating. Two respondents can give identical written responses but widely disparate numerical ratings, or vice versa. The landscape may touch off a long series of associations which the respondent tries to record. Only one or two of the items identified may be the most influential in determining preference for the landscape.

It has been assumed that if two response groups of a variable rated a landscape in a significantly different numerical fashion, the members of each response group would have distinctly different interpretations of the landscape which influenced the preference ratings. For example, one group may have generally seen the landscape as "open and vast," while the other perhaps saw it as "flat and boring."

Groups which differed statistically often provided very similar subjective written responses. Sometimes the paired response groups which differed numerically in preference did have clear-cut differences in their rationals for preference. These differences

at times reflected different viewpoints of the same feature; "vast" and "flat" both refer to the same quality of terrain. But other times, the differences in elements of the written responses had no apparent relationships with each other.

Often response groups do not differ in what major elements are perceived in the landscapes, but they do differ in their appreciation of these elements. Within the response group, appreciation is not uniform, nor are the reasons for the degree of appreciation. All persons from an urban background do not respond with the same two or three categories of responses.

The written responses gave opportunity for the respondent to attempt to clarify or emphasize their responses. Frequently, a vehement response (either positive or negative) was written larger than other responses, capitalized or underlined, or followed by a string of exclamation points or astericks. The respondent wanted to ensure that the strength of the response, as well as the substance was recognized. Graphic techniques were also used. "Mr. Yuck" faces, used to warn children away from poisonous substances, strings of Z's to designate sleep, or scrawling "This is boring" in a parabola down the answer space are all examples of attempts to visually highlight a negative reaction. Respondents who used techniques such as these felt that some of what was perceived could not be expressed succinctly by words alone.

In other instances, some landscapes elicited responses of such a rococo form of expression that it is tempting to say that the respondents felt their usual words could not do justice to their feelings; for example, "the life of the land at brooding darkness."

The written responses underlined some of the personality development of the larger age response group, those from 17 to 25 years of age. Frequently, the need to be alone to think, to get away from everything and everyone was expressed. Recreation in the form of hiking, camping, bicycling, motorcycling, horse-back riding, canoeing, or running, either alone or with friends was frequently mentioned as a reason for finding a landscape to be desirable. The ambivalence of this age group toward their hometown (or a place similar to their hometown) was also expressed. The hometown, pleasant and familiar, has good associations and memories attached to it. But at this age, people are anxious to spread their wings and escape the security and familiarity. There are opposing pulls taking place, one liking and defending the home-like area, the other finding it boring, slow, and of little interest to anyone. Both attitudes are evident in many of the responses. Landscapes may be identified as home-like, pleasant and familiar, but dull and too common, all in one response.

A characteristic which occasionally appears among all of the response groups is a tendency to have a narrowed view of what constitutes a landscape. A frequent response to an urbanized or industrialized landscape was to say that there was no landscape to rate for preference, only buildings and cars, or that city life doesn't provide much of a landscape. These responses occurred despite the introductory remarks prefacing the landscape evaluation testing, which defined landscape as anything the eye could see, from horizon to horizon. Even if they are given information to the contrary, some people do not perceive urban or industrial scenes as being landscapes.

The final general observation about the written responses concerns the impact of a single physical landscape element to the perceived desirability of a landscape. The element is consistently mentioned in the responses in a positive manner; it may, in fact, be the only thing in the landscape viewed positively or the only element mentioned. Some of the important single elements noted included a windmill, brick streets, a stone fence, a postrock, and an old wooden fence. Curiously, single physical negative factors of equal impact in determining preference were rarely mentioned. Negative elements tended to be more abstract -- "too trashy," "looks barren and dry." Sometimes certain elements such as the windmill or the postrock were seen as too stereotypical of Kansas, and the landscape was rated slightly lower because of this. Usually they were viewed as signatures which identified the location of this landscape -- "love it, seen it many times, 'rural Kansas.'"

The Analysis of Subjective Written Responses

The written responses to the landscapes were examined for each of the six categories of variables. Starting with Age, the written evaluations of each set of paired response groups for a landscape preferred differently by the two response groups was examined for common and dissimilar elements. In the presentation of the results of this research, not all of the significantly different landscapes are analyzed in depth. Response group pairs with the greatest number of landscapes with significant preference differences are discussed. Those response groups whose landscape differences are not discussed, for the most part, mirror the response

of groups which were already analyzed or show little difference in their written responses though the numerical preference ratings are different.

Landscapes will be referred to by letter. At the beginning of each section, the arithmetic mean ($\bar{X}$) and the standard deviation (SD) of the preference scores for the response groups of each landscape discussed is provided. Examples of responses will be provided to demonstrate a point of discussion. They will usually be the whole of the response given by the individual quoted. Punctuation and emphasis will be retained to as great a degree as is possible.

Age Differences

The age variable provides an excellent argument for the importance of dual levels of landscape evaluation. Only 8 people were 26 or more years of age. The t-test used to determine statistically different sets of paired response groups was one which was to have compensated for small-sized samples. It would have been reasonable to assume that all of the incidences of preference differences between those 17 to 25 years of age and those 26 or older to be due to differing perceptions between age groups.

In evaluating the written responses, it became obvious that at least some of the differences were due solely to the particular personalities of the 8 members of the older group. As a group, these 8 people seemed to have extremely low preference and negative comments. Of the 35 landscapes rated, this response group rated only three higher than the response group composed of younger people. None of the three landscapes rated higher by the older group were shown to be statistically different than those of the younger persons.

This should not imply that in all cases the differences in preference between the older and younger respondents were due solely to the latter's bleak outlook on landscape desirability, or that there were not some important elements seen differently by these two groups. It does mean, however, that caution must be used in evaluating the landscapes concerned.

Subjective response comparisons between age groups reveal no clear understanding of why some landscape preferences are significantly different. Frequently, the comments made by the older group mirror ones made by the younger. But there are some features which were very important for young persons which are not mentioned by the older group. In others, although the degree of preference differed between the old and young group, the content of the landscape mentioned as affecting the preference was the same for both groups. Such cases are discussed first. Verbatim responses will be indicated by quotation marks and will usually be followed by the preference rating given by the respondent in parentheses.

Landscape H is a country scene of rolling hills and roads in the late afternoon sun. Many people responded to this landscape by describing it, with greater or lesser appreciation -- "golden wheat, rolling plains (94)," "country roads, hayfields (56)." Many people found it pleasant enough to look at, but somewhat boring and barren. Other respondents indicated an affective reaction to this landscape -- "peaceful and restful, soothing effect," "feelings of good and evil." Many in both age response groups commented on the presence of the stop sign; all of them seemed to find it an intrusion and a senseless precaution in such

Table 5
Significant Landscape Preference Differences
Between Age Response Groups

	Landscapes	H	L	R	S	T	V	W	Z	AA	CC	FF	HH
17 to 25 years old													
	$\bar{X}$	65	54	28	41	83	66	67	40	68	71	59	44
	SD	19	21	22	26	16	23	22	21	21	18	21	26
26 years or older													
	$\bar{X}$	48	34	13	23	70	53	46	22	43	56	35	23
	SD	20	25	11	20	17	15	15	15	20	11	22	9

an isolated area. The sign represented human interference in nature. This interference was magnified for some by the bullet holes in the sign.

For other people, the scene was much more comfortable. It represented a "quiet Sunday drive (87)," or a "good road leading to home or friends (58)," or simply a place to "get away from the hustle and bustle of the city and be at peace (61)."

Landscape L is also countryside, but countryside which is being developed into a sprawling housing development. The positive feelings about this landscape revolve around appreciation for the large, modern houses and the lifestyle they represent. The houses are nice, there is lots of room in the houses and yards and between the houses. Many respondents stated they would like to live there or to have a house like one of those. Others mentioned the quiet and the family life represented there. Still others saw this as a positive use of the land -- "a developing area, shows what development is accomplishing (56)."

Negative reactions to this landscape center around two themes. The first finds the physical environment in which the houses are set to be unattractive -- "too little landscaping, no trees (37)." The second was a sense that the houses represented either an intrusion of urban elements into the rural countryside, or that they were a fraudulent representation of country living -- "don't like sprawling cities and houses invading the countryside (33)," "too fake, people think they are in the country, but they're not (33)."

Landscape R had been judged to be the least desirable of the 35 landscapes. Almost every response by members of the Age

variable response groups said in some words, "crowded, congested, polluted (6)," One or two people did see this landscape as a representation of urban life that is fast-paced and exciting -- "love those cities (79)," but these people are rare. The real differences in perception of this landscape lies in the degree to which the younger and older groups find this landscape is undesirable.

The last landscape which members of both age groups saw in very much the same manner was Landscape W. This landscape shows Victorian style houses on a brick street. The overall opinion seemed to be that the houses are well-built, "historical, but not pleasing personally," in fact, a little ostentatious. The most favorable comments were reserved for the brick streets, which were unusual and attractive to most people. They seemed to convey the same aura of bygone days as did the houses. A few people specifically mentioned the antique quality of the houses, saying that they might have nice antiques in them, or that it would be fun to explore their attics. Others felt that the street lights, power poles and power lines detracted from the old-fashioned atmosphere of the houses and streets.

Landscapes S and T provoked different images for members of the two age groups. The difference is made more striking because the two landscapes have very little in common as far as their physical environment. Landscape S was one of the least desired of all the landscapes. It was gray in color and the land was muddy and eroded. Landscape T was the most highly desired of all the landscapes used in this study. It shows a beautiful, unspoiled and vividly-colored scene.

As has been mentioned before, Landscape S showed a motorcycle trail running along the ridge line of several spoils banks. Several of the males in the younger group were enthusiastic motorcyclists, and saw this landscape as the perfect motocross tract -- "love motorcycle riding (100)." Some respondents recognized this as a motorcycle track, but thought it ruined and scarred the landscape. Still others in the younger group mentioned that it looked like a good place to go hiking or exploring, or that they had enjoyed playing in a similar place as a child. Those of the older group universally found this to be a landscape which was undesirable -- "looks like a scar on the land, gray, dismal, dry (6)."

Landscape T was seen as attractive and desirable by most people in both age groups. A common response was "beautiful, natural, rugged (93)." They responded to the vivid color contrasts of blue sky, green vegetation and red soil, and to the natural quality of the landscape which showed no visible effects of human activity. Many people compared the landscape to the Grand Canyon; others found it to be strikingly different than their usual idea of a Kansas landscape -- "best of the bunch--visitors would not expect this of Kansas (93)," "Rivals the Grand Canyon--very pretty (75)."

There were a few people who did not find this an attractive landscape -- "eroded, poor soil, waste, unproductive (36)." But they were the minority.

The difference in appeal of the landscape for the two age groups lies in the activities the younger group saw as possible there. Many people of this group mentioned that this would be an

ideal place to go hiking, camping, horseback riding, motorcycling, hunting, exploring with friends, or simply to be alone and lie in the sun. They were also likely to mention the sense of freedom and openness that the scene conveyed, and the power of natural forces in the environment.

Landscape V produced very different responses than those above. For the younger group of respondents, this scene of an abandoned farmhouse was perceived one of several ways. Some found it run-down and shabby, others saw it as a very typical Kansas farm scene, others as peaceful and picturesque. This last response is very interesting, because of all the landscapes shown, this is the one which was mentioned as "a fine place to paint (85)," or "looks like a painting (96)." Some younger respondents were very harsh in their reaction to this landscape -- "wish old farms would close down (35)," others were unduly optimistic about the possibility of restoring the house to make it habitable. Some of the respondents saw in this landscape an image of a time which had past, their heritage, and "wondered about the people who lived here (56)." There was much more nostalgia for the old way of life in response to this landscape than to any of the other landscapes used.

For the older group, the nostalgia was closer to sadness, or even bitterness. "Sorrow, loss of another farm family (34), "think of the hard life probably lived there (40)," "people lived here, tried and left (78)." For them, this was not a picturesque scene or one which was possible to renovate to quaint prettiness. They were more aware of the harsh realities imposed by the Depression of the 1930's when this farm house was probably abandoned.

Few people had many good things to say about Landscape A. (For the sake of brevity, descriptions of the landscape will not usually be provided in the text. The reader is encouraged to refer to Appendix A.) Most found it crowded, dirty, urban, or even worse, smalltown. Older respondents found nothing redeeming about this landscape -- "Kansas towns breed narrow-minded people," "I would prefer a town square to a main street." Many of the younger respondents would agree with them in principle, if not in those exact words, but some also found this scene to have some pleasant associations -- "visiting grandma (57)," "familiar (68)," "cruising Main Street (52)." The opposing pulls of the attraction of the home-like and familiar for people in the younger age group is made evident in their responses to this landscape. Home-like is a quality to be both appreciated and denegated.

Landscape AA is another in which the main differences in the two age groups seem to center around the activities the younger respondents see taking place there. Perhaps the most typical response to this landscape by young people was "fun in the sun." Many recognized this landscape as one close to Kansas State University, others did not recognize the place, but could imagine the type of activities they would enjoy there. "Like people enjoying themselves, swimming (93)," "cooling off on a hot day (96)," "parties, being with friends in the summer (95)," "fun in the sun, catching rays (93)," were all typical responses. Other respondents were more attune to the mood of the place -- "peace and relaxation (100)," "carefree (63)," or wistful that it was not real -- "Can smell the suntan oil, wish I was there (97)," "I'd like to be there now (71)."

Not all the responses from this group were positive. Those which were not centered around the dead trees in the lake and the probability that the water was murky -- "typical muddy Kansas lake (34)," "trees in the water, yech! Lake beaches are a joke (18)." Some people thought this would be a lovely place to go and enjoy the water and sun if there were not already so many people there.

For the older people, this landscape held none of the same attraction on the basis of summer activities that it had for the younger group. One did mention "cooling off in the summer (72)" but without the enthusiasm of the younger respondents. The hills in the background were mentioned in a positive fashion, but most thought the water looked muddy and warm, and the dead trees and lack of shade made it unattractive. One of the most unusual comments made about this landscape came from a member of the older group, "too many people taking water from farming (13)."

Landscape CC is hard to discuss in terms of the differences between age groups. Almost all respondents could find something positive to say about this landscape, but very few were highly enthusiastic in their verbal responses. Most found this to be a landscape of "nice, clean city homes (55)." They were pretty, well-cared for, obviously in a pleasant part of town, and had many trees. Many respondents saw this landscape as being "very quiet and assuring (81)," "beautiful, rich-living, high-priced." These homes and this neighborhood was a place many respondents thought they would like to live.

The response group composed of older people saw most of the same elements in this landscape. But their attitude was more critical of the negative aspects of the landscape -- "too separate,

isolated (50)" or more noncommittal -- "nice." Though several people in the younger group expressed a desire to live in an area like this or in houses such as these, no one in the older response group expressed a similar desire. Perhaps it is because their lifestyles are more fixed; they may well already own their own home.

Landscape FF is a combination of rural countryside and 20th century technology in the form of a coal-burning power plant hovering on the horizon. Every response by older people expressed some degree of negative reaction to the power plant -- "polluted natural landscape, ruins (30)," "beautiful scene, inappropriate technology (11)," "opens spaces being invaded (58)."

The reactions of the younger groups were much more varied. Very surprisingly, many respondents of this group did not mention and appeared to have ignored the power plant and its smoke plume -- "another country dirt road with nice fenceposts (58)," "hunting (99)." Some of the respondents in the younger group wrote specifically about the pollution of the environment in the forms of smoke rising into the air and the visual blighting of the landscape. Others responded with more emotional answers -- "a different sort of awesome (57)," "dependence (31)." Others viewed this landscape in symbolic terms -- "past and present (78)," "nature and industry in conflict (58)," "hills and pastures make the power plant look small (68)." There were a few individuals in this group who saw the power plant as a positive element -- "development of industry, putting to use worthless land (65)."

Enough of the younger respondents used phrases such as "very common," "typical country road like around home" that it seems possible that many of this group accepted the power plant's presence

as a normal part of the landscape. Unlike the older group, they had grown up in an era when it is reasonable to expect something like this plant to spring up on the horizon. It may not be desirable, but it is not surprising.

In the final landscape which the members of the age variable viewed differently, Landscape HH, there is another interesting division of perception between the older and the younger response groups.

The most common response of both groups was a reaction to the small town quality of the scene. For some, the reaction was "small town, bustling, lots of trees (25)," for others, "boring, too small-town." Many felt the landscape looked cluttered or crowded, and several people mentioned a shopping cart abandoned in the middle of the wayfare as an eyesore.

One of the prominent elements in the landscape is a bar sign advertising Coors beer. One person in the older response group mentioned that the landscape included "a beer joint in a small town...(24)." But this was a very important element to the younger response group. Not only was it frequently mentioned as being part of the scene, but the importance of the bar to the community and its place in the personal lives of the respondents was stressed -- "get a cold beer and the news of the community (76)," "farmers go to drink coffee, reminds me of home (54)," "closeness of old friends hanging out (70)." This does not imply that everyone who mentioned the bar felt positively about it -- "ignorant, loud, stupid rednecks (0)," "small beer joint, smokey and stinky (34)." This is an excellent example of the impact of people on

the preference felt for a landscape. Almost everyone who gave this landscape a low preference score gave a written response which referred to undesirable people or behavior, even though there are no people visible in the landscape. Many who rated the landscape positively gave written responses which referred to the social life this bar and small town represented.

Summary of preference differences between young and old. The differences in landscape preferences between age groups is hard to pinpoint. Younger people have a greater emphasis on recreational activities than do older people, and a greater appreciation for a landscape in which they can imagine themselves either alone to think and dream, or conversely, gathering with friends and socializing in an informal way. As their lifestyles are less set, they are more free to daydream about the possibilities of renovating old houses and living in them, buying land in the country, driving up and down country roads for hours on end.

The older group is more oriented toward home and family in the sense that these must be considered in possible options of places to live, work and recreate. Lifestyles are more fixed, goals are more realistic, if less imaginative. The older group is less tolerant and less willing to overlook disagreeable aspects of a landscape.

Subjective Differences Between the Sexes

As was mentioned in an earlier section, the low number of landscapes viewed in a significantly different way by men and women was surprisingly low. Men had a higher average preference score for the two significant landscapes.

Table 6

Significant Landscape Preference Differences
Between the Sexes

Landscapes		C	Q
Females			
	$\bar{X}$	55	40
	SD	16	19
Males			
	$\bar{X}$	62	50
	SD	15	21

These two landscapes represent two very different physical environments. Landscape C shows a broad river valley, traversed by a railroad bridge across the Cimmaron River. Landscape Q is an industrialized scene, railroad and railcars, grain elevators, bins, and legs.

Some men and some women saw Landscape C as dry and brown, dead-looking; others liked the openness, the sense of space and distant horizons. What was "cold and barren" to one person was "cool and quiet" to another. The real difference between men and women was not the physical appearance of the landscape but the human interaction with the landscape.

For men, this river valley in Western Kansas held possibilities of canoeing, camping, hunting and fishing. Men seemed to appreciate the untouched quality of the landscape, and mentioned this trait more frequently than did women. This may be because the

activities they envision taking place in this setting, the hunting and camping, are ones which are thought of in a natural or wilderness setting.

Some women did refer to the undisturbed quality of this landscape as being a desirable feature. One mentioned that the river reminded her of canoeing with friends. However, a more frequent response of females was one which was descriptive. The stream and the trees had a positive effect on preference of the landscape. Otherwise, the scene was bleak -- "too gray, but I like the river and trees." Women were also more likely to mention the railroad bridge, but their comments were not consistent -- "only link to society (57)," "...railroad bridge looks old."

Both response groups acknowledge the importance of the river to the life of the area, and both men and women mentioned the trees on the riverbank in a favorable way. Opinions differed as to the cleanliness of the water, from "scummy" to "water is so clear." Both groups also remarked on the lack of color, which made the scene appear brown and dead to many people.

Landscape Q does not have a single important element which appealed to men rather than women, as did Landscape C. Both sometimes saw this landscape as one which was "ugly, but serves a purpose (50)," or one which symbolizes industrialization of Kansas, or which "reminds me of hauling wheat to the elevator (57)." These responses were common to men and women.

Both males and females found this scene typical of Kansas -- "typical Kansas, source of income (28)," "typical Kansas scene, exciting to wheat farmers, maybe (49)." Others saw in this scene the fruits of industry -- "dust and more irritation (25)," "awful

smells (31)," "trains smell and factories are too noisy (28)," "big Agribusiness, involves too many people (55)." Some people reacted to the industrialized quality by noting the importance and necessity of such landscapes -- "#1 money export, wheat, money (44)," "without transportation, no wheat would be produced (88)." And for a very few, the landscape held good associations with home and harvest -- "reminds me of harvest time, good times (97)."

These elements of industrialization and the accompanying problems, money and power, and familiar images are seen in this landscape by both men and women. The differences in perception seem to be based on the higher degree of desirability attached by men, but the reasons for this greater preference are unclear.

Hometown Population Size Differences

The greatest number of landscapes seen differently by response groups of the Hometown Population variable occur between the farm group and cities of 45,000 or more people, and between the rural non-farm group and cities of 45,000 or more people. Landscapes viewed differently by other pair of response groups for the hometown population variable either overlap these landscapes or are ones in which the differences in preference are a matter of degree of desirability rather than a difference in perceived landscape elements.

Several of the landscapes selected for examination here were examined during analyses of other variables. It is interesting to note similarities and differences between important elements for different variables. The landscapes preferred differently by these respondents do not appear to have any common traits or themes.

Table 7

Significant Landscape Preference Differences
By Hometown Population Size

	Landscapes	D	E	F	I	J	K	L	M	T	V	W	Z	CC	FF
Farm															
$\bar{X}$		63	66	75	75	59	71	50	45	79	58	60	34		54
SD		22	22	19	20	21	23	22	22	19	28	21	21		19
Rural Non-Farm															
$\bar{X}$			68				72			80		60	34	64	53
SD			14				17			10		25	22	13	20
45,000 or more (Urban)															
$\bar{X}$		75	78	85	61	42	59	61	58	89	74	77	48	75	75
SD		20	15	14	24	25	21	20	23	12	20	18	21	23	20

They are not predominantly rural or urban, colorful or drab. The landscapes which are preferred differently by all three of the response groups, Landscapes E, K, T, W, Z and FF will be discussed with respect to the three response groups together.

Landscape D is a rural scene. Some individuals of both the farm and the urban response group saw this landscape as flat, dry and lonely. Some people enjoyed the sense of freedom and the wide, open sky they saw here. It is this sense of openness that creates a paradox. For the farm group, this openness was expressed with positive written responses, but somewhat low preference scores -- "Open, empty, powerful -- like it (58)," "wide open pasture, can picture the wind blowing across the land (36)." The urban response group also mentions openness -- "wide open land (87)," and in at least one case saw it as "too much openness (54)." But for the most part, the preference scores they gave the landscape were higher.

The farm group more frequently mentioned colors and small details of the landscape -- "The contrast of blue sky and brown grass (75)," "like the plains; clean air, meadowlarks, windmills are Kansas." People in this group had more recollections of home-like images to associate with this landscape -- "home, good times, bad times (51)," "driving around with Dad (95)," "real nice rangeland, looks very familiar (92)."

For some members of the urban group, this was a "lonely place, only good for trap shooting (32), but for others, it was "a place I'd like to live (92)." One person in this group said that they "like the desolate, lonely feeling with lots of sky (90)," that this landscape provides. They seemed to find this a desirable

landscape because it was very different than their home, very open, with a vast sky, no trees or houses, very quiet and remote. This novelty may be the basis for the greater numerical preference of the urban group.

Landscape E was rated among the ten most desirable landscapes by all respondents as a whole. In the case of members of the farm, rural non-farm and urban response groups, the landscape was viewed more as a place for recreation than for any more utilitarian purpose. People in all three of the response groups referred to the green vegetation and the unspoiled beauty of the landscape -- "I like Kansas the way nature leaves it (78)," "I like open country, green, living scenery (85)."

Some of the members of the farm groups saw this landscape as land which was useless -- "wasteland, no one cares, poor pasture (38)," "land no good, rocks, uphill grade, weeds (4)," "not desirable to work in (36)," "not good terrain, too rough (41)." These comments seem to reflect the importance of farming in these people's lives and in their reactions to many facets of their experiences. This is not to imply that persons from the farm group did not enjoy the greenness of the vegetation or respond to this scene by recalling activities they might enjoy here -- "good place to hike (97)," "good dirt riding (60)," "good coyote and rabbit country (95)."

Some rural non-farm respondents shared the feelings of the farm group that this land had "too many rocks and trees to be functional, (but) pretty to look at." They did not mention, as did the farm and urban groups, activities which might occur in this setting, except for enjoyment of the quiet and solitude. Most

members of the rural non-farm group saw the most important features of this landscape to be the green and the quiet -- "this looks like a place of solitude, nice and green (59)." They were also less responsive to the roughness of the terrain than either of the other groups.

Landscape F also was one of the 10 most desirable landscapes, but the urban groups found it significantly more attractive than did the farm group. Their verbal responses were very similar, however. The comments of both groups centered around the dramatic quality of the clouds and sky, the colors, and the play of sunlight and shadow on the fields in the wake of the storm. Very few of the responses, perhaps five in number, dealt with anything other than those factors mentioned above, or emotional reactions to those aesthetics. These atypical responses included "weather is a dramatic factor in Kansas (70)," "small community, less hassels, open (96)," "the smell of fresh, cleansing rain (91)." This last reaction is especially interesting, because it speaks of an attraction to a landscape on the basis of the sense of smell, rather than the more usual sense of sight.

Landscape I was another of the 10 most desired landscapes. Both farm and urban response group members found this landscape to be attractively colored, lush and productive-looking. There were differences in the responses, too. Members of the farm group were more able to relate this rural scene to their own backgrounds than were people from the urban group. The farm responses tended to be more extreme either emotionally or analytically than the more middle-of-the-road urban group. Some farm responses include: "this is what it's all about!! (94)," "nothing wrong with the

world (81)," "good grazing, plenty of room (85)." These people also related the landscape to their own experiences -- "reminds me of 4-H (97)," "Dad raises Herefords (86)." Not all the respondents of the farm group felt positively about this landscape. "Pain in the neck (24)," "don't like cows (47)," and "nothing to see (50)" were also comments by the farm group. This group was also likely to see Landscape I as representative of Kansas -- "typical Kansas pasture in the Flint Hills (86)," "picturesque -- Kansas-like (83)."

Urbanites seemed more at a loss for what to say about this landscape. The presence of cattle was important to this group, as it had been for the farm group. The responses of the urban group were shorter and more superficial -- "Moo (77)," "cows are boring (9)," "happy cows (91)." In one instance, a person expressed a dislike for the landscape because of the cows; grains were considered to be more relevant to today's world.

The colors and the sense of quiet were important features. These gave urban respondents "good feelings (95)," but unlike the responses of the farm group, these feelings were seldom associated with personal experiences or memories. The urban group also provided some responses from which it would be very difficult to categorize a degree of preference without the numerical rating -- "cattle !?*", "looks like Europe."

Landscape J is another scene which had more complex responses and higher preference scores among people from farm backgrounds. The most frequent response from the farm group referred to farming activities -- "another year, another harvest (56)." Some of these responses were paired with negative preference scores -- "memories

of farming (12)," or were a reflection of the hard work involved in farming and harvest -- "looks like work (29)." This was combined with a sense of accomplishment -- "work and responsibility of farmers (57)," "fall, hard work, but good work (66)," "satisfaction, combining is done (56)." This landscape also represented the more tangible rewards of farming -- "looks like a lot of money (63)," "money, surplus grain equals a record harvest (58)."

For some members of the farm group, this landscape was evocative of home and of childhood memories -- "used to play in piles of wheat (62)," "looks like the feedmill at home (75)." There was also pride in the importance of farming -- "bread of life, Kansas farmers (92)," or in the impressive array of bins, legs, and grain piles as part of the business of agriculture -- "modern, clean, effective (93)," "new technology helps yields (72)."

Not all the responses of the farm group were positive. Some recognized the irony of the effect of bumper crops -- "doesn't look good for the farmers (43)." Others saw the landscape as "boring (45)," "too complicated (35)."

The responses of the urban group to this landscape included at least one example of almost every type of response given by the farm group. But the most common responses were those which saw this landscape as an example of industrialization, usually with negative connotations -- "more industry (24)," "industrial pollution (6)," "big industry is not appealing (5)." The second most frequent type of response seemed to be a statement of ignorance of what was represented in the landscape -- "interesting, what is it? (95)." One respondent from the urban group misinterpreted the piles of grain as gravel, and found it messy and undesirable.

Although people from the urban response group had many fewer personal connections with farming, or personal experience with landscapes such as this one, there was a positive appeal for many of them in the image of productivity they saw in this landscape -- "food (66)," "(this landscape) talks about farming, wheat industry, Kansas, the farmer and his problems (50)." As with Landscape I, many of the responses from urban respondents were shorter, less complex. Obviously, the personal knowledge and personal involvement was less than that of the farm respondents, and this affected the statements given.

It is interesting to turn to Landscape K now, and examine the responses of the farm group as compared to the urban group, because though the physical environment is very different than Landscape J's, the types of responses which were received are very similar.

This landscape provoked some of the strongest positive written responses from farm respondents, emphatic, almost chauvanistic paeans to Kansas -- "gorgeous -- ripe wheat, skies, flat and productive (95)," "the perfect picture (80)," "proud to live in Kansas (73)."

The landscape was very home-like to this group, containing many elements they appreciated, including color contrasts, wide open skies and familiar elements -- "home and golden flowing wheat fields (91)," "symbols of Kansas -- wheat, elevator, watertower, essentials (76)." They often felt a sense of peace, and harmony between the physical elements of the landscape -- "wheat goes with the elevator (66)," "smell the clean air with the scent of ripe wheat (77)," "natural scene around a rural community (68)." Other frequent responses mentioned harvest and the plentiful crops.

The urban group also had many positive responses to this landscape, but the reasons for their preference is somewhat different than those of the farm group. There is not the personal identification with the landscape that there was for the farm group respondents.

Some people from the urban group spoke of the bounty they saw in the landscape -- "proud of being breadbasket state (65)," "food for the world (57)." Other liked the physical appearance of the scene -- "vast, open, beautiful (73)."

Frequently the urban respondents saw this landscape as having many negative elements. For some, it looked hot and windy, or too barren and dry. Others felt that the landscape was in "the middle of nowhere (25)," or was too typical -- "sterotypical of Wizard of Oz (18)."

Landscape L is more highly preferred by members of the urban group, but the reasons given for preference or nonpreference are the same as those given by members of the farm group. They are also the same as those mentioned by respondents in the Age variable.

If the respondent liked this landscape, it is because the houses and yards are large and spacious; they are nice places to live and to raise a family. The architecture is modern, there are fireplaces and gardens. If the respondent did not find this a desirable landscape, the reasons are somewhat more diverse. Some did not like the physical setting, finding it too dry and treeless; others found large houses on large tracts of land to be

wasteful, or to be indicators of urban sprawl invading the countryside. Urban respondents apparently had a different perception of what "uncrowded" and "country" meant than did the farm group.

Landscape M is more highly preferred by urban respondents, but the factors influencing preference are common to both response groups.

Positive factors include the bright sunlight which add warmth to a cold-looking day, the bright colors and the water. Some respondents merely expressed a liking for water; others wrote that it reminded them of "good fishing and trapping (84)," or that they liked water sports. The road beside the lake was seen as a positive feature -- "winter stroll, see the country (66)," and as an intrusion into the natural environment -- "manmade for 'fun,' no purpose (60)." Most of the responses which found the landscape undesirable referred to it as "icy," or to the water as being dirty or mucky. There was some confusion as to whether the chunks in the water and clinging to the grasses were ice or trash. In either case, they were unappealing, and detracted from the landscape.

Landscape T was found more desirable by urban respondents than by either farm or rural non-farm respondents. When this landscape was examined for the age variable, the vivid colors and unusual terrain were outstanding factors for high preference. Members of the younger response group also emphasized the opportunities for many types of recreational activities.

When comparing farm versus urban, color and terrain are still very important. The recreational activities are mentioned, but they are not centered in one response group. (This is reasonable,

as the age variable included all respondents, and now the recreationally-minded members of the younger group are divided among all of the response groups of the Hometown Population variable.) There is still a sense that this is very different from the Kansas of everyday experience -- "reminds me of Colorado (95)" and a sense of being awestruck or overwhelmed by the environment -- "rugged, massive; makes you step back (84)."

Landscape V was also examined under the Age variable. Many of the elements which were influential in determining preference before are still apparent with the Hometown Population variable, including the picturesque, painting-like quality and the sense of nostalgia for olden days. People in both the farm and the urban group were attracted to the age and sense of mystery of this old farm house -- "historical, I would like to meet the original owners (6)," "rustic, a picture of the early 1900's (77)," "mysterious, historical, homey (64)."

There is one notable division between the people who come from a farming background and those from an urban background. People from the urban group seem less aware of this landscape as one which is fairly common in rural Kansas, and gave responses such as "unique (97)." Members of the farm group were more likely to express familiarity with such scenes -- "love it, seen it many times; 'rural Kansas' (100)."

One of the most notable points about the preference difference of Landscape W is the high degree of numerical preference people from the urban group feel for it. Many of the responses written about this landscape are common to both farm and urban respondents. They refer to the ornateness of the architecture, the historical

quality, the solid prosperity such houses represent. For the urban group, the most outstanding responses are those which convey a sense of the community these people imagined the houses to be part of. It is a "clean, old-fashioned town (91)," "clean, bright, old (92)," "small-town U.S.A. (74)," "hometown, U.S.A. (78)." "Old homes create a friendly atmosphere (95)." It is interesting that people who live in large cities perceive this landscape as a small town with idealized small-town qualities.

Landscape Z elicited similar responses from all three response groups. All agreed that this was a landscape of a small town and that this small town had its good and its bad points. On one hand, people felt they "like it, can identify with it, a good size (63)," and that good people live there, it is quiet and familiar. They may have had good memories of visiting grandmothers or going shopping. On the other hand, the town is old and is becoming rundown. Cars cause congestion. Respondents found it "too crowded and structured (0)" to feel at ease in, yet too small to have the advantages of a city. It is interesting that the urban respondents who saw Landscape W so appealingly small-town found as little to attract them to this small town as did the rural non-farm and the farm groups.

Rural non-farm and urban respondents both agreed that the houses in suburban Kansas City shown in Landscape CC are "nice houses." Nice is the adjective most frequently used by these two response groups to describe the houses, yards, trees, or this landscape as a whole. This is a highly desirable landscape according to its preference score, yet respondents seem to have found it difficult to explain its appeal.

Rural non-farm respondents saw this landscape in terms of a pleasant place to live -- "cozy, well-built, good place to grow up (65)," "nice place to live (65)," "not crowded or carbon copies (67)." Urban respondents saw this landscape as the epitomization of success -- "money, power, refinement, high socieity (97)," "money, success (98)," but with attending drawbacks -- "People are too snobby (60)."

Both groups liked the large yards and the big trees, but some members in each group thought the houses were too close together, lacking privacy, though the urban respondents rated the landscape more highly overall than did rural non-farm respondents, the most negative responses came from the urban respondents -- "well-cared for, but wasteful (67)," "too suburbia and middle-class tastelessness (45)." Once again, the urban respondents speak more of the lifestyle represented than the physical features of the landscape.

The preference score of Landscape FF for the urban group was much higher than for either the farm or the rural non-farm groups. Although some members in all three responses groups overlooked the presence of the power plant and smoke plume, people in the urban group were much more likely to respond to this landscape without mentioning either of those features. When urban respondents did mention them, it was more likely to be in terms of "mixture of past and present (78)" of "man-made (55)." Perhaps such an element is a more usual part of their environment, and so these people found it less objectionable.

The power plant and smoke plume are much more intrusive and have a more severe negative impact on preference for the farm and rural non-farm respondents. They speak, not of modernization,

but of smoke ruining the landscape, or "pollution into clean country air (46)." They were also more thoughtful about the repercussions of this type of development -- "electricity good, pollution bad (58)," "industry coming, gives life to small town, but may eventually ruin it (41)."

Summary of preference difference between hometown population groups. There are strong differences in landscape preference on the basis of the hometown population size of the respondents. The farm groups and urban group, and the rural non-farm group and urban group showed the greatest numbers of significantly different landscapes.

The farm and rural non-farm groups are very similar in their expressions of preference. They are more familiar with and more sympathetic towards landscapes showing farming or agricultural activities. They are less recreationally-inclined than the urban group. These groups enjoy openness and space, and are critical of industry, or other forms of urbanization encroaching upon them.

The urban group is less interested in agriculture, and less informed about it. They often find farm landscapes boring. They are more likely to mention the recreational activities possible in a natural landscape. The urban respondents are intrigued by the idea of a small town, but less impressed by the reality.

Differences in East/West Quadrant Preference

The results for this variable which compares relative east/west quadrant preference differences do not conform to the expectations under which the research was started. It is conventional wisdom that people from eastern Kansas have very different outlooks and preferences from those of western Kansas. These might be

Table 8

Significant Differences in East/West
Landscape Preferences

	Landscape	D	F	J	K	L	Q	R	T	V	W	Z	FF	GG	II
Metro	$\bar{X}$	71	85	42	62	58	39	35	89	74	73	42	69	47	
	SD	20	14	25	21	22	21	27	11	19	18	20	19	14	
Eastern	$\bar{X}$	55	71	54					77	56	57	32	50		48
	SD	19	17	23					16	25	23	19	19		25
Central	$\bar{X}$							22	78	64			56		
	SD							16	20	22			15		
Western	$\bar{X}$				74	43	42								63
	SD				14	23	20								21

expected to influence landscape preference to a significant degree. It is apparent from the few landscapes preferred differently by respondents from the Metro quadrant and Western quadrant and by respondents from the Eastern quadrant and Western quadrant (See Table 4) that whatever differences there may be do not greatly affect landscape preference. On the contrary, differences in preference seem to occur more frequently between people from more and from less urbanized area.

As this thesis concentrates only the significant differences found between respondents of paired response groups within a variable, not all landscapes or all pairs of response groups will be examined. Those which will be discussed are found in Table 8.

Landscape D was found more desirable by members of the Metro quadrant than by members of the Eastern quadrant. Many people in both response groups referred to this landscape as brown or barren; they also remarked on the lonely or solitary quality of the scene. For some respondents this loneliness was undesirable; for others, it was part of the appeal. For these people, this landscape was a place to be at peace and to wander alone.

People of the Eastern quadrant seemed to react more negatively to the emptiness and vastness of the landscape -- "boring (38)," "Kansas prairie -- blah! (50)."

Some Metro respondents also found the landscape dull, both in color and in content -- "nothing but grass, but like the wind-mill (54)," "lonely, only good for trapshooting (32)." But more respondents of this group were likely to feel a sense of curiosity of freedom in viewing the landscape -- "can see for miles (61)," "Road to the sky; feels comfortable (89)," "Where does the road go?"

Perhaps this type of landscape was more rare in the daily experiences of these people, and therefore more intriguing to them.

Landscape F was also more highly desired by people from the Metro quadrant than by those of the Eastern quadrant. In this instance there seems to be no element which affects the difference in preference. Both groups mention the clouds, the contrast of shadow and strong sunlight and the vivid colors found in the landscape. One element which is present in both of these response groups but which was not so obvious when this landscape was examined previously was a sense of anticipation or foreboding about the storm -- "something is going to happen (83)," "Clouds could cause problems (40)," "everything is ready for the storm -- adventure (88)," "waiting for the storm."

Landscape J was not very highly regarded by people from either the Metro quadrant or from the Eastern quadrant. Many in both groups found it "not scenic, ugly (23)," "industrial, impersonal (50)."

Those from the Metro quadrant were slightly more inclined to mention the industrial component of the landscape -- "industrial site (65)," "big industry not appealing (2)." People from the Eastern quadrant were somewhat more likely to emphasize the productivity potential of this landscape -- "bountiful crops (66)," "excess of grain, a good year (50)," or to have personal associations with a similar landscape -- "think of home (56)."

Landscape K was more preferred by people from the Western quadrant than by those from the Metro quadrant. The responses from the Metro quadrant were similar to those from the urban response group of the hometown population variable. The most

frequent, indeed almost the only, response from the Western group was that this landscape "looks like (my) hometown almost, from a distance (60)," "reminds me of home (87)," "Looks like Grinnell!! somewhat. I love small towns in western Kansas (96)."

In Landscape L, preferences are reversed. Persons from the metro quadrant find this landscape more desirable. Many from this group had criticisms about the landscape, finding the scene uninteresting, or disliking new housing developments, but people from the Western quadrant had different and stronger reasons for not desiring this landscape -- "too close for country living (20)," "don't like country living with neighbors (54)." One interesting response from a person of the Western quadrant stated that the person liked the landscape because this person thought new developments such as this help keep people in small towns that might otherwise move to larger towns.

The Metro quadrant respondents had commented that one of the positive aspects of these houses was that they were spread out, not crowded together. There is a difference between the connotations of openness and crowdedness from Metro and Western respondents.

Although respondents from the Western quadrant have a higher preference score for Landscape Q than do respondents from the Metro quadrant, the Westerner's comments about this landscape are less enthusiastic than the numerical scores would suggest. The Metro respondents made negative responses -- "awful smells (31)," "industry, cold cement, metal, noise, dirt (18)" but there were also more positive comments -- "grain mills fascinate me (57)." The respondents from the Western quadrant were more blasé -- "When you've seen one elevator, you've seen 'em all (15)," "so-so

(50)." Some of the Western respondents saw this landscape as a large urban area, which influenced them to make negative responses -- "looks like a big city; I hate big cities (19)."

For the most part both Metro and Central respondents agreed that Landscape R is undesirable. Both said that the scene was dark, crowded with cars and signs, and ugly. Some respondents from the Metro quadrant, however, saw this as a familiar landscape -- "familiar, reminds me of home (84)," "love those cities (79)." There were no corresponding responses from the Central group. All of their responses were similar to "yuck, pollution and too many people (16)," "Salina? don't like the traffic (42)," "would go nuts in 5 minutes." This group also responded to the perceived rushing, hurried quality -- "Chaos, blaring horns, rushing around (18)" and were more sensitive to the proliferation of commercial signs they felt detracted even more from this environment.

Landscape T was found to have been seen differently by people from the Metro and Central quadrants. Both the numerical ratings and the written responses of the Eastern and Central people were very similar. The landscape was much more highly preferred by the Metro group than by the other two, and the majority of all comments were similar to those discussed in the Hometown Population variable. The only obvious difference between these groups is that the Eastern quadrant mentioned erosion as the environmental agent at work creating this landscape -- "eroded, poor soil (36)."

Landscape V was seen differently by the respondents from the Metro and the Eastern quadrants, and by respondents from the

Metro and Central quadrants. Once again, people from the Metro group found this landscape more desirable than did people from the other two response groups. The responses made by the Western and Central quadrant respondents were very similar. The outstanding difference between their responses and those of the Metro respondents is the frequency with which the Metro people said this landscape would be enjoyable to paint -- "artistic-looking, like a painting (80)," "fun place to paint (85)."

The reactions of the Metro quadrant and Eastern quadrant respondents are very similar in Landscape W to the responses given by the farm and urban response groups of the Hometown Population variable. Once again, the most evident difference between the two response groups is the image of the town developed by the respondents of the Metro quadrant.

Although the Metro quadrant respondents preferred Landscape Z more highly than did people from the Eastern quadrant, neither group found this landscape very attractive. There is a slight shift between the two groups in their reasons for stating this is a less desirable landscape. The respondents from the Metro quadrant refer to the small-town quality of this place -- "wouldn't care to live in a small town (33)," "dull Western Kansas small town (39)." The Eastern quadrant respondents were more likely to see this as a small town that was rapidly becoming too large -- "little town getting too big, congested (6)," "busy, no open spaces (22)."

Landscape FF, like the previous scenes, elicited responses from the Metro and Eastern groups very similar to the responses of the urban and farm response groups of the Hometown Population variable. Those from the Metro quadrant, like those of the urban

response group, were more likely to ignore the power plant and smoke plume in the scene. They were more prone to comment on the open countryside, the rustic fences or the dirt road. When they did mention the power plant and smoke, they usually referred to it as industrialization, while the Eastern respondents were more inclined to call it pollution and to have perceived this pollution as the most significant feature of this landscape.

This is the first time Landscape GG has been discussed in terms of its results. Although the Central quadrant group rated this landscape more highly than did the Metro quadrant group, neither was very attracted to this scene of an old limestone hotel with wrought iron grillwork and yellow awnings. Most people agreed that it was old, but many in both groups found it too stark or plain, or too unkept to be desirable -- "sleezy (23)," and "slummy (34)" were two such responses. Others felt this part of town was rundown, and that some trees or shrubs were needed to enhance the building.

People from the Central quadrant were more likely to be attracted by the historical quality of this place -- "old, historical (60)," "heritage, curiosity (71)," "Good place (good memories) (94)." They also more frequently noted the limestone as a building material -- "Limestone is Kansas (80)," "good use of indigenous materials (82)."

As example of both the problem of asking for landscape preferences in such an open-ended form and of the complexity of factors influencing preference is found is a response by a person from the Metro quadrant. He rated this landscape as a (12) because he recognized the town as Alma, and had received a speeding ticket there.

The final landscape to be examined for this variable is Landscape II, another which has not been discussed before. Although the Western response group rated this landscape as more desirable than did the Eastern group, the written responses do not reflect the same clarity of preference. For the most part, respondents from the Western quadrant like the landscape, felt it showed a necessary or important activity, and could relate it to their own lives -- "cool, fresh spring (96)," "good irrigation, like Dad's (89)." A few from this group found the landscape aesthetically unattractive -- "dark and muddy (17)," and a few seemed to feel this method of agriculture represented a questionable standard -- "superficial productivity (50)."

The respondents from Eastern quadrant divided along similar lines. Some did not like the physical landscape -- "flatlands, blah (2)," others felt this was uninteresting "not scenic (47)," "nothing important (51)." Others were very eloquent about irrigation in either a positive or negative way -- "prosperous agriculture, money put to good use (82)," "precious water that makes the wheat grow (99)" and "excess use of water, depletes the water table, shortage (25)," "don't like agribusiness, chemical farming, etc. (5)."

It is interesting that those people who are most likely to be most familiar with a center pivot irrigation system were the least analytical about the long-term consequences of this aspect of farming, and the most accepting of this feature of the landscape -- "my life, see this all the time (95)."

Preference differences between east/west quadrants. The landscape preference differences observed here are more closely related to degree of urbanization than to longitudinal distance

apart. The Metro quadrant respondents had more disagreement with people of the Eastern quadrant than with those of the Western quadrant. (It should be remembered that though the type of urban setting is quite different, most people from Western Kansas live in urban areas.) The Eastern and Central quadrant groups rate landscapes in similar fashions, and see many of the same factors as influencing preference.

Preference Differences Due to Urban Experience

Table 9

Significant Landscape Preference Differences Due to Urban Experience

Landscapes		I	J	K
Never lived in a large metropolitan area				
	$\bar{X}$	73	54	70
	SD	18	23	21
Have lived in a large metropolitan area				
	$\bar{X}$	59	43	61
	SD	23	22	20

It had been assumed that differences in the experience of living in a large metropolitan area would result in many landscapes preferred differently. It had also been assumed that the landscapes which were indicated in this variable would mirror those significant on the East/West Location variable, especially in the comparison

of the Metro quadrant with the Central and Western quadrants. However, only three landscapes are viewed differently by the response groups of the Urban Experience variable. These landscapes, I, J, and K were not all significant for the East/West Location variable, and not more than one of them occurs in any set of the paired response groups of the Location variable. All three of these landscapes do occur in the paired response groups of farm and urban people of the Hometown Population variable.

It should be kept in mind that all persons who have lived in a metropolitan area for a period of time have not always lived there. They may have grown up in a small town or on a farm and lived in the large city in the recent past 2 or 3 years. Or they may have moved from the city into a much smaller community several years ago. Though respondents were asked how long they had lived in the metropolitan area they indicated, they were not asked how long ago this was.

All three of the landscapes found to be significant are very rural scenes. This is the first time in this evaluation of Kansas landscapes that there has been such consistency in the type of landscapes which were viewed differently. Admittedly, with only three landscapes, it is more probable that three of similar content could have occurred. In all three landscapes, those persons who have not lived in a metropolitan area had a higher preference for the landscape.

Landscape I was enjoyed by members of both response groups because of the soft colors and the peace or tranquility many saw represented -- "tranquil, with green hills and blue sky (62)."

Several people in both groups also found this landscape to be "Kansas-like (83)," very typical of the state and very representative of life and growth -- "lots of life (73)."

Respondents with urban experience were more likely to find the scene "blah (50)," or to remark "cows are common (30)." Others felt that there was "no landscape, just grass (37)," "nothing to see (50)." Many respondents from this group were very brief or at times somewhat confused -- "Milk! (57)."

Those without urban experience found this landscape to be pleasant because of the rolling terrain and the openness -- "wide spaces, no fences (100)." They frequently responded to the agricultural aspect of the scene -- "pro-farmer, cattle look good (82)," "Dad raises Herefords (86)," or even "feeding and itchy arms from hay (53)." Obviously these people tend to more often be from farming backgrounds, and find landscapes such as this familiar and filled with positive associations.

The responses to Landscape J divide along very similar lines to those of the farm and urban response groups of the Hometown Population variable. Those without urban experience, like those of the farm group, saw this landscape familiar and symbolic of productivity, the riches of a bountiful harvest, and the hard work that is represented, and the technology of modern farming. They have seen similar landscapes many times, and may have played in similar piles of grain.

Respondents with urban experience usually saw this landscape as confusing, cluttered or boring. They sometimes stated that they had no interest in farming or farm-related activities.

Individuals in both response groups responded favorably to the bright colors of the landscape, and to the patterns or designs made by the bins, legs and grain piles.

The responses of these two groups to Landscape K were also similar to the responses of the farm and urban response groups. In this case, however, the positive responses were less strong than those of the farm response group. The group without urban experience still found the landscape colorful, and saw in it images of home and the production of food for the nation and the world, but there were more comments such as "not much to look at (51)" which served to dilute the intensity of the very favorable responses. Those who had lived in large metropolitan areas also saw the rich productivity of the land and the interesting color combinations. More of these people, however, were of the opinion that this landscape was in the "middle of nowhere (25)" and "too flat (30)" or stated once again that they did not find farming themes interesting.

Differences in Preference Due to Familiarity with Kansas

The Familiarity variable is based on respondents' perceptions of their own knowledge of their home state. The variable is something of a disappointment, but also quite interesting. It is disappointing because the results of the t-test to select significantly different landscapes as preferred by paired response groups of the variable apparently are not meaningful. An examination of Table 4 shows that in all but the final pair of response groups there is a maximum of 2 significantly different landscapes. These landscapes show numerical differences in their preference scores, but no differences in the written comments of the paired response groups.

With the confidence level of the t-test set at .5% (95% confidence that these landscapes are preferred differently), it is possible, in fact probable, that some pairs of response groups will show numerical differences where no such difference exists. This same phenomena may have occurred in other variables, but because there were a number of landscapes in which written subject differences in preference existed, the questionable landscapes were given the benefit of the doubt.

The last set of paired response groups for the Familiarity variable, those who felt familiar with most of the state and those who felt familiar with almost all of the state, show 6 landscapes preferred differently. In examining the written responses of these two groups there are no patterns of difference in the preferences. The response groups composed of people who felt familiar with almost all of the state contained only 6 members. Although the t-test used to differentiate between significant and non-significant ranges of scores was to have compensated for small sample sizes, it did not do so in this case.

The Familiarity variable was unusual from the start of this research. The choices given to the respondents were very open to interpretation -- some of the state, most of the state, and so forth. It had been thought there might be some traits of people who do not feel well-acquainted with Kansas that would be different from traits of people who believe themselves familiar with almost all of the state.

For example, it had been expected that people who felt less familiar might give written responses which were very non-committal -- "I don't know," "It's okay, I guess," or might plead confusion or ignorance of the composition of the landscape. They might also

have been more easily surprised at the variety of Kansas landscapes and more likely to comment that a landscape did not look like Kansas.

Those people who felt themselves familiar with almost all of the state might have been thought to be more overconfident in stating where they thought a landscape occurred, or more prone to calling a scene very typical of Kansas.

These theories were not correct, perceived familiarity with landscapes does not appear to be related to preference of landscape.

Landscape Interpretation Categories

The final segment of this research is the comparison of the written subjective responses of Kansans for Kansas landscapes with two approaches which have been suggested to generalize the ways in which a varied group of people might describe a landscape. These approaches have been designed by prominent scholars in the field of landscape perception. The first of these approaches is that of D. W. Meinig. Meinig lists ten different ways a group of people might view a landscape.⁶⁵ They are the landscape as: Nature, Habitat, Artifact, System, Problem, Wealth, Ideology, History, Place and Aesthetic. The second system of categories is that of B. R. Little, who developed the categories, personalistic, physicalistic, global-aesthetic, functionalistic, and egocentric.⁶⁶ Both of these works are described at greater length in the Review of the Literature. Both are more theoretically based than research oriented, though Little's work did derive from responses of subjects to various landscapes.

The question here is whether Kansans' responses reflect these categories, and whether there are problems using such categories

for their responses. One method of answering these questions would have been to examine each written response by each respondent and assign it to one (or more) of the categories of each author. This was not done for several reasons.

Many responses fell into several categories and it was often difficult to know which was the most influential in determining the preference expressed for the landscape. It was also unknown what the effect on the categories would have been to have multiple niches for a single response. Secondly, there were times when categorization would have been very difficult. To which of Meinig's landscape factors does one assign responses such as "hunting season," or "Stop? for what??" People who indicate unfamiliarity with a landscape or who have expressed an opinion resulting from a misinterpretation of the scene also cause difficulties, as do people who state they do not have a response, or whose attitude is that they are indifferent to the landscape. Does a landscape which has inspired indifference or boredom represent Meinig's category of Problem, Ideology, or neither?

It is obvious that this research was not designed to test the categories of these authors in a scientific manner, nor to recreate the way in which the categories were originally produced by Meinig and Little. Such research has possibilities and would be interesting, but this research project concentrated on noticing some of the problems which arise in applying two examples of landscape perception categories to a landscape study.

Each category suggested by Meinig and Little will have examples of responses to Kansas landscape which fit the criteria of the category.

- Nature. "no obstacles, just land"
"I like Kansas the way nature leaves it"
"Natural, no signs of civilization"
"nature's power and beauty"
"landform, erosion, natural beauty"
- Habitat. "place I would like to live -- away from town"
"neat place to live if it was rebuilt"
"nice residential area"
"want to live here in 20 years"
- Artifact. "someone has misused the pretty landscape with
motorcycles"
"new houses improve the landscape"
"stone fencepost, standing forever"
- System. "new technology helps yields"
"developing area shows what development is
accomplishing"
"industry, advancement, technology"
- Problem. "someone left the gate open and all the cows
got out"
"will lead to pollution"
"someone shot holes in the stop sign. I hate
guns."
- Wealth. "development of industry -- putting to use worth-
less land"
"industry, fruits of labor, bumper crop, happy"
"money, food"
- Ideology. "the hill is a conquest to be met"
"Main Street, U.S.A."

"shows what Kansas is all about"

"men who made it in the world, won the battles"

History. "representative of the pioneers in Kansas,
dryness of Kansas"

"old and wise look"

"the old homestead, where life begins"

"historical, would like to meet original owners"

Place. "Good ol' Kansas"

"good times and sun at Tuttle"

"Topeka is ugly"

"looks like by house in my hometown"

"the road to Lake Kanopolis"

Aesthetic. "pretty -- stone fence and color combinations"

"rich deep colors of red and green, untouched"

"sky and clouds contrasting with the land"

"artistic-looking, like a painting"

As can be seen from these examples, many of the responses made by this group do fall into the categories described by Meinig. Some of these responses, and others not given could easily be placed in more than one category. Still others would be very difficult to place. "Harvest design" -- does that response refer to the aesthetic quality of the scene, or to the landscape as a system? "Dad works at a Co-op" -- is that a landscape viewed as Place or as System, or neither? What is the correct category for a response such as "I love it" with no explanation of why? Kansans frequently respond in a positive way to a landscape they describe as "open" or "vast." Does this quality reflect Ideology,

seeking a tangible expression of ideas or philosophy, or does it reflect an aesthetic view of the landscape in which wide reaches of the land and sky are pleasing to Kansans' eyes.

Little

<u>Personalistic.</u>	"Kansas towns seem to breed a lot of narrow-minded people." "probably good people" "ignorant, loud, stupid, rednecks"
<u>Physicalistic.</u>	"rolling hills and meadows" "wheatfield with an elevator in the background" "nice houses, vegetation looks dead"
<u>Global-aesthetic.</u>	"makes me want to run down to the riverbank" "life! green newness of the land" "road to the sky -- feels comfortable"
<u>Functionalistic.</u>	"good hunting country" "grain being stored during harvest" "great place to party"
<u>Egocentric.</u>	"I like going to the lake -- good times" "reminds me of back home" "nice, I can relate to it" "going to work when I'd rather sleep"

Once again, the landscape categories can be filled by responses to Kansas landscapes. But as with the Meinig categories, some responses fit uneasily into Little's scheme.

Neither Little's nor Meinig's categories allow for positive and negative views of the environment. If a landscape is viewed as History, the people seeing the landscape may feel a great sense of protectiveness about their heritage, or they may feel history is irrelevant to today's concerns, and this landscape should make way for new things.

Geographers and other people who work with landscape evaluations or perception do not habitually go out to classify every landscape as falling into Meinig's or Little's, or another scholar's categories. But these schemes do tend to lurk in our consciousness because they are usually simple, clear, and self-explanatory. By thinking of landscape preference and landscape perception on terms of these prefabricated categories, it becomes very easy to overlook the subtler traits of either a particular landscape or population, and perhaps ignore or lose some of the characteristics which are most influential and important.

To evaluate the landscape of an area, it is necessary to start with those landscapes, discover the preferences and the perceptions of the people who interact with them, and then develop the categories which occur naturally and which fit the unique qualities of those landscapes. Previous works in the subject area are very useful. Work such as Meinig's and Little's given an excellent overview and summary of major classifications.

The mistake that can be made is to attempt to force the results of an evaluation into the categories of previous work which has been done. As was said in the beginning of this report, the field of perception is relatively new, and bodies of theories

and methodologies are still being developed. Until more is known about the very complex and delicate interconnections of perceptual modifiers, human physiology, and the physical conditions of the landscapes, depending on work done with other people and different landscape for assessment categories applied a specific landscape seems very foolish.

FOOTNOTES

⁶⁵ D. W. Meinig, "The Beholding Eye," The Interpretation of Ordinary Landscapes, ed. D. W. Meinig (New York: Oxford University Press, 1979), pp. 33-48.

⁶⁶ B. R. Little, "Specialization and the Variety of Environmental Experience," Experiencing the Environment, ed. S. Wapner, S. B. Cohen, B. Kaplan (New York: Plenum Press, 1975) p. 93.

Chapter 4

SUMMARY AND CONCLUSIONS

Summary of Research Results

Kansans, like any group of people, find certain landscapes more desirable than others. This research examined the degree of preference different Kansans felt for some typical Kansas landscapes and looked for features which influenced their preferences. A group of Kansans was asked to rate their reactions to the desirability of 35 landscapes, and to explain what factors affected this preference. By examining the ten most preferred and the ten least preferred landscapes, factors which influenced preference could be seen.

Landscapes with vivid or contrasting colors, those with interesting or open skies, and those which indicated a harmony between the cultural landscape and nature were more preferred by these respondents. Landscapes which were generally seen to be undesirable had either a strong human impact on the environment, or a lack of natural elements; they had subdued and dull colors and suggested undesirable associations such as poverty or pollution.

A t-test was used to compare mean preference scores of each landscape for paired response groups of six variables. These variables were age, sex, hometown population, east/west location, urban experience and familiarity with Kansas. Disagreement

among members of paired response groups could be identified by the t-scores, and landscapes which were significantly different were identified and examined. It was assumed that groups with different preference values for a landscape would reveal the factors which explained the different degrees of preference in the written, subjective responses.

Many of the comments written by the respondents reflected the concerns and attitudes of the larger age group, those 17 to 25 years of age. The opportunity for recreational activities in a landscape, a push toward and a pull away from homelike environments, opportunity for solitude, and a certain naivety about the potential use of some features figured in the landscape preference for this age group. Older respondents were less enthusiastic and more set in their routines and lives, and these attitudes were reflected in the written responses they made. Because the older response group was small, there may be some question whether or not all the landscapes shown to have significantly different preference scores had actual differences in preference.

The assumption that landscapes would be viewed as differently by men and women proved false; only two landscapes were indicated. Although men expressed more interest in the recreational opportunities afforded by one landscape, no common factor could be seen for the difference in preference of the second landscape.

The hometown population variable was found to be very influential. Strong differences in preference were seen between respondents from farms and those from urban areas of more than 45,000 people, and between respondents from rural non-farm areas and those from urban areas. Farm and rural non-farm respondents

usually rated rural and farm landscapes more highly than did the urban respondents. Farm and rural non-farm respondents expressed greater appreciation for prosperous-looking farmland. They found such landscapes to be home-like and many personal memories and associations attached to similar landscapes. The urban group was more likely to have no opinion about a farm landscape, or to comment on the physical features such as the terrain, or colors. The urban response groups were more likely to see the recreational potential of natural landscapes than were either of the other groups.

Urban landscapes were not found to be desirable by any of the response groups, but were found less undesirable by the urban group. There was usually a few people who found something familiar about such scenes and gave them higher preference scores.

The East/West location variable was assumed to produce strong preference differences between eastern and western Kansans. However, more landscapes were seen significantly different by members of the Metro and Eastern quadrants than by any other pair of response groups for this variable. All landscapes viewed differently by the Metro and Eastern groups were also viewed differently by the farm and urban response groups of the Hometown Population variable. The influence of urbanization is very strong in affecting landscape preference.

Some of the differences between the Metro and Eastern groups include discrepant ideas of relative size; what was a small town to the Metro respondents may have been a town that was unpleasantly large for the Eastern respondents. Openness versus crowdedness was a similar trait. The Eastern response group was more likely to

comment on the productivity of the land; the Metro group on the industrialization of the landscape.

The Urban Experience variable had only three significant landscapes. They had also been preferred differently by the farm and urban response groups of the hometown population variable. All three of these landscapes were rural scenes, and all were more highly preferred by people who had never lived in a large metropolitan area. This response group found these landscapes desirable because of the openness of the landscape, its familiarity, and the richness and productivity of the land. Those who had lived in large metropolitan areas were more likely to find these landscapes boring or too isolated.

The results of the t-test to determine significant landscapes of the response groups of the variable, familiarity with Kansas, are questionable. Most pairs of response groups have a maximum of two significant landscapes, and no differences in the written responses between indicated landscapes could be found. The response group "almost all of the state" has very few members, and though several landscapes were shown as being different for this group when paired with the response group "most of the state," it is probable that they are the result of the small sample size adversely affecting the t-scores. Perceived familiarity with the landscapes of Kansas does not seem to affect preference for these landscapes.

Problems in the Research Method

The problem of small sample size in some response groups adversely affecting the t-scores has been mentioned earlier. There were some other difficulties which are not as obvious.

Attitudes toward preference can be affected by the respondent's mood during the evaluation, the time of day and the weather outside, as well as other factors a researcher cannot control. Some respondents may have been more or less easily pleased, or more or less eloquent in their responses because of such factors. It can only be hoped that as a whole, the respondents averaged equal numbers of people who were predisposed toward positive and negative preference ratings.

Preference for a landscape can also be influenced by the amount of light, the weather and season, and the presence or absence of people and cultural artifacts in the landscape images. A landscape which was highly preferred might receive much lower ratings under different conditions. This is why it was important to look at some of the general traits which were influential in high or low preference before examining the landscapes individually. This study did not attempt to control these factors, and no doubt they influenced some of the preferences expressed for some landscapes. In further research, it would be interesting to control for these influences on the landscape and examine the preference patterns which would occur.

Averaging preference scores and using the mean score of a response group to represent the attitude of all members may mask extremes of preference. The number calculated as the preference score has little relation to the extremes on responses many of the people may feel. Interpreters of research such as this should also check the standard deviations of the respondent's scores.

Using the t-test to select landscapes that had differences in degree of preference for examination of their written responses means depending on the numerical scores to always be different if perception of the landscape is different. Landscapes which have different criteria mentioned in the subjective responses but which have a high degree of preference agreement are overlooked using t-scores. Subsequent researchers might wish to analyze responses for all landscapes by all paired response groups to see if such differences occur.

The form of evaluation test used in this research was very open-ended and projective. While there are benefits to allowing respondents as much freedom in their answers as possible, there may be some problems associated with it which cannot be assessed. For example, did some people become tired or bored and not respond accurately or fully? Did some people copy neighbors' written responses if at a loss for what to say? (While this was not observed during any of the testing for this project, copying had been seen during research for a similar study.) Could more informative results have been obtained by forcing responses into set categories?

The only way to answer such questions is to do more research in this area of landscape preference. There are other techniques which might be incorporated into the evaluation, and other respondent data which could become research variables. Landscapes could be pared down to a few highly significant ones, and sequential images of these could be analyzed in greater depth by respondents. There are many possibilities for further research in this field of study, but this research project is concluded. It is important to put into perspective the meaning and the importance of results of perception and preference studies.

Why Worry About Landscape Perception?

The responses of Kansans to Kansas landscapes conform in many respects to the criteria laid out in the literature of landscape perception. Kansans' responses also have some unique landscape features influencing preference.

Every day work is done, and projects are proposed which alter the appearance and utilization of the landscape. Decisions about exactly what will be done, where, and how, are often made by people who have no personal relationships with the area. Well-intended perceptions of what will enhance a given landscape for a given group of people may be very mistaken.

Even assumptions of what kinds of people agree and disagree about desirable landscapes may be wrong. Men and women have very few differences in their perception of preference and influential landscape features. People from eastern and western Kansas have far fewer disagreements about landscape preference than do people from those areas as compared to urban populations.

A power plant is proposed to be sited in an area. The people responsible for making the decisions assure soon-to-be neighbors of the plant that it will be inobtrusive to them. For the plan-makers, indeed, it might be; for the residents of the area, the whole horizon is suddenly one giant pollution cloud.

A small town wishes to undertake restoration and redevelopment of the downtown business district. Residents want to emphasize the historical heritage of the town, yet create a sense of openness and uncrowdedness in their new business district. Planners seek to oblige, and submit design emphasizing historical elements and spaciousness, but town residents are very dissatisfied. It didn't resemble at all what they had in mind.

Farmers from western Kansas see their irrigation systems as a sign of good farm management, prosperity, and a necessity for their way of life. A person from eastern Kansas sees a waste of non-renewable resources, high overhead expenses, and all in the middle of nowhere.

Each of these is an example of the kind of cognitive dissonance that occurs between the perceptions of subgroups of a large population. No two people see a landscape exactly alike, not in terms of preference, nor in terms of the factors influencing the preference. Yet decisions are made daily on the basis of someone's landscape preceptions. Many of these decisions have impacts which are widespread and of long duration. It would be impossible to poll everyone about every decision which needs to be made, but it is only wise to continually seek information which helps to uncover and clarify the differences in landscape perception.

Suggestions for Further Research

If this research project were to be expanded, there are some improvements which could strengthen the research. One important step would be to increase the sample size by obtaining responses from more people over the age of 26. It has been shown that there are significant differences in landscape preference between older and younger respondents, but due to the small number of older respondents, some generalizations about important landscape factors influencing preference are difficult to make. In the same vein, the familiarity with Kansas variable could be eliminated as it has been shown to not be significant in landscape preference.

In order to determine if some people naturally rate landscapes much higher or much lower than the norm, the variance of preference

scores could be calculated. Several people in a response group who consistently rate higher or lower than other respondents can skew the preference score of a landscape.

As was suggested earlier, it might be informative to examine the responses for all landscapes and all paired response groups. Response groups who value a landscape to a similar degree, but who see different factors influencing this preference would be indicated, and a more complete picture of the factors affecting landscape preference would be obtained.

Finally there are some variations which might be made to expand and strengthen the research design. A series of images of the same landscape under different conditions of light, season, etc., and from slightly different angles and distances could be used. Respondents could be asked to re-evaluate the landscapes on a different day to control for personal quirks on one day. Or, all photographs could be taken under the same conditions of light and in the same season of the year. There might also be a way to incorporate into the testing procedure more structured methods to double-check the answers obtained from the open-ended testing. Respondents might be asked to rate on bar scales the degree to which a landscape epitomizes certain landscape characteristics. Meinig's 10 factors are one example of the types of characteristics that could be tested.

APPENDIXES

APPENDIX A

Descriptions, Preference Scores and Ranking of Landscapes

<u>Ranking</u>	<u>Landscape ID and Description</u>	<u>Preference Score</u>
13	A Loading chute, trees, sky and fields Morris Co.	65.4
3	B Stone wall and milo field, hills in the background, Wabaunsee Co.	74.4
18	C River valley and railroad bridge over the Cimarron River, Steward Co.	58.4
16	D Farm gate and road through a pasture, Pawnee Co.	64.0
7	E Bluffs and green vegetation around Lake McBride, Scott Co.	69.7
2	F Stormy sky over the Flint Hills, road, cars, and house, Geary Co.	78.7
28	G Railroad crossing grade, old brick building, general store and house in Volland, Wabaunsee Co.	44.4
15	H Country crossroads with stop sign, Clay Co.	64.1
8	I Hereford in a green field, Wabaunsee Co.	67.7
25	J Grain storage bins, legs and elevator, piles of milo, Marshall Co.	49.8
11	K Fields of ripe wheat with Kinsley and elevator in distance, Edwards Co.	66.2
23	L Large new houses scattered over the countryside, Pottawatomie Co.	52.6
26	M Low-water road by lake, with chunks of ice in the water; car and figure in distance, Riley Co.	48.1
9	N City of Manhattan in early autumn from top of a high hill, Riley Co.	66.4

22	O	Orchard on terraced hillside in early spring, silo in background, Cherokee, Co.	52.8
31	P	Mine spoils banks and reclaimed area, Crawford, Co.	40.6
27	Q	Large Pillsbury elevators and storage bins, railroad tracks and cars, Atchison, Co.	44.7
35	R	Traffic and signs on busy commercial street during rush hour, Johnson Co.	27.3
32	S	Mine spoils bank with motorcycle tracks, water in gully below, Bourbon Co.	39.9
1	T	Canyon in the Gypsum Hills, southcentral Kansas	81.8
5	U	Postrock and field at sunset, Rush Co.	70.4
14	V	Abandoned farmhouse, windmill, shed, and tree, Cloud Co.	64.7
12	W	Large Victorian houses on brick street, Atchison, Co.	65.6
17	X	Imposing limestone bank building, Ness Co.	62.3
20	Y	Old wooden army barracks at Fort Scott National Monument, Bourbon Co.	55.8
33	Z	Downtown Emporia, shops and line of cars	38.7
10	AA	Sunbathers and swimmers at Tuttle Puddle, hills in background, trees in water, Riley Co.	66.3
34	BB	Traffic on cloverleaf of I-35 and 75th Street, Johnson Co.	36.2
6	CC	Upper-middle class houses, yards and trees Johnson Co.	70.0
4	DD	Horses and cows grazing in pasture, Russell Co.	73.0
30	EE	Apartment complex, power pole and blooming redbud tree, Riley Co.	41.2
19	FF	Rural road and fields, Jefferies Energy Center in distance, Jackson Co.	57.2

24	GG	The Alma Hotel, old limestone building with iron grillwork and yellow awnings Wabaunsee Co.	52.0
29	HH	Pickup trucks and cars outside a bar with Coors beer sign, Stanton Co.	42.4
21	II	Center-pivot sprinkler preirrigating wheat at dusk, Gray Co.	54.4

APPENDIX B

The t-test was chosen because it possesses a probability distribution similar in appearance to the normal curve, but with a wider spread. The smaller the sample size, the greater the spread in the probability distribution for t. As the sample size becomes larger, the t distribution becomes closer and closer to the standard normal.

The small-sample t-test used to compare pairs of means in this research was as follows: $t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n-1} + \frac{s_2^2}{n-1}}}$

$$\sqrt{\frac{s_1^2}{n-1} + \frac{s_2^2}{n-1}}$$

Where $\bar{X}$ = the arithmetic mean of populations 1 and 2

s = the standard deviation of populations 1 and 2

n = the sample size

This form of t-test is used when the variance of the whole population is unknown. For this research, the confidence level of the test was .5% (95% confidence that a significant difference existed).

APPENDIX C

Landscape Perception Research Data Sheet

- | | | |
|---|---------------------|-----|
| 1) Name | Age | Sex |
| 2) Major | Semester at K-State | |
| 3) Hometown | | |
| 4) Where have you lived the longest? | | |
| 5) Have you ever lived on a farm? | How long? | |
| What was the closest town? | | |
| How far away from town was your farm? | | |
| 6) Have you ever lived in a metropolitan area: | How long? | |
| Which metropolitan area did you live in? | | |
| 7) With how much of Kansas would you say you are familiar? (circle one) | | |
| a. very little | | |
| b. some of the state | | |
| c. about half of the state | | |
| d. most of the state | | |
| e. almost all of the state | | |

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KANSAS THROUGH THE EYES OF KANSANS:
PERCEPTION OF KANSAS LANDSCAPES

by

ROXANE MARIE FRIDIRICI

B.A., The Pennsylvania State University, 1973

AN ABSTRACT OF A MASTER'S THESIS

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ABSTRACT

The affinity of people for their home environment is commonly accepted. Kansas is frequently viewed by outsiders as flat and drab, but is home to many people. This research sought to define some of the landscape preferences held about Kansas by Kansans, and assess the variability of landscape preference with respect to age, sex, and locational experiences.

The response of Kansans to landscape of Kansas was tested by numerical ratings of landscape images and written subjective responses about the content of the landscapes. Preference differences between variables of sex, age, hometown population, east/west location, urban experience, and familiarity with Kansas were examined. Most and least desirable landscapes were examined for common traits influencing preference. Responses to landscapes rated significantly different among members of social and geographical variables were compared for content.

Age differences appear to strongly affect the preference for a landscape. Younger respondents tend to see more possibilities for activities in a landscape than older respondents.

Men and women prefer very few landscapes differently. Those which are preferred more by one or the other do not contain specific elements which influence preference.

Degree of urbanization and size of hometown population are much stronger influences in landscape preference than is relative east/west location within the state. People of farm or rural

backgrounds are more attracted to rural and farm landscapes. They are more likely to understand the content of a scene and to express a sense of familiarity and enjoyment. Respondents from urbanized backgrounds are more critical, and often find such landscapes empty or boring. Urban landscapes are usually seen as undesirable by all persons, regardless of background.

Perceived familiarity with Kansas by the respondents does not influence preference for landscapes. Familiarity does not influence perceiving a landscape as home-like or typical of Kansas, or prevent misinterpretation of a scene.

Subjective written responses were compared with two descriptive schemes of landscape evaluation found in perception literature. Many responses made by Kansans fell within the criteria outlined by those authors, but others did not. Evaluations should consider the perceptions of people most familiar with the landscapes to develop useful evaluation criteria.