

**DEVELOPMENT OF AN INSTRUMENT TO ASSESS RESIDENTS'
PERCEPTIONS OF EQUITY**

A Dissertation

by

STEPHANIE THERESA WEST

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2004

Major Subject: Recreation, Park and Tourism Sciences

© 2004

STEPHANIE THERESA WEST

ALL RIGHTS RESERVED

**DEVELOPMENT OF AN INSTRUMENT TO ASSESS RESIDENTS'
PERCEPTIONS OF EQUITY**

A Dissertation

by

STEPHANIE THERESA WEST

Submitted to Texas A&M University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Approved as to style and content by:

John L. Crompton
(Chair of Committee)

James H. Leigh
(Member)

C. Scott Shafer
(Member)

Joseph T. O'Leary
(Head of Department)

Peter A. Witt
(Member)

December 2004

Major Subject: Recreation, Park and Tourism Sciences

ABSTRACT

Development of an Instrument to Assess Residents' Perceptions of Equity.

(December 2004)

Stephanie Theresa West, B.S., Auburn University;

M.S., Georgia Southern University

Chair of Advisory Committee: Dr. John L. Crompton

This study examined equity in the context of the allocation of park and recreation resources within a community. The contributions made by this study include: extending the original taxonomy of equity models proposed by Crompton and Wicks (1988); development of a theoretical framework for their original model; providing a current synthesis of equity based literature; advancing the Equity Implementation Model (Wicks & Crompton, 1989) by developing an instrument capable of measuring residents' perceptions and preferences of park and recreation resource allocation in their community; empirically confirming the legitimacy of alternate dimensions of equity through Structural Equation Modeling; applying information gained from using the instrument to determine the usefulness of selected variables in predicting equity preferences; and comparing data on equity preferences with those of prevailing perceptions to illustrate the utility of the instrument in guiding resource allocation decisions.

Five of the original operationalizations of equity were validated (*Compensatory, Taxes Paid, Direct Price, Efficiency and Advocacy*). An additional operationalization,

Professional Judgment, was included and also validated, while one of the original dimensions suggested by Crompton and Wicks, *Equal Outcomes*, could not be distinctively conceptually differentiated and so was discarded. The operationalizations of *Equal Inputs* and *Equal Opportunity* could not be differentiated to reflect distinctively different equity concepts. However, further efforts should be invested in operationalizing these two equity concepts, since they do appear to be conceptually different.

Using confirmatory factor analysis, a model consisting of all seven operationalizations (*Compensatory, Taxes Paid, Direct Price, Efficiency, Advocacy, Professional Judgment* and *Equality*) was an acceptable fit and all paths were significant at the .05 level, suggesting that the proposed 23-item, seven-dimension scale, P&R-EQUITY, effectively measures seven facets of residents' perceptions of equity in the allocation of park and recreation resources. Two additional operationalizations (*Demonstrated Use* and *Coproduction Opportunities*) emerged during the research which suggested that *Demonstrated Interest* was inadequately operationalized, so future efforts could be focused on operationalizing those three. The scale developed in this study is intended to help officials make appropriate decisions when allocating park and recreation resources.

DEDICATION

This dissertation is dedicated to my parents, for believing in me, supporting me and serving as my first teachers, and to the members of my household, Sherri and Crook, for all they had to endure throughout the process.

ACKNOWLEDGEMENTS

There are a great number of people without whom I would not have been able to complete this dissertation. If I have forgotten to list anyone's name on these pages, know that I remember you in my heart. I would never have been able to get this far had it not been for love and support of my family and friends.

First and foremost, I wish to thank my parents for instilling in me a passion for learning and a strong work ethic. Second, I would like to express my gratitude to my Committee Chair and mentor, Dr. John L. Crompton. Dr. Crompton inspired me to pursue my doctorate and I am honored to have had the opportunity to work with one of our profession's most valuable resources. He was patient, understanding, flexible and thorough. Dr. Thomason also deserves to be recognized for the integral role she played in my education and my decision to attend Texas A&M.

I also wish to thank my other committee members, Drs. Peter A. Witt, C. Scott Shafer and James H. Leigh, for their help and comments of work. In addition, Drs. O'Leary, Scott and Hodges provided additional support in mentoring my education as a new instructor. My classmates and friends were also instrumental in helping me balance my life and collect my data. I am blessed that there are too many of you for me to be able to list everyone individually. However, I would be remiss not to mention Kristi Montandon for truly going above and beyond the call of duty as my liaison with the RPTS department (and what may have seemed more like personal slave at times) while I was finishing my degree from North Carolina. Finally and most importantly, I sincerely thank Sherri and Crook. Words are simply not enough to express my gratitude.

TABLE OF CONTENTS

	Page
ABSTRACT	iii
DEDICATION	v
ACKNOWLEDGEMENTS	vi
TABLE OF CONTENTS	vii
LIST OF FIGURES	viii
LIST OF TABLES	x
 CHAPTER	
I INTRODUCTION: THE EMERGENCE OF EQUITY AS A CONCERN	1
Distinguishing Between Equity and Equality	4
Allocation – Who Gets What?	6
Need for the Study	8
Organization of the Dissertation	9
 II THE EVOLUTION OF EQUITY AND A CONCEPTUALIZATION OF ITS DIMENSIONS	 11
Overview	11
The Emergence of Equity as a Prominent Concern	11
Environmental Justice and Environmental Equity	20
A Conceptual Model of Equity Implementation	28
Theories of Equity	31
Utilitarianism	32
Egalitarianism	33
Contractarianism	34
Libertarianism	36
Alternate Forms of Justice or Equity	36
Alternate Models of Distributive Justice	38
Equality	38
Compensatory Equity	40
Market Equity	42

CHAPTER	Page
Summary	44
Pseudo-Models of Equity.....	47
Demand.....	47
Efficiency.....	49
Choosing an Equity Mechanism for Public Service Allocation	50
Evaluating Allocation Decisions.....	58
Who Determines What Is Equitable?.....	59
Elected Officials	59
Agency Personnel	60
Residents.....	61
III A REVIEW OF EMPIRICAL LITERATURE RELATING TO EQUITY	63
Measurement Indicators of Equity.....	63
The Influence of Different Operationalizations on Outcomes.....	71
Who Are the Winners and Losers?	73
Variations Due to the Underclass Hypothesis	73
Race and Class Preference.....	74
Power-Elite Preference.....	85
Variations According to the Bureaucratic Decision-Rule Hypothesis	88
Variations According to the Ecological Hypothesis.....	94
Why Public Service Distribution Might Vary by Race or Socio- Economic Status	95
Equity Model Preferences.....	98
The Relationship of Equity and Standards.....	102
Inequitable Service Allocation Patterns? Conclusions	106
IV METHODOLOGY	117
Instrument Development.....	117
Qualitative Research.....	118
Park Use.....	122
Benefits Received.....	123
Allocation of Services	124
Operationalizations of Equity.....	126
Item Generation and Content Validity Checks by Expert Judges	128
Item Generation and Initial Content Validity Check.....	128
Subsequent Content Validity Check Using Expert Judges.....	137
Content Validity Confirmation.....	139

CHAPTER	Page
Scale Purification.....	140
Instrument Design.....	149
Data Collection	150
Profile of Respondents.....	155
V RESULTS	157
Reliability Assessment.....	157
Dimensionality Assessment of the Scale.....	160
Results of CFAs for Each of the 8 Sub-Models	166
Results of CFAs for a Null Model and a 4-Dimension Model of Equity	167
Results of a CFA for the Proposed 8-Dimension Model of Equity	167
Validity Assessment	173
VI SUMMARY AND RECOMMENDATIONS	183
Conceptualizing Equity: Development of a Model	183
Measuring Equity: Development of an Instrument.....	187
Implementation Insights.....	189
A Comparison of Residents' Preferences and Perceptions.....	189
Equity Dimension Preferences and Perceptions for Overall Respondents	191
Equity Dimension Preferences and Perceptions Based on Gender.....	195
Equity Dimension Preferences and Perceptions Based on Ethnicity	198
Preferences Based on Income Level.....	201
Equity Preferences and Perceptions Based on Length of Residency and Level of Park Use	203
Preferences Based on Socioeconomic Status	203
Application of the Instrument's Results	214
Establishing Equity Initiatives Based on Importance-Performance Analysis	214
An Application of Importance-Performance Analysis	217
Contribution to Existing Knowledge	219
Limitations of the Study.....	222
Suggestions for Future Research	223

	Page
REFERENCES	229
APPENDIX A	240
APPENDIX B	243
APPENDIX C	253
APPENDIX D	263
APPENDIX E.....	268
APPENDIX F	274
APPENDIX G	276
APPENDIX H	278
APPENDIX I.....	287
APPENDIX J.....	289
APPENDIX K	290
APPENDIX K	291
APPENDIX L.....	293
APPENDIX M.....	295
APPENDIX N	297
APPENDIX O	302
VITA	305

LIST OF FIGURES

		Page
Figure 1	Equity Implementation Model.....	30
Figure 2	Different Theories of Justice That Lead to the Selection of Different Policies	32
Figure 3	A Comparison of Distribution Results from the Application of Various Models of Equity	45
Figure 4	Taxonomy of Political Philosophies and Their Associated Equity Models for Delivering Public Leisure Services	46
Figure 5	A General Political Model of Municipal Service Delivery Policy.....	86
Figure 6	The Parabolic Model of Citizen-initiated Contacts	92
Figure 7	Scale Development Process.....	119
Figure 8	Revised Taxonomy of Political Philosophies and Their Associated Equity Models for Delivering Public Leisure Services.....	138
Figure 9	8-Factor Structural Equation Model for Residents' Perceptions of Equity in the Allocation and Distribution of Park and Recreation Resources.....	165
Figure 10	Further Revised Taxonomy of Political Philosophies and Their Associated Equity Models for Delivering Public Leisure Services	169
Figure 11	7-Factor Structural Equation Model for Residents' Perceptions of Equity in the Allocation and Distribution of Park and Recreation Resources.....	170
Figure 12	Proposed Taxonomy of Political Philosophies and Their Associated Equity Models for Delivering Public Leisure Services.....	185
Figure 13	Equity Preferences for Overall Respondents.....	193
Figure 14	Equity Preferences Based on Gender	197
Figure 15	Equity Perceptions Based on Gender	197
Figure 16	Preferences for Various Equity Dimensions According to Ethnic Group.....	199

	Page
Figure 17 Opinions of Present Park & Recreation Resource Distribution in Bryan, TX According to Ethnic Group	200
Figure 18 Equity Preference-Perception Grid	216

LIST OF TABLES

		Page
Table 1	Potential Distinctive Facets of the Nine Alternative Operationalizations of Equity.....	52
Table 2	Allocation Scenarios Based on the Nine Operationalizations of Equity.....	54
Table 3	Results of the Allocation Scenarios (Acreage and Dollars Spent per District).....	57
Table 4	The Allocation of Public Services: A Summary of the Empirical Literature	107
Table 5	Sociodemographic Status of Respondents Participating in the Qualitative Interviews	120
Table 6	Potential Distinctive Facets of the Alternative Operationalizations of Equity (Revised).....	131
Table 7	Allocation Scenarios Based on the Revised Operationalizations of Equity	134
Table 8	Cronbach's Coefficient Alphas for Equity Dimensions and Corresponding Items (Pre-Test Instrument).....	142
Table 9	Salient (.40) Factor Loadings Grouped by Factor for the Pretest Instrument Items.....	145
Table 10	A Summary of Mail Survey Response Rates	152
Table 11	A Summary of Mail and In-Person Survey Response Rates According to Ethnicity	154
Table 12	A Summary of Mail and In-Person Survey Response Rates According to Gender	155
Table 13	A Summary of Mail and In-Person Survey Response Rates According to Length of Residency	156
Table 14	A Summary of Mail and In-Person Survey Response Rates According to Park Use	156
Table 15	A Summary of Mail and In-Person Survey Response Rates According to Appraised Value of Home.....	156

	Page
Table 16 Cronbach's Coefficient Alphas for Equity Dimensions and Corresponding Items (Final Instrument)	158
Table 17 Fit Indices for Sub-Models (Equity Dimensions)	167
Table 18 Corrected Item-to-Total Correlations and R-square Values for 8 Original Equality Items	172
Table 19 Fit Indices for Various Equity Models	173
Table 20 Correlations among Dimensions	177
Table 21 Dimension Mean Scores.....	178
Table 22 R-Square Values and Factor Loadings for Individual Items Operationalizing the Seven Equity Dimensions.....	181
Table 23 Potential Distinctive Facets of the Alternative Operationalizations of Equity (Revised).....	186
Table 24 Allocation Scenarios Based on the Revised Operationalizations of Demonstrated Use	186
Table 25 Remaining Model Items (23) Sorted by Dimension	190
Table 26 Operationalized Dimension Means for Overall Respondents	192
Table 27 Mean Differences of Overall Respondents' Preferences	194
Table 28 Mean Differences of Overall Respondents' Perceptions	195
Table 29 Ordered Dimension Means for Equity Preferences and Perceptions Based on Gender	196
Table 30 Ordered Dimension Means for Different Ethnic Groups' Equity Preferences	199
Table 31 Ordered Dimension Means for Different Ethnic Groups' Equity Perceptions	200
Table 32 Correlation Coefficients for Preferences and Perceptions of Equity with Income Level.....	202

	Page
Table 33 Overall ANOVA Results Investigating Each Equity Operationalization	204
Table 34 Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Preferences for Compensatory Based Equity	205
Table 35 Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Preferences for Equality Based Equity.....	206
Table 36 Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Preferences for Efficiency Based Equity	207
Table 37 Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Preferences for Advocacy Based Equity	208
Table 38 Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Perceptions of Compensatory Based Equity in Bryan, TX.....	209
Table 39 Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Perceptions of Taxes Paid Based Equity in Bryan, TX.....	210
Table 40 Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Perceptions of Direct Price Based Equity in Bryan, TX.....	211
Table 41 Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Perceptions of Advocacy Based Equity in Bryan, TX	211

CHAPTER I

INTRODUCTION: THE EMERGENCE OF EQUITY AS A CONCERN

Economic prosperity following World War II led to an increase in both the number and quality of public services. During this time, multiple new public agencies were created and the budgets of existing public agencies were expanded, allowing them to provide additional programs and facilities. The recession of the 1980s, however, resulted in many public services receiving a reduction in resource allocation or in some cases being terminated. This led to more political scrutiny of how services were allocated and distributed, that is, of “who gets what, when and how” (Laswell, 1958). When resources are reduced and service levels lowered below what has been the norm in the recent past, then the public becomes more aware of what they are “getting” and what they not (Lucy & Mladenka, 1980). As a result, politicians, policy makers and citizens become more concerned with the question of how to distribute economic rewards and responsibilities (Scott, Matland, Michelbach, & Bornstein, 2001).

In the 1990s, resources became more abundant for local park and recreation agencies (Crompton & McGregor, 1994). While funding for these agencies increased in the 1990s, much of the additional funding was needed to pay for the renovation of infrastructure and replacement of equipment that had been deferred during the lean times. Following the economic expansion of the 1990s, the recession of 2001-02 again brought the issue of inadequate funds for supporting current facilities and programs to the forefront of political debate. For example, Washington State Parks received a \$2.6M

This dissertation follows the style of the *Journal of Leisure Research*.

(6.7%) cut in their annual budget. Following the budget reduction, the department received word that the State Legislature's Ways and Means Committee was considering requiring them to save \$1 million in park expenditures by closing some parks for three years, with the hope that money would be available to reopen them thereafter (R. Cooper, personal communication, January 17, 2002). Faced with a similarly difficult budget situation, King County, also in Washington, responded to requested budget cuts of sixty percent by proposing the sale of naming rights at its parks (Perry, 2002). After closing 20 of its 183 county parks, county officials created a task force that was challenged to suggest creative ways to keep the remaining parks open and the sale of naming rights was one of its suggestions. While this may be unprecedented at this time, similar trends leading to more widespread acceptance have been found in other public or quasi-public venues, such as professional, university and even high school stadiums. Thus, the economic resources needed to sustain operations at current levels are unavailable in some jurisdictions. In such contexts, the equitable distribution of services becomes a concern among those responsible for allocating reduced resources.

Public services that are paid for through the collection of taxes paid by all residents constitute a hidden portion of residents' incomes, "increasing a household's income through service excellence or diminishing it through service denials" (Lineberry, 1974). The belief that these services benefit certain neighborhoods within a community more than others is not new and when these differences are based on race, religion, creed or national origin they are illegal. According to Judge Tuttle, representing the Fifth Circuit majority in the notable Hawkins v. Town of Shaw (437 F.2d 1287) case:

Referring to a portion of a town or a segment of society as being “on the other side of the tracks” has for too long been a familiar expression to most Americans... While there may be many reasons why such areas exist in nearly all of our cities, one reason that cannot be accepted is the discriminatory provision of municipal services based on race.

Differences in public service delivery raise both legal and ethical issues. The basis for decisions guiding the allocation of public services thus requires study.

As recreation is both an end in itself and a means to other ends, it is capable of providing benefits to both participants and non-participants. Recreation services can have a broad spectrum of consequences, both direct and indirect, on all of society. These range from direct benefits, such as the social, psychological and physical benefits accruing to participants, to indirect benefits that contribute to the social, environmental and economic welfare of the community. The concern for the equitable allocation of park and recreation services, therefore, extends beyond equity among participants to a concern for equity across society. While equity is not a concern for a private company whose goal is to generate profit by meeting the needs of a particular target market, it is a central concern for a public agency responsible for providing services that benefit an entire community.

Incorporating equity into the planning process is a means of addressing potential distributional inequities. Recognizing the need for equitable service delivery in a jurisdiction requires there to be a consensus on the definition of what constitutes equitable service delivery and how it can be accomplished. Crompton and Lamb suggest “agreement by decision-makers and agency personnel on the appropriate equity model to be used is essential in as much as this governs and guides all of the subsequent

distribution decisions” (1983, p. 30). Yet equity is a complex idea with little agreement as to how it should be accomplished. There are those who focus on procedural justice with its emphasis on fair processes, while others concern themselves with the distributive justice of final allocation of benefits and burdens (Konow, 2001). As public servants, elected officials and administrators of agencies are confronted with the daunting task of interpreting the equity perspectives of the residents for whom they work. Ultimately, allocation decisions determine the quality and quantity of services that each resident receives. It is, therefore, critical that elected officials and administrators identify the opinions and attitudes of their residents with regard to the allocation of resources to public services. Allocation is often mistakenly used synonymously with distribution. Allocation is concerned with “who gets what?” Distribution, on the other hand, is concerned with “when, why and how” those services are delivered.

Distinguishing Between Equity and Equality

To allocate public services is to set them apart, assign them for a particular purpose (*Webster's 2 new Riverside University dictionary*, 1994). While such decisions can either be made randomly or purposefully, “the generally accepted standard for allocating public services is equity” (Crompton & Lamb, 1986, p. 155). Yet, despite extensive literature addressing this issue, the complex concept of equity remains somewhat elusive. At its simplest level, equity relates to fairness and justice. It is often easier to define what equity is not, rather than what it is. Equity is not necessarily equality, although it can be. Equality involves “sameness” in quantity and quality. An

allocation of income based on equality would provide two recreation supervisors who were hired on the same day within the same district, with similar responsibilities and identical salaries. However, it could be argued that if the salary allocations were based on equity, a supervisor with ten years of previous experience at another facility would be paid more than a recent college graduate to reflect the supervisor's experience he or she brings to the job. To summarize, equity is the value that people perceive should be received appropriate to a given situation, while equality mandates that all people should receive the same return (Cvetkovich & Earle, 1994).

As mentioned previously, in some cases equity and equality can be synonymous. For example, if the two supervisors in this example had similar work experience, the fair thing to do in terms of salary allocations would be to pay them identically. As this example exemplifies, to understand equity, it is essential to analyze it in the context of the situation (Young, 1994). For example, a person's salary may seem equitable when compared to one person but not when compared to another. Therefore, equity is considered to be context-dependent, where interpretation and application of general principles are influenced by the context of the situation (Konow, 2001). In addition to depending on the context of the allocation, a review of experimental research on distributive justice judgments by Scott et al (2001) found that other factors influenced how people use allocation principles, such as the type of good being distributed and the demographic characteristics of individuals making the decision, for example, their gender, culture and socioeconomic status.

Allocation – Who Gets What?

Allocation decisions are generally made according to one of three accepted equity standards: equal opportunity, compensatory equity and market equity. Equal opportunity suggests that resource allocations are distributed equally among smaller units of an area, for example, voting districts within a municipality. Applying compensatory equity, on the other hand, involves allocating resources to areas with the greatest need or fewest existing resources. The third standard, market equity, encourages allocations based on levels of contribution. Thus, those areas contributing the most taxes would receive the greatest allocation of a particular resource. Crompton and Lamb asked the question: “Is there general understanding of and commitment among all agency personnel to the equity standard under which the agency is seeking to operate?” (1986, p. 103). However, neither before they asked this question, nor since that time, has the issue of exactly *how* a public agency should choose the equity standard which best fits its community been addressed.

There is little evidence that the question of an equity standard is considered by many public service agencies. Most practitioners appear to equate equity with equal opportunity in situations where a public service is delivered to multiple constituent segments (Crompton & Lamb, 1986). Thus, when a new park is added to a community, frequently efforts are made to place it in the neighborhood with the lowest park acreage. In those situations where only a single service outlet is available in a community, for example, a community swimming pool in a small town, allocation decisions often are

based on factors such as the availability of land without any overt consideration of equity.

Once a community recognizes the key role of equity in its allocation decisions, the remaining question is, “How does it decide which equity standard to apply?” Part of the answer to this question derives from the premise that public agencies ultimately are responsible to the public they serve, that is, the residents who pay for the services through taxes. If this is the case, then the decision on which model of equity is appropriate for a particular service should be made by the residents of the community whose taxes support that service.

Public goods contribute to the social income and welfare of an individual through their use value. In the context of public goods, or services, there are two essential types: pure and impure (Shindruk, 1993). Pure public goods are those that benefit all members of a society equally. An example of this might be air quality. Impure public goods, on the other hand, are inherently distributional, with their value being determined by their location. The ability of planning decisions to affect the location of such goods means the planning process has the ability to render some areas of a community more valuable, amenable, attractive or healthful than others, thereby increasing the social income of residents in those areas (Shindruk, 1993). Thus, the allocation of impure public goods, such as park and recreation services, has the potential to alleviate, maintain or create disparities in the social income and welfare of residents. An important concern, therefore, is the criteria city officials use to make decisions on the allocation of impure goods.

Need for the Study

Consideration of equity in the planning and evaluation of park and recreation services leads to the challenge of determining appropriate measures of equity. In 1996, Mandel posed the question, “Can an instrument be developed for a numerical rating of factors leading to inequity in urban neighborhood park planning, design, and implementation, to produce a meaningful equity ‘score’ useful in framing neighborhood parks policy planning, design, development, and programming?” (Mandel, 1996, p. 4-5). Applying the equity implementation model created by Wicks & Crompton (1989), Mandel’s question led him to develop an instrument capable of documenting distribution patterns within the actual distribution phase of the model. In contrast, the work entailed in this dissertation will focus on a prior phase of the equity implementation model, establishing the normative pattern desired by residents of a jurisdiction. While progress in measuring the actual distribution phase is indeed necessary, attempting to further advance this area prior to assessing the norms desired by a community is premature.

Currently, no instrument has been developed that assesses residents’ perceptions of equity in the context of the allocation and distribution of public services. It has been observed that, “Because recreation and parks departments typically provide a wide array of services, from maintenance of open space to social service programs, there are likely to be a diversity of equity concepts associated with them” (Wicks & Crompton, 1989, p. 171). It is the intent of this dissertation to develop a valid and reliable instrument that will assess residents’ perceptions of equity in the allocation of publicly provided park and recreation services. Information ascertaining residents’ perceptions of equity can be

used by elected officials and park and recreation administrators to guide their decisions on the allocation of resources for service delivery and ultimately enable them to distribute their departments' services in accordance with stakeholders' allocation desires. The end result would be a more equitable allocation and distribution of public park and recreation facilities.

Organization of the Dissertation

The overall purpose of this dissertation is to explore the potential for incorporating the notion of equity into the allocation of municipal services, specifically park and recreation services. There are three main objectives:

- (1) To synthesize previous research in the area of equity relating to the allocation and distribution of municipal services.
- (2) To develop an instrument capable of assessing residents' perceptions of equity and ultimately guiding equity-oriented allocation decisions by elected officials and municipal bureaucrats.
- (3) To investigate whether differences exist in the perceptions of equity of various stakeholders, such as elected officials, street level bureaucrats, interest groups and residents.

The dissertation is divided into seven chapters. Chapter I presented background information, a statement of the problem and objectives of the study. In Chapter II, an examination of the historical development and philosophical roots of equity is provided. Chapter III synthesizes empirical literature that reports municipal service allocation patterns; the roles of various decision-makers involved; and the relationship between equity and standards. Development and pre-testing of the survey instrument, including item generation and content validity analysis are presented in Chapter IV. Chapter V presents the data analysis and results of testing from validation of the survey instrument.

Concluding remarks, policy implications for city officials, city planners and park and recreation practitioners, and implications for future research are provided in Chapter VI.

CHAPTER II

THE EVOLUTION OF EQUITY AND A CONCEPTUALIZATION OF ITS DIMENSIONS

Overview

The literature review for this dissertation is divided into two chapters. The first of these focuses on the evolution of equity and develops a conceptualization of its dimensions. It consists of three sections. First, a historical review is provided of how equity has emerged as a prominent concern in the allocation and distribution of public services. Second, four components are discussed which are designed to provide a foundation for better understanding the concept of equity. These components are: a conceptual model for implementing equity; theoretical perspectives of equity; alternate models of equity implementation; and surrogates used to explain equity. In the third section of the literature review, outcomes derived from the application of various equity models are addressed in terms of who benefits and whether or not differences in race, income or ethnicity are related to these outcomes. The following chapter, Chapter III, reviews empirical work in equity, which has been reported in a variety of public sector contexts, including transportation, police and fire, libraries and education. Like parks and recreation, the allocation of each of these public services can create substantial differential affects on the economic and social well-being of a community's residents.

The Emergence of Equity as a Prominent Concern

A primary stimulus for the emerging concern with allocation decisions was the scarcity of resources (Crompton & Lamb, 1986). Transportation was perhaps the first municipal area in which concerns about inequities were expressed: "Urban transit

systems in most American cities...have become a genuine civil rights issue – and a valid one – because the layout of rapid-transit systems determines the accessibility of jobs to the Black community. If transportation systems in American cities could be laid out so as to provide an opportunity for poor people to get meaningful employment, then they could begin to move into the mainstream of American life” (King, 1986). Following the decision declaring the “separate but equal” doctrine unconstitutional in 1954, the Supreme Court declared discrimination in interstate travel unconstitutional (Liu, 2001).

One of the earliest observations alluding to inequities in parks and recreation was embedded in the Kerner Commission of 1967, which commented on the problem of poor recreational facilities for “ghetto residents.” According to the Kerner Commission, one of the most intense grievances of black communities experiencing major civil disturbances between 1963-1967 was their dissatisfaction with recreation facilities and programs. Inadequate recreation services were considered more serious than several other grievances, such as the ineffectiveness of the political structure, discriminatory administration of justice, inadequate welfare programs and discriminatory consumer and credit practices (National Advisory Commission on Civil Disorders, 1968).

In this era, the typical political response to pressure to alleviate perceived inequity in the allocation of resources for public services was to provide additional resources to the area in which the perceived inequity existed. Inequity has classically been associated with the economically disadvantaged in the public policy arena. Examples of public programs designed to improve the status of the economically disadvantaged include the social reform movement; the depression era programs

instigated by President Franklin D. Roosevelt; the Civil Rights Act of 1964; efforts at slum clearance instituted in the Housing and Communities Development Act of 1974; and the Comprehensive Education and Training Act of 1973 (Jones, 1993).

While the practice of providing additional resources may have been an effective political response to handling the situation during the prosperity of the 1960s and 1970s, the recession of the 1980s combined with constraining effects of the plethora of tax-limitation measures that were enacted in the 1970s and 1980s made this solution politically infeasible. With a stable or reduced budget, elected officials and administrators were forced to make difficult decisions about how to ameliorate perceived inequities. They were required to find funding from existing resources to reduce inequities, but the implication of this was a reduction or elimination of other services (Crompton & Lamb, 1986). This, however, did not go without notice. Clientele who were affected by the reduced or eliminated services often vociferously opposed such notions and in so doing raised the consciousness of residents of the importance of allocation decisions.

A second, less dominant influence than scarcity of resources on the interest in allocation was the role of the courts (Crompton & Lamb, 1986). Evidence of the courts' involvement in recreation service allocation and distribution issues can be found as early as 1898, when a Grand Jury limited the future acquisition of parkland by the San Francisco Parks Department to the most crowded districts (Cranz, 1982). A majority of more contemporary cases in the twentieth century involving public service allocation were based on the equal protection clause of the Fourteenth Amendment to the U.S.

Constitution, which maintains “no state shall make or enforce any laws which shall abridge the privileges or immunities of residents in the United States...nor deny to any person within its jurisdiction the equal protection of the laws.” The U.S. Court of Appeals for the Fifth Circuit, in a landmark case, Hawkins v. Shaw ("Hawkins v. Shaw," 1971, 437 F. 2d 1286), ruled, “it is not necessary to prove intent, motive or purpose to discriminate...the arbitrary quality of thoughtlessness can be as disastrous or unfair...”

Plaintiffs alleged that the town of Shaw, Mississippi had violated the Fourteenth Amendment by failing to provide services to Black residents equal to those that were provided to white residents. Evidence demonstrated that almost 98 percent of homes on unpaved streets and 97 percent of homes without sanitary sewers were occupied by Black residents, while all of the new mercury vapor street lights were in white neighborhoods (Crompton & Lamb, 1986). As a result of this case, intentional discrimination, which was difficult to prove in court, no longer needed to be proven in cases involving equity. Instead, prosecutors needed only to prove that existing service allocations were unequal. Impoverished residents of Chinatown, in the Woo v. Alioto ("Woo vs. Alioto," 1969, Civil No. 52,100) case filed two years earlier in San Francisco, were not so fortunate in their claim that recreational facilities and services were disproportionately fewer in their area than in other sections of town (Lineberry, 1974). When results of the 1970 census failed to substantiate population projections upon which much of their case was based, the plaintiffs were forced to accept an unfavorable out-of-court settlement.

Subsequent court decisions, however, curtailed the courts' abilities to limit the discretion of local elected officials and administrators in the allocation of public services. The first were a series of Supreme Court decisions following the Shaw case which made a discriminatory impact much more difficult to prove. The court ruled that plaintiffs would need to prove that the difference in services would not have existed if not for the "discriminatory intent" of local administrators. In the 1972 case, Beal v. Lindsay ("Beal v. Lindsay," 1972, 468 F. 2d 287), plaintiffs claimed that parks in New York City neighborhoods comprised primarily of African Americans and Puerto Ricans were inferior to those in Caucasian neighborhoods (Wicks, 1986). The court ruled that although inequities existed among the parks, the parks department had expended equal or greater amounts of money on frequent, costly vandalism-induced repairs in the plaintiffs' parks and was therefore not at fault. In Serrano v. Priest ("Serrano v. Priest," 1971, 5 Ca. 3d 584), the courts chose to rely on input standards in a case involving educational services, rather than the vague concept of "educational needs." The courts demonstrated their preference for input standards and quantifiable, objective data to identify inequitable service allocation in each of these three cases (Wicks, 1986).

In Burner v. Washington D. C. ("Burner v. Washington," 1971, Civil No. 242-71), on the other hand, ("Burner v. Washington,")the court chose to investigate an array of data, rather than a narrow range of inputs, in determining whether or not substantial differences in service distribution could be found among neighborhoods of varying racial composition (Wicks, 1986). The case involved the application of five different measures of equity: capital expenditures, operating expenses, quantity of opportunities, quality of

opportunities and utilization rates. When two racially distinct neighborhoods were compared, utilizing the aforementioned measures, findings indicated that youth in an upper income Caucasian neighborhood received more programming than a similar group in a minority occupied neighborhood. Yet, in no other instance did the Caucasian neighborhood receive additional programs or services. In contrast, it was discovered that the plaintiffs actually received more total resources than the Caucasian neighborhood.

The court dismissed the case as a result of these findings that the inequities were dependent on which service was chosen and which unit of analysis was employed. Perhaps the most significant aspect of this case was the manner in which service delivery effectiveness was evaluated. Rather than relying solely on the measurement of inputs to assess equity, the case compared two measures of output (program quality), which were accessibility to facilities or programs and the results of a citizen survey on service quality (Wicks, 1986).

Court cases involving the equity of parks and recreation programs and services involved the federal government for the first time, when the Federal Justice Department filed suit ("US v. Chicago Parks Department," 1983, No. 82 C 7308 USDC I11.Ed) against the Chicago Parks Department alleging the department had failed to enforce the Housing and Community Development Act's non-discrimination requirements (Wicks, 1986). Year long negotiations resulted in a consent decree that would allow money to be spent on improving park conditions rather than on a trial. The result was a plan to

resolve the problem that would be overseen by supervisory personnel from both the Park District and the Justice Department while preventing subsequent lawsuits.

An important component of the plan was the preservation of resources allocated to areas, which currently received an average or above average level. Instead of taking money from these areas, capital expenditures for below average areas came from the Park District's Capital Improvement General Application Bond Fund. In addition, personnel were reallocated using attrition, and standards of minimum acceptable levels of quantity and quality were established for every area of service provision to ensure that below average areas were improved, but not at the expense of areas at average or above average level.

Although the consent decree to satisfy the federal government plaintiffs was filed before the Chicago Park District case came to trial, provisions of the decree did not satisfy the plaintiffs in the related case, Midwest Community Council v. Chicago Park District, who proceeded with their suit. It sought punitive damages and hoped to have the District placed in receivership of the court (Wicks, 1986). According to the plaintiffs, inequitable allocations of past and present park and recreation resources existed between minority and Caucasian neighborhoods. The plaintiffs also contended that present park conditions, not previous patterns of development, were of primary significance. The Park District provided expert witnesses who discredited the methodology and analysis used to compare the allocations of inputs. For example, the witnesses developed a multiple regression model which demonstrated that home ownership, not race, accounted for the most variance (28.9% compared to less than one

percent of race) among service allocations (Mladenka, 1985, April). The Park District was also able to demonstrate that while some parks in African American neighborhoods may have been inferior to parks in predominantly Caucasian neighborhoods, the reverse also existed (Mladenka, 1985, April). The court, therefore, concluded that distributional patterns of resources were explained by the demographic and political evolution of the city, rather than by race and political influence.

The courts realized they lacked the ability to handle some of the problems that resulted from litigation involving equity, many of which were attributable to difficulties in measuring equity in quantifiable terms. More than thirty years after the Hawkins v. Shaw case, little progress has been made in addressing issues relating to equitable allocation of public services. There has, however, been one instance of a case involving claims of inequity in the allocations of municipal services where the plaintiffs prevailed. In Baker vs. City of Kissimmee, Florida ("Baker vs. City of Kissimmee, Florida," 1986), plaintiffs alleged that the city had intentionally discriminated in "a disparate and unequal manner" in a paving and resurfacing program. The claim of violation of the Equal Protection Clause of the 14th Amendment was based on the finding that 95% of all resurfacing was completed in white neighborhoods, despite 63% of the streets in black neighborhoods being unpaved compared to 39% in white neighborhoods. With evidence of limited court success based on equity, the statement made by Crompton & Lamb, in 1986, remains appropriate in 2003: "At this time, it appears the role of the courts is likely to remain much less prominent in allocating decisions than had been anticipated after the Shaw case" (p. 154).

Since the review of court cases by Crompton & Lamb (1986), no suits appear to have been filed alleging inequitable allocation of recreation services. In reference to this finding, an attorney experienced in the parks and recreation field explained, “Unless...you can show inequitable distribution based upon racial grounds or some other suspect class (creed, color, religion, or national origin) it is unlikely that a federal court would question inequitable distribution based upon economic status. Rather than a legal issue subject to judicial redress, this is more of a political issue to be decided at the ballot box, rather than a federal court room” (J.C. Kozlowski, personal communication, May 16, 2002). Indeed, many government programs use various demographic or socio-economic criteria to define their target clientele. For example, Community Development Block Grants (CDBG) are available only to areas of a community that meet the Housing and Urban Development Program’s requirements of economic need. A disappointing aspect of the history of the legal concern with equity is that none of the cases moved beyond equality to consider the other varying conceptions of equity in the context of urban public policy (Lineberry, 1974).

Wicks and Crompton (1989) cited three additional reasons, besides fiscal retrenchment and the courts’ influence, for the growing awareness of the importance of equity in delivering public services. They were: 1) improvement in techniques used to measure benefits and their increased presence in many planning processes; 2) an increase in the number of widely accepted service delivery models, for example, increased acceptance of fees and charges and partnerships in service delivery, which

have led to decreases in some public services' reliance on taxes; and 3) an increase in the number and strength of citizen action groups involved in fighting for public services.

Environmental Justice and Environmental Equity

Almost simultaneous with the emerging interest in equity in the distribution of public goods and municipal services was the emergence of interest in environmental justice and environmental equity. Those working in these fields struggle with many of the same concerns, including: How to define a neighborhood? How to best measure impacts? Who are the disadvantaged groups in a society? And how to quantify their distribution? (Liu, 2001) The debate over definitions in these areas is ongoing.

If exposure to environmental risks is a negative situation to be avoided, then its positive antithesis may be access to public resources in the form of facilities, programs and services. As such, there may be knowledge from the more developed areas of environmental justice or environmental equity that can be transferred and applied to the formative area of equity of public service allocation. The environmental justice movement originated with the efforts of people of color seeking to prevent the location of toxic waste dumps and waste facilities into their neighborhoods (Liu, 2001). Since its original emphasis on facility siting issues, environmental justice has focused on seeking enforcement of environmental and civil rights, specifically in regard to exposure to environmental risks. In recent years, this role has extended to address policies and practices involving discriminatory zoning and land use, the limiting of participation in decision-making and the distributional impacts of transportation systems and urban sprawl (Liu, 2001).

Environmental justice has been defined as:

The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including racial, ethnic or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies (Liu, 2001, p. 11).

Environmental equity is defined as:

The distribution of environmental risks across population groups and to our policy responses to these distributions (Liu, 2001, p. 11).

The key difference between the two terms is the extent to which the focus is on the outcome or on the procedural aspects of distribution. Environmental equity focuses more on outcomes, while environmental justice emphasizes “goals, policies, laws and legal procedures to ensure fair distribution of environmental risks across social groups” (Zimmerman, 1994). While environmental equity evaluates whether outcomes are explained by the distribution of power and resources across individuals and groups, environmental justice concentrates more on ensuring procedures are developed which lead to fair distribution and improvement of the overall quality of life for the disadvantaged (Liu, 2001). In this case, fairness is perceived to require the distribution of proportionate burdens on an individual or group (Liu, 2001).

One instance where the environmental justice movement appears to have advanced beyond studies investigating equity in public park and recreation services is in the recognition of the importance of research, data collection and analysis. Executive Order 12898 issued in 1994, has been particularly beneficial in this area, requiring

environmental human health studies and mandating federal agencies to gather and analyze information on health risks by race, origin and income (Liu, 2001). This does not resolve all the problems confronting the environmental justice movement, however. For example, although disease and death rates and exposure to environmental risks for racial minorities and low-income populations have been documented, scientists from the Environmental Protection Agency have found little evidence to support a clear cause and effect relationship between environmental health effects and race or income (Liu, 2001).

Environmental justice and environmental equity are concerned with the equal protection of all people from environmental harms, regardless of race, ethnicity, origin or socioeconomic status. These concepts emerged in response to what seemed to many to be unjust and unfair industry and government practices. The legal basis for environmental equity beyond that of ethical opinion like that in the parks and recreation field resides in the Fourteenth Amendment, also known as the Equal Protection Clause, of the United States Constitution and in Title VI of the 1964 Civil Rights Act. According to Title VI “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” Similarly, local governments have a duty to serve all of their residents, regardless of race, color or national origin based on these same legal principles.

While both Title VI and the Equal Protection Clause prohibit intentional discrimination, it was not until 1994 that strides were made at the national level that facilitated the enforcement of environmental equity. In that year, President Clinton

issued Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” which required federal agencies to embrace environmental justice by identifying and addressing programs, policies and activities to alleviate and remove situations where disproportionately negative effects were placed on minority or low-income populations (Liu, 2001). Later in that year, Attorney General Janet Reno issued a memorandum reiterating the United States Supreme Court’s ruling that federal agencies were prohibited from policies and practices that resulted in discriminatory effects (Liu, 2001). According to the memorandum, “policies and practices that are neutral on their face but have the effect of discriminating...must be eliminated unless they are shown to be necessary to the program’s operation and there is no less discriminatory alternative” (Liu, 2001, p. 8).

In 1997, a decision by the 3rd U.S. Circuit Court of Appeals, in Seif vs. Chester Residents Concerned for Quality Living ("Seif vs. Chester Residents Concerned for Quality Living," 1997), set a precedent for environmental equity by allowing a community group the right to seek enforcement of the civil rights statute based on discriminatory effects, without the extremely difficult task of having to prove intention to discriminate (Liu, 2001). This precedent is in striking contrast to the Supreme Court rulings subsequent to Hawkins v. Shaw ("Hawkins v. Shaw," 1971), which declared that, in the case of park and recreation services, plaintiffs would need to prove that any difference found in services would not have existed if not for the “discriminatory intent” of local administration. Although similarities can be found conceptually between environmental equity and equity in the allocation of municipal services, legally they are

two distinct concepts. Environmental equity is legally required by Executive Order 12898, while proving inequity in the allocation of municipal services has no specific legal basis other than the Equal Protection Clause of the 14th Amendment. Differential treatment between environmental equity and equity in the provision of municipal park and recreation services may be based on the Supreme Court's opinion as to what constitutes an American right. Although Executive Order 12898 establishes the equal right of American citizens to a healthy environment, there is no equivalent statute in terms of parks and recreation. On the contrary, in the case, Baldwin v. Fish and Game Commission of Montana ("Baldwin v. Fish and Game Commission of Montana," 1978), the Supreme Court ruled that recreation, specifically hunting, did not fall within the category of rights protected by the privileges and immunities clause or the Fourteenth Amendment.

While the depth of equity study, in terms of the detail necessary to provide substantial support for proving or disproving equity hypotheses has made little progress since the early 1980's, larger strides have been made in the breadth of equity analysis in the fields of environmental equity and transportation equity. For example, a significant amount of research has been reported on environmental concerns, Not In My Backyard's (NIMBYs) and Locally Unwanted Land Uses (LULUs), most of which, according to a literature review by Pellow, "concludes that communities that are working poor and populated by people of color bear a disproportionate burden of environmental hazards and externalities" (2000, p. 587) In the case of environmental inequity, losers *can* be identified according to race, income and ethnicity. This led to a grassroots

environmental justice movement and numerous court cases in which the locations of toxic waste dumps and waste facility sitings were alleged to have been based on intentional discrimination or resulted in discriminatory effects.

The Environmental Protection Agency measures environmental equity by assessing both the costs *and* the benefits of urban space systems (Jones, 1993).

Therefore, key features of its studies are reviews of accessibility, distribution, and the process of urban space use and development. The most significant difference in terms of comparing environmental equity issues and equity in the distribution of recreational services is the attitude taken towards each.

In the case of environmental equity, much of the research focuses on hazardous waste facilities and the role of “NIMBYism,” which is often associated with LULUs. The conventional view of NIMBYism is that it is “selfish parochialism [which] generates locational conflict that prevents attainment of societal goals (Lake, 1993, p. 87).” Several public services other than toxic waste sites and garbage dumps fall into the LULU category: group homes for the physically or mentally disadvantaged, homeless shelters, waste incinerators, transit systems, public housing projects, prisons, and family planning and low income clinics (Lake, 1993). The distribution of recreational services, on the other hand, is often desired by communities (Jones, 1993). The critical element in both cases, however, remains the same: to provide a process that will facilitate an allocation of services based upon equitable opportunity for access and a just distribution of resources.

Literature on environmental inequalities focuses on the existence of unequal outcomes, that is, winners and losers. A primary question becomes how are environmental inequalities produced? Pellow (2000) argues these inequalities result in instances where the benefits and costs of resources are distributed unevenly because of the struggle among stakeholders for access to limited resources:

That is, those stakeholders who are unable to effectively mobilize resources are most likely to suffer from environmental inequality. Conversely, those stakeholders with the greatest access to scarce resources are able to deprive other stakeholders from that same access. Scarce resources may include clean and safe living, recreational, and working environments. They can also include power, wealth, and status. Thus, the inability to access these resources often means living and working under dangerous conditions, with very little power, wealth, or status. Conversely, those stakeholders with the ability to access these resources live and work under safer, healthier conditions with more power, wealth and status... Thus, environmental inequalities are not always simply imposed unilaterally by one class of people on another. Rather, like all forms of stratification, environmental inequalities are relationships that are constituted through a process of continuous change that involves negotiation and often conflict among multiple stakeholders (p. 589).

To better understand environmental inequality, Pellow suggests inclusion of rarely considered stakeholder dynamics involved in hazard siting, for example, the factor of local resistance. Stakeholders include social movement organizations, private sector firms, the state, local public officials and residents. In addition, he proposes the need for data collection to move beyond a focus on the presence or absence of facilities across neighborhoods, to an investigation that includes information on proposed, pending and failed siting attempts. These variables could also prove to be beneficial in a study of the equitable distribution of public park and recreation services, but with the additional consideration of local demands, as well as resistance, because vociferous advocacy and

effective lobbying for services in an area can have an impact similar to the accumulation of undesired services in another area.

Although people value the accessibility to jobs and services provided by highways and transit, the negative effects of such transportation related items include noise, pollution, congestion and safety. The specific impacts of transportation on a community are potentially extensive, influencing: social relationships and values; quality of life; barrier effects; consistency and compatibility with land-use plans and zoning; economic impacts in the form of the location decisions of firms; tax base and property values; mobility and access impacts, inducing or reducing the use of public facilities; and effects on residential, business and farm displacements (Liu, 2001). “Although early struggles have focused on inequity in the operations and services of transit systems, little attention was given to the distributional impacts of transportation planning and policies until recently” (Liu, 2001, p. 285). It was originally anticipated that there would be a paradigm shift in transportation planning from an emphasis on how fast vehicles move, to a focus on how well people’s needs for economic efficiency, environmental friendliness and justice are met within a social context (Liu, 2001), but this has occurred only infrequently.

A review of the environmental justice movement offers several significant points of information that are valuable to the study of equity within the allocation of public services. First, it raises the issue of a need for just and fair government practices without bias due to race, ethnicity, origin or socioeconomic status. Second, it advocates the importance of research, data collection and analysis on service levels by race, origin and

income. Third, it enforces the need for laws other than Title VI and the 14th Amendment to require government agencies to identify and address programs, policies and activities to alleviate and remove situations where their effects on minority or low-income residents are disproportionately negative. Although environmental justice and equity in the provision of municipal services lack similarity on the basis of legal protection, they are undeniably similar in ethical terms. The key to both issues is that a community must decide whether or not they value the just and fair treatment of all of its citizens and to what length they will go to ensure it. From there, it is simply a matter of defining what that community considers to be just and fair treatment and designing laws and policies that provide it.

A Conceptual Model of Equity Implementation

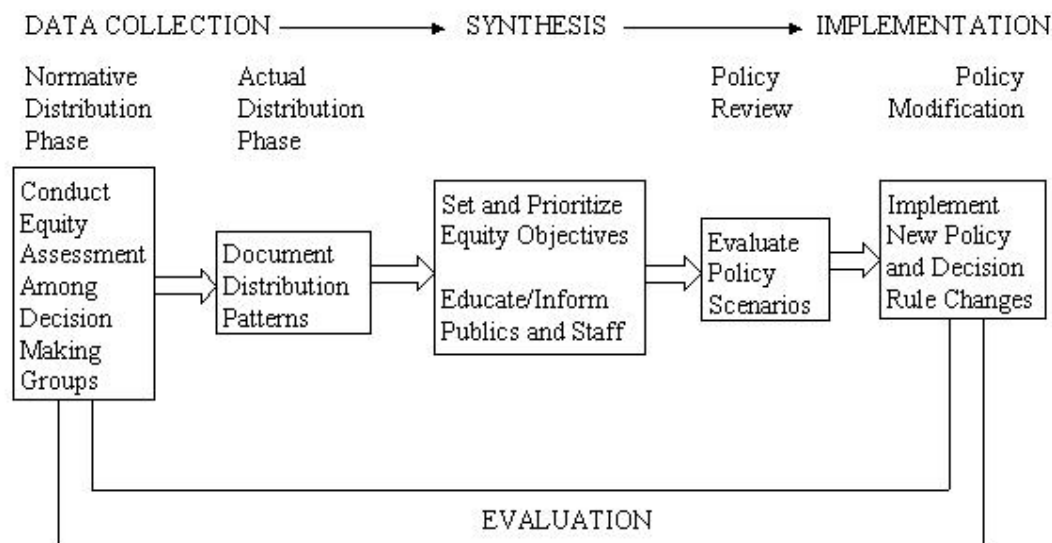
In an effort to meet residents' allocation expectations, planning efforts should consider the needs and preferences of the various clientele groups who are served and use this to guide their planning decisions. A review of public service allocation literature in the late 1970s revealed that most equity analyses involved the plotting of service distribution followed by an application of a particular perspective of equity (Farnham, 1981; Gold, 1974; Lineberry, 1977). In 1986, Wicks and Crompton argued that an understanding of preferred models of equity should precede any analysis of its distribution. Wicks and Crompton (1989), therefore, proposed a five-phase process for integrating equity into public policy. (Figure 1.)

The first stage of this model, the normative distribution phase, addresses the question "Who ought to receive what?" The purpose is to define prevailing equity

preferences of the three primary actors in the public sector decision-making process: elected officials, administrators and residents. Stage two, the actual distribution stage, documents the existing distribution patterns, answering the question “Who gets what?” A number of quantification measures may be used to answer this question, but a key challenge for researchers is to select the most appropriate unit of analysis and most suitable service measures. Specific issues of concern include how to identify the “who,” i.e. geographic location, race, ethnicity, income, etc., as well as the “what.” If geographic location is used, how are neighborhood boundaries determined? If a socio-demographic variable is used, from what source is the information obtained (since statistics inevitably vary by source due to the variable definitions applied to measurement terms, including race, ethnicity and income)? Should what each group receives be measured by inputs, for example, the money or time spent on maintaining a facility, or by outputs, such as the condition of a facility?

In the third phase, the synthesis phase, planners and policymakers evaluate the extent to which equity preferences from phase one, the expectations of decision-makers, coincide with existing distribution patterns from phase two. In the fourth phase of policy review, recognized differences between the normative and actual distribution phases (from phase three) serve as a guide for policy implementation. Objectives should be established “to guide implementation and reconcile inconsistencies” (Wicks & Crompton, 1989, p. 175). Following implementation, the actual effects of the new or revised policies are evaluated in the final stage of the model, the evaluation phase. Distributional decisions of “what, where, when and how” are made during this phase.

Figure 1: Equity Implementation Model



Source: Wicks, B. E. & Crompton, J. L. (1989). Allocating services for parks and recreation: A model for implementing equity concepts in Austin, Texas. *Journal of Urban Affairs*, 11(2), 169-188.

An important consideration in the evaluation stage is the longitudinal effect of equity decisions. Longitudinal equity is associated with a comparison of past and present conditions, in terms of both individual residents and social groups (Viegas, 2001). Little research has been done on longitudinal equity. Farnham (1981) examined changes in the distribution of recreation services in Oakland, California, from 1960 to 1974. He hypothesized that the role of demographic variables may have become more important as the period progressed because of an increase in the 1960s in awareness of problems faced by minorities and the poor. However, he found only minimal evidence indicating that there had been changes in decision making responsive to demographics

over this period and explained the indifference in terms of the city's internal bureaucratic structure and its involvement with external federal grant programs.

An example of longitudinal research on equity was reported by Wicks and Backman (1994). They measured changes in equity preferences over time. Their hypothesis was that social equity issues would increase in importance as urban conditions deteriorated and growing differences between the wealthy and the underclass directed public officials to consider municipal service allocation patterns. The authors concluded that equity constructs of residents in Austin, Texas were stable over time relating to park and recreation services.

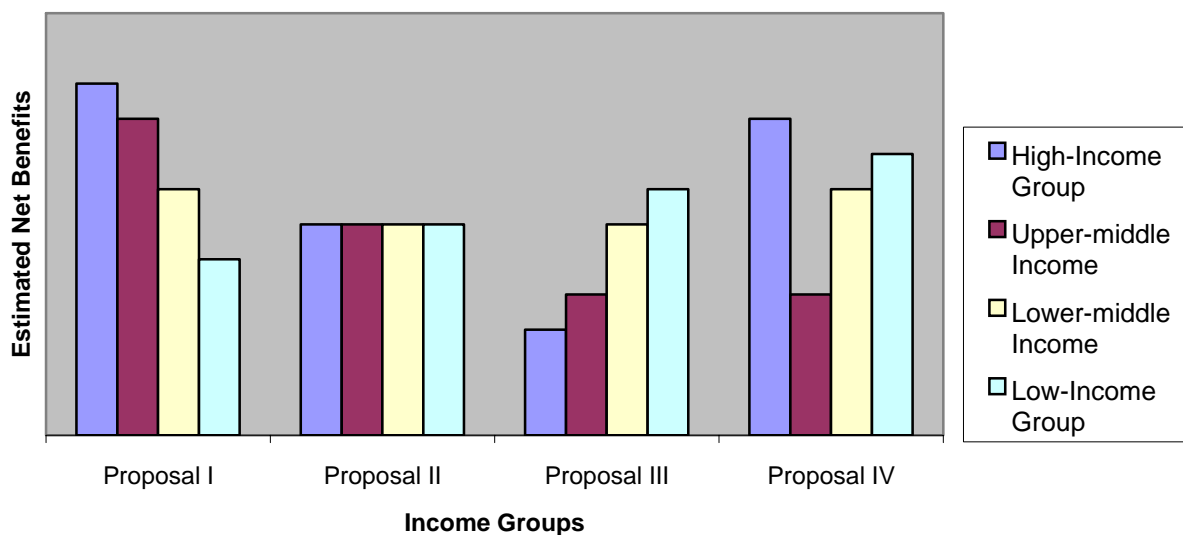
To date, little research has been done on the normative distribution phase (Crompton & Lue, 1992; Wicks & Crompton, 1986, 1990). Most equity research has investigated the actual distribution phase (Farnham, 1981; Gold, 1974; Mitchell & Lovingood, 1976; Mladenka & Hill, 1977; Nicholls, 2001), although it too is limited. According to Crompton and Lue (1992), "If public agencies are committed to adopting marketing or consumer-oriented approaches to providing services, then it is reasonable to expect that part of this consumer orientation will require incorporating the public's preferred equity guideline into service allocation decisions" (p. 232). This dissertation focuses on the development of an instrument capable of assessing these equity preferences.

Theories of Equity

According to Liu (2001), there is no general consensus on a single theory of equity or environmental justice. Rather, several competing theories offer different

explanations of these issues. Liu identifies four major theories that are often used to explain patterns of environmental justice and equity: Utilitarianism, Contractarianism, Egalitarianism and Libertarianism. Potential consequences of applying these four theories to the allocation of resources for parks and recreation are illustrated in Figure 2.

Figure 2: Different Theories of Justice That Lead to the Selection of Different Policies



Source: Beatley, T. (1984). Applying moral principles to growth management. *Journal of the American Planning Association*, 50(4), 459-469.

Utilitarianism

Utilitarianism is based on the principle that consequences of an action determine the appropriateness of the action (Liu, 2001). In Utilitarianism, the objective is to maximize the total welfare of society. As such, public services should be allocated and distributed so as to achieve the greatest net benefit for society as a whole (Liu, 2001). However, Utilitarianism is concerned only with the aggregated bottom line. The

potential for this approach to result in widely disparate distributions that disadvantage low-income groups may prevent it from garnering widespread support.

Proposal I in Figure 2 illustrates the potential for uneven distribution associated with the Utilitarianism approach. The aggregate number of dollars available to a parks and recreation under this proposal, is greater than in any of the other proposed scenarios. Hence, Utilitarians are likely to favor Proposal I because it provides the maximum net benefits to the community as a whole. However, low-income groups in this example fare badly. For the Utilitarian, this is not an issue.

Egalitarianism

Egalitarianism is similar to Contractarianism (which is discussed in the following section) in that they both recognize existing inequity. Egalitarianism, however, aims to eliminate existing inequality while Contractarianism seeks to provide the greatest benefit to the least advantaged. Contractarianism does not require the elimination of inequality; indeed, Proposal IV in Figure 2 shows that applying Contractarian theory might even lead to greater inequality. Proposal IV provided the greatest benefit among the four proposals to the disadvantaged but because this proposal would entail the high-income group receiving the largest benefit, the level of disparity between the high and low-income groups would actually increase. An Egalitarian would choose the alternative that was the most effective at minimizing the inequality between the two groups, regardless of which group benefited the most individually. In this case, the Egalitarian's decision would be based on a traditional philosophy that emphasizes equality of outcome. Thus, an Egalitarian would favor Proposal III in Figure 2 because it contributes most to

reducing the relative level of inequality among the four income groups. Another alternative might be for the Egalitarian to select Proposal II and base the decision on equality of inputs, even though this would perpetuate existing inequalities.

Contractarianism

Contractarianism is the basis of Rawls' (1971) Theory of Justice. Rawls views the distribution of benefits and burdens as morally arbitrary, the result of factors and circumstances often beyond the control of the individual (Shindruk, 1993). In his theory, Rawls proposes two principles of justice. In the first principle, Rawls suggests that individuals reach a consensus on the principles of resource distribution behind a "veil of ignorance" that both prevents them from knowing their abilities, history and socioeconomic position and encourages them to create a society that is fair to everyone (Liu, 2001). According to Rawls, when people make distribution decisions under the "veil of ignorance," they would choose an alternative that constituted the "maximin," that is, the social arrangement under which those who are most disadvantaged would fare better than they would under any of the outcomes produced from any alternate approaches. Thus, a Contractarianist, or Rawlsian, would choose Proposal IV in Figure 2 because it maximizes the benefits of the least advantaged group by providing them with more than average park and recreation resources and a greater amount than in the other three options. Notice, however, that the level of inequality would still be increased by the application of this proposal because the most advantaged group would still receive more than the least advantaged group.

In his second principle of justice, known as the difference principle, Rawls suggests that a society's resources should be redistributed across its residents so they improve the relative condition of the least advantaged, even at the expense of the residents with the greatest wealth (Rawls, 1971). This second principle forms the heart of his distribution theory (Shindruk, 1993). The following tenets emerge from Rawls' Theory of Justice as guidelines for allocating public services: 1) equal opportunity should be recognized as the point of departure; 2) deviations from this point should be encouraged if they benefit the least advantaged; and 3) there should be, in all cases, a stated minimum level or floor for each service below which quantity and quality should not fall (Rawls, 1971). Thus, according to Rawls' Contractarianism, public services should be allocated and distributed to benefit disadvantaged populations as much as possible.

Critics of Rawls claim, "Rawls' method of rational choice by prudent persons under ideal and hypothetical conditions is too abstract to be useful in actual political circumstances; and that Rawls does not pay enough attention to the importance of actual communities in people's lives" (Orend, 2001, p. 213). Walzer, an opponent of Rawls' Theory of Justice, who does not espouse a particular philosophical position, believes that social goods should be distributed according to their unique meaning in that culture. When "possession of one social good like money, allows one to purchase disproportionate shares of another social good like health care, without regard to the meaning of that latter good," an injustice occurs (Orend, 2001, p. 227). Following Walzer's position, the ability of parks and recreation to provide tangible physical,

mental, social, environmental and economic benefits to society suggests that decisions of distributing park and recreation services should not be made on the basis of money because allowing money to determine their distribution violates its meaning as a public good.

Libertarianism

The fourth theory, Libertarianism, emphasizes freedom and the free market. Justice, therefore, results when individuals are allowed to make their choices freely. It is an unconvincing “theory.” Rather than explaining *why* a particular proposal should be favored over another, Libertarianism emphasizes freedom, or the lack of constraints, when making a decision. Landlords and developers often side with a libertarian view of justice that maximizes their rights in their properties and minimizes government intervention (Liu, 2001). In the context of recreation and parks, minimizing government intervention with regards to the use of land might allow some individuals to maximize their benefits but impose costs on the land owned by others or on society as a whole. In the case of public goods and services, market failures often occur, making the Libertarian approach non-feasible. For these reasons, it is an inadequate theory of environmental justice or equity.

Alternate Forms of Justice or Equity

These alternate forms of justice have been identified in the literature: distributive, procedural and interactional. Distributive justice is concerned primarily with the fairness of outcomes. It compares effort invested with outcome received (Tata & Bowes-Sperry, 1996). There are two dimensions to distributional equity. The first of

which, horizontal equity, involves comparing individuals or communities with a similar access to resources, for example, finances, social support systems, or even problem-solving skills (Shindruk, 1993). The application of a horizontal notion of equity would result in resources being distributed equally to individuals with similar needs. Vertical equity, on the other hand, is concerned with different levels of access to resources. Equity models demonstrate the principles and guidelines for the equitable allocation of resources among residents. Crompton and Lamb (1986) contend, “a selected model of equity has to be justified on the grounds of how public services and their benefits are ultimately apportioned among a jurisdiction’s populace” (p. 156).

Crompton and Lamb acknowledge another approach to judging equity in service allocation. This second approach, procedural justice, focuses on the fairness of the process of determining allocations rather than the actual pattern of allocation. Justification for procedural justice suggests, “When equity is a function of process, any allocation by the legitimate public decision-making process, i.e. elected representatives, is deemed equitable” (Crompton & Lamb, 1986, p. 156). While an elected official may favor the expediency and self-serving nature of this alternative, a disadvantage is its inability to provide consistent policy guidelines. A third form of justice, interactional justice, focuses on the interpersonal treatment people receive and addresses whether they believe they have been treated honestly and respectfully (Tata & Bowes-Sperry, 1996).

In addition to recognizing these three alternate forms of justice, officials should be aware that perceptions of justice are influenced by the political and cultural environments, context of the situation, and gender (Gaertner, Jungeilges, & Neck, 2001;

Tata & Bowes-Sperry, 1996). For example, research in organizational justice found that differences in perceptions of justice may result from the varying degrees of emphasis placed on distributive, procedural and interactional justice by men and women (Gaertner et al., 2001). Hypotheses developed by Gaertner et al. (2001) were based on the premise that men's socialization encourages an outcomes orientation, whereas women's socialization focuses on process. Results indicated that men were more likely than women to consider distributive justice and women were more likely than men to consider interactional justice, while no difference was found related to procedural justice.

Alternate Models of Distributive Justice

An extensive review of the equity literature supports the notion that while diverse models of distributional equity have been proposed, much of the diversity is merely semantic. Only the three models identified by Crompton and Lamb (1986) are fundamentally different: equality, compensatory equity and market equity.

Equality

Equality differs from the other two fundamental equity models in that it allocates services to residents equally according to a developed standard, regardless of need or amount of taxes paid. Equality can be operationalized in three different ways: outcomes, inputs or opportunity. The limitation of including outcomes as a measurement of equality was addressed earlier in the chapter in the discussion of court cases. To review, service providers cannot be held responsible for outcomes because the array of external social factors which intervene between inputs and outputs makes it impossible to predict

the level of output accruing from a given incremental input. The example used previously, from the Beal vs. Lindsay court case, involved parks in neighborhoods of different racial compositions. Although the condition of the parks varied widely, the variations were the result of differing levels of vandalism, rather than of effort or resources invested by the parks department. According to Crompton and Wicks (1988, p. 292), “the equal benefits alternative is a response to those limitations recognizing that equal resource inputs may not be directly related to equal outputs.” However, the personal and situational attributes of benefits, and the difficulty in measuring them, make their use as a normative equity criterion challenging.

Many empirical studies on equity have used input expenditures as a measure of the quantity of public service provided (Farnham, 1980). Equal input expenditures allow areas with different needs and desires to select how they allocate their resources in terms of both types and levels of service. For example, one area may wish to have more parkland with lower levels of maintenance than another area that desires less parkland with an extremely high level of maintenance. A limitation of this approach is that expenditure comparisons fail to reflect cost and quality differences, service output desired or intended, or the ability of the service to meet the preferences of different groups of residents. For example, land in one area of town may be priced significantly higher than in another area of town, affecting the ability of similar expenditures to yield similar amounts of parkland; higher levels of use at one outdoor basketball court may require additional maintenance efforts to achieve a similar maintenance level to one with little use; and residents from one area of town may consider equal expenditures on tackle

football in their area a misuse of money and time when they would prefer to have the money and time spent on improving their soccer program.

Equal opportunity service allocations might be based on number of residents, number of households or number of acres. A common example of this type of model is the early National Recreation and Park Association's (NRPA) guideline that there should be 10 acres of parkland for every 1,000 people. As such, a district with 5,000 residents would receive 50 acres of parkland, while one with 10,000 residents would receive 100 acres. An advantage of this type of model is the ease with which it can be implemented and evaluated. In addition, it supports the notion of equality, which is embedded in our nation's constitution. For these reasons, it is also relatively easy to defend in a court of law. Equal opportunity appears to take an Egalitarian approach, but it fails to accommodate the reality that residents do not have equal needs for parks, nor are they similarly equipped to use the parks (Wicks & Crompton, 1989).

Most of the empirical studies that have investigated inequities compared agency inputs to determine if services were being equally allocated across neighborhoods, thus conceptualizing equity in terms of equality (Wicks, 1986). The limitations of this research were recognized by Gold (1974) and Farnham (1981), who suggested that incorporating need and political demand, respectively, into the service delivery equation would strengthen equity measurably.

Compensatory Equity

While the equal opportunity model uses Egalitarianism to guide allocation decisions by seeking to provide equal amounts of services to all residents, the

compensatory equity model allocates public services according to need, using a Contractarian approach. As such, services are distributed disproportionately so that those most in need, frequently from lower-income groups, receive additional services. The underlying premise for this model is that public services should be used to redistribute resources in an effort to improve the opportunities of those in greater need. Through its identification of existing deficiencies and needs and active pursuit to correct and accommodate them, true output equality in service delivery can be equated with compensatory equity.

Need can be operationalized in several ways. Operationalizations of need in terms of recreation and park services may include: population density, youth age population, family income, and juvenile delinquency rate (Gold, 1974). Benefits of this equity mechanism are also said to accrue to the general population in the form of poverty relief, greater equality of opportunity and the blurring of social class differences through the creation of a “closer sense of community” (Crompton & Lamb, 1986, p. 158). Compensatory equity improves the opportunities of the disadvantaged, by distributing resources according to level of need, with the greatest amount of resources being allocated to those residents with the greatest need for services. Under this model, for example, the district with the largest proportion of economically disadvantaged residents would receive the most resources for parks and recreation. Decisions to allocate services on the basis of need are often based on a belief that those residents with less need have more substitutes available, for example yards and private clubs, and better access to transportation to various types of facilities (Farnham, 1981).

Market Equity

A third equity mechanism, market equity, allocates services in a Utilitarian manner, providing services to residents in proportion to the taxes they pay, or revenues they contribute, rather than on the basis of need. In welfare economics, market equity is justified in terms of merit on the “benefit principle.” According to the allocation principle of merit, goods would be distributed as a “deserved” reward in proportion to contribution of either efforts or abilities (Scott et al., 2001). This mechanism would lead to wealthier districts receiving additional service increments compared to their less wealthy counterparts. For example, a wealthy district contributing twice as much in taxes as a neighboring district would receive double the park and recreation resources received by the other district. This mechanism also can be used to justify allocations based on revenues generated. In an extreme form, a recreation service would be paid for entirely through user fees. A justification for this operationalization is that it prevents residents from both receiving services they do not want and from requiring them to pay taxes for services that only other residents use. In a study of residents in Austin, Texas, little support was found for the taxes paid operationalization of market equity for park and recreation services, but there was moderate support among all demographic groups for using the market equity criterion based on pricing (Wicks & Crompton, 1989).

This mechanism is the typical standard for allocation within the private sector where the notion that residents are not entitled to equal amounts of resources is readily accepted. A significant disadvantage is that it ignores the social issues associated with equity (Crompton & Lamb, 1986). The widespread use of this model in public service

delivery allocation would result in the rich getting richer while the poor got poorer. Possible consequences of such actions include the spillover of problems from disadvantaged areas into wealthier areas, and crime or vandalism perpetrated by the disadvantaged on those with greater resources that may occur in situations where such visible discrepancies lead to frustration and social upheaval. An advantage of market equity, however, is that it alleviates the situation where poorer citizens subsidize services through the taxes they pay, that are used predominately by wealthier residents (Wicks & Crompton, 1986). Charging entrance fees gives residents the option of not paying for services they do not use, rather than having to pay for unwanted services through their property taxes.

“Even when the principal concern is not economic outcomes but ending discrimination or improving the quality of the environment, economic interests limit possible courses of action” (Fainstein, 2000, p. 470). With limited resources, a municipality is forced to prioritize its spending. This often means differentiating between public goods, paid for exclusively with tax dollars because their provision is believed to benefit all citizens in a community, and market goods where those individuals using the service pay for the disproportionate benefits they receive from its use. These prioritizations will vary among municipalities depending on the goals of their elected officials and the residents they represent. As such, all resource allocation decisions are based on willingness to pay.

In the context of public transportation, Viegas (2001) believed that the major factor influencing the willingness of residents to accept pricing, a market equity

mechanism, was an unwillingness to accept heavy congestion and a belief that no other sensible alternatives exist. The pursuit of compensatory or equality perspectives of equity, on the other hand, often leads to the use of a non-price mechanism to ration use of the free service. Consistent with Rawls, who favored a minimum level of service, Viegas (2001) suggested the application of both pricing and rationing whereby all local residents receive a certain quantity of “mobility rights” in exchange for their tax contributions. Consumption by non-residents or by residents above this predetermined level would then be subject to payment. Viegas’ proposal enables residents to freely trade their rations or “mobility rights” so as to provide potential revenue for those who are less mobile or more efficient in their mobility use. This would shift transportation from a public good to a market good because the benefits of receiving additional mobility rights would benefit the individual more than society.

Summary

A comparison of the distribution resulting from application of each of these models of equity is presented in Figure 3. If the city were going to develop a total of 30 acres of parkland, the acreage of the parks developed within each district would depend on which of the three models was used to determine equity. If a compensatory model was applied, the decision would be based on which district needed the park the most. In this simplified example, District A would receive a park twice the size of District B because their crime rate, a measure of need, is twice as high. On the other hand, District B would receive a larger park than District B if a market equity model was employed because District B has a higher tax bracket and has therefore contributed more to the

city's general fund. The use of equal opportunity to determine equity would result in city residents having equal access to parkland, thus each district would receive an amount of parkland proportionate to their district population. In this case, the acreage would be equal, reflecting the equal distribution of city residents.

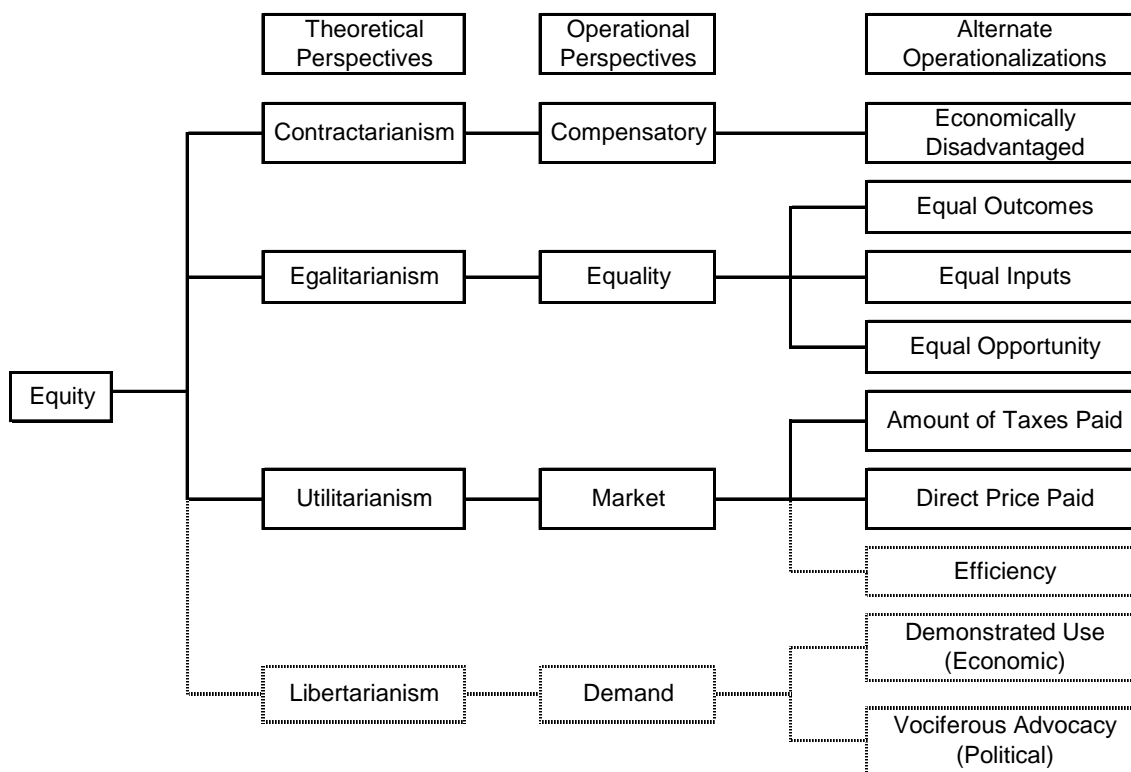
Figure 3: A Comparison of Distribution Results from the Application of Various Models of Equity

	Compensatory	Equal Opportunity	Market
District A: 1,000 residents high crime rate (2X) low tax bracket (Y)	20 acre park	15 acre park	10 acre park
District B: 1,000 residents low crime rate (X) high tax bracket (2Y)	10 acre park	15 acre park	20 acre park

These three basic models of equity are the operational perspectives emanating from the three theories of environmental equity discussed earlier. Egalitarianism supports either an equal distribution of resources (equal opportunity) or efforts to achieve an equal distribution of resources (equality). Contractarianism distributes resources according to need (compensatory equity). Utilitarianism distributes resources so as to achieve the greatest net benefit for society as a whole (market equity). It is reasonable to assume that people with different perspectives of equity will make different decisions. Similarly, the application of a particular model of equity will seem unjust or unfair to anyone with a different perspective. A taxonomy showing the

relationships between theoretical perspectives, operational perspectives and alternate operationalizations of these mechanisms is shown in Figure 4. The three fundamental perspectives of equality, compensatory equity and market equity are discussed in the following paragraphs.

Figure 4: Taxonomy of Political Philosophies and Their Associated Equity Models for Delivering Public Leisure Services



Note: Serrated lines indicate “psuedo-models of equity,” because they do not provide predictable decision-making by explaining *why* a particular proposal should be favored over another.

Based on: Crompton, J. L. & Wicks, B. E. (1988). Implementing a preferred equity model for the delivery of leisure services in the US context. *Leisure Studies*, 7, 287-304. <http://www.tandf.co.uk/journals>

Pseudo-Models of Equity

As discussed earlier, Libertarianism emphasizes freedom, or the lack of constraints, when making a decision, rather than explaining *why* a particular proposal should be favored over another. As such, it was determined to be an inadequate theory of equity. An example of an operationalization of Libertarianism is an allocation decision based on demand.

Demand

Decisions regarding the allocation of resources in the private sector frequently are made with the aid of market-price signals, such as demand. Although demand is often used as a basis for decisions in the public sector as well, it is not an equity model. Because demand is derived from a level of consumption, demands or requests, it is reactive, unpredictable and inconsistent and, therefore, cannot be used to guide equity decisions in a predetermined direction (Wicks & Crompton, 1986). Using parkland allocations, for example, those districts with the highest levels of usage would receive the greatest amount of parkland. While the concept of allocating resources according to demand may seem reasonable, it fails to consider that demand may be influenced by race or class. If public service allocations are made according to demand, which has been influenced by race or class, then they are likely to be challenged in the courts. The widespread acceptance of demand, as a surrogate for equity, stems from its administrative convenience and superficial appearance of fairness.

Demand can be represented in one of two ways: demonstrated use and vociferous advocacy. Demonstrated use entails the collection of participation statistics to show

evidence of a desire for that service. For instance, if enrollment figures for softball were higher than they were for ballroom dancing classes, demand for softball would be considered to be higher than the demand for ballroom dancing classes. The quantification of demand through demonstrated use statistics is popular in a service industry where figures such as goods sold or profits realized are not easily obtainable. Recreation centers, museums and park and recreation facilities count daily visitors. However, these figures are not necessarily representative of demand. Other factors, such as pricing, competition, location, accessibility and the availability of appropriate substitutes, can have an affect. For example, the number of children enrolled in a summer camp program may be very low. Rather than reflecting a low demand for summer camp, however, the low usage rates may be attributable to the camp hours being from 9:00 a.m. to 4:00 p.m. daily, making it difficult for the children of working parents to attend.

Another common representation of demand is vociferous advocacy. In this case, demand is a reflection of the quantity and intensity of residents' support of an issue. For instance, the decision whether to build a skate park or a walking trail would be based on the level of residents' lobbying for each of these facilities. A disadvantage with this method of demand representation is that the level of advocacy may not accurately reflect residents' interests. Instead, a minority of extremely vocal residents may be misleading officials or bureaucrats to believe that the issue is more pervasive in their community than it really is. This phenomenon is often referred to as "the squeaky wheel gets the oil" syndrome.

Efficiency

Efficiency is often cited as an alternative allocation principle used to justify inequalities because of the greatest aggregate benefit this principle may produce. As a method of allocation intended to achieve the greatest net benefit for society, it functions as a component of Utilitarianism, as seen in Figure 4. Efficiency emphasizes allocating resources so the greatest amount of overall service emerges from a given level of input (Scott et al., 2001).

Examples of efficiency include economies of scale, the least-cost siting of facilities, contracting-out services and consideration of return on investment opportunities. Economies of scale may provide one of two outcomes. Either it may be less expensive to build fewer, more centralized, large facilities than multiple small ones that are widely dispersed across an area, or it may be more appropriate to provide smaller facilities within each area of the municipality to avoid conflict in selecting a location for one large facility, thus aiding the bargaining process.

In the case of least-cost siting, facilities are built in a location where land and construction costs will be the least expensive. Contracting-out services involves comparing the costs of providing the services directly or contracting-out the services to a private organization which will provide them. In situations that require limited application, special equipment or expertise, or high seasonal employment demands, private organizations are often more cost effective at providing services. Decisions based on return on investment consider return on alternate investments from the present outlay of capital in terms of numbers served or services received, or smallest subsidy

needed. An example of this would be selecting to fund a golf course rather than a swimming pool because the ongoing operating loss would be smaller. Efficiency differs from market equity, an alternate Utilitarian model of equity, in its application criteria and measurement. Market equity reflects a conscious consideration of stakeholders' input contributions, while efficiency ignores the status of any given group of stakeholders for the good of the whole. Though efficiency often is used to justify the appropriateness of inequalities, it fails to consider equity outcomes in its application and, therefore, should not be used as an allocation method. Its inability to function as a model of allocation has not hampered its use within the parks and recreation field, however, where allocation decisions are often based on least cost alternatives.

Choosing an Equity Mechanism for Public Service Allocation

“Every time a tax is levied or repealed, every time public expenditures are expanded or contracted, every time regulations are extended or abolished an equity decision has to be made” (Thurow, 1980, p. 406). The question then becomes, “Which equity model is appropriate?” The answer is complicated due to the varying nature of park and recreation services and because different people have different values.

Consequently, the high degree of variability among park and recreation services suggests that one particular perspective is likely to be inappropriate in all cases. In each of the court cases discussed earlier in the chapter, equity was reviewed in terms of equality. None of the cases reflected support for either of the alternative concepts of equity, compensatory or market. To do so in the future, or perhaps to be able to withstand the

scrutiny of the courts in the future, will require determining levels of need or contribution and justifying that they are appropriate.

It has been suggested that generalizations regarding equity perspectives may be appropriate for particular situations, for example the use of compensatory equity in areas of poor air quality, when the benefits of the service impact the whole population of an area; and the use of market equity when service benefits are more personal, for example, in the case of golf lessons (Crompton & Lamb, 1986). The application of a particular equity perspective to recreation and park services is especially complex because individual benefits and societal benefits are often interwoven. Consider a golf course. It offers direct benefits to the golfers who use the course, but what about the environmental benefits, in terms of aesthetics, improved drainage and air quality which all members of the community receive?

Table 1 summarizes the potential dimensions, i.e. distinctive facets, of each of the nine alternate operationalizations of equity, while Table 2 uses scenarios to illustrate the allocative implications of each of the nine equity operationalizations.

TABLE 1
Potential Distinctive Facets of the Nine Alternative Operationalizations of Equity

Operationalization of Equity	Potential Distinctive Facets of the Operationalization
Compensatory	<ul style="list-style-type: none"> • Low-income residents have a greater need for public recreation and park (R&P) resources due to their reduced ability to pay for alternative options in the private sector. • Communities have a responsibility to improve the situation of the economically disadvantaged. • R&P improves the quality of life of those in greatest need. • R&P redistributes resources in an effort to improve the opportunities of those in greater need. • R&P fosters a closer sense of community by eroding class and wealth barriers.
Equal Outcomes	<ul style="list-style-type: none"> • R&P provides benefits to non-participants, as well as to participants. • New resources for R&P services should go to areas of a community that currently have fewest such services. • Each area of a community should have equal parks and recreation amenities regardless of variations in their cost of production.
Equal Inputs	<ul style="list-style-type: none"> • Equal amounts of resources (factors of production) should be provided to each area of a community. • Staff should commit an equal amount of time and effort to each area of the community.
Equal Opportunity	<ul style="list-style-type: none"> • R&P are allocated according to adopted community standards. • Allocates equal amounts of services to all areas of the community regardless of costs, need or the amount of taxes paid.
Taxes Paid	<ul style="list-style-type: none"> • Those residents contributing the most taxes receive the most services. • Staff should commit most time and effort to areas of the community that pay the most taxes.
Direct Price	<ul style="list-style-type: none"> • R&P services are allocated in proportion to user fees collected. • Prevents the subsidization of underutilized R&P services. • Charging realistic prices provides residents with the option of not paying through the tax system for services they do not want or do not use.

TABLE 1 *Continued*

Operationalization of Equity	Potential Distinctive Facets of the Operationalization
Efficiency	<ul style="list-style-type: none"> • R&P services are offered at sites where the costs of delivering services are lowest. • Decisions on whether to provide one large facility or several smaller facilities throughout a community are based primarily on which option is less expensive. • R&P delivery decisions are based on providing the greatest good for the greatest number of people. • Allocation decisions are based on maximizing the input to output ratio.
Demonstrated Use	<ul style="list-style-type: none"> • Resources are provided for R&P services that are most heavily used. • Residents demonstrate their desire for additional R&P services through their use of existing services. • Resources for new R&P services are allocated to the areas of a community that use existing services most.
Vociferous Advocacy	<ul style="list-style-type: none"> • R&P services are provided where they are most desired, as exemplified by number of requests and/or complaints. • Resources should go to areas of the community where residents are most vocal about requesting R&P services.

TABLE 2
Allocation Scenarios Based on the Nine Operationalizations of Equity

Each of the allocation scenarios presented below will use a particular operationalization of equity to determine the allocation of park and recreation resources in the fictitious town of Equityville, population 40,000. After a recent bond election, Equityville voters authorized \$10 million to be spent on new parks. The scenarios below describe how that \$10 million might be allocated according to each of the possible operationalizations of equity. Decisions for each of the scenarios are based on the following:

- *# of Residents:* Equityville is comprised of four single-member voting districts with approximately 10,000 residents per district. To simplify the scenarios, residents are assumed to be distributed equally within each district.
- *Geographic Size:* The areas of Districts 1, 2 and 4 are approximately equal (5 square miles each), however District 3 is almost twice as large (10 square miles) as the others.
- *Current Park Facilities:* At this time, all four districts have an equal amount of parkland and it is of equal quality.
- *Home Values:* District 1 is the wealthiest district, with an average home value of \$200,000. Home values average \$150,000 in District 2, \$100,000 in District 3 and \$50,000 in District 4.
- *Cost to Develop Parkland:* The cost to develop parkland is \$70,000, \$60,000, \$40,000 and \$30,000 across Districts 1 through 4, respectively.
- *Park Use Patterns:* Parks in District 2 are the most heavily utilized averaging 400 daily visits, followed by District 3, District 4 and District 1, averaging 300, 200 and 100 daily visits, respectively.
- *Advocacy Levels:* Residents in District 3 are the most vociferous, making approximately 220 complaints to the Parks and Recreation Department each year. Residents from Districts 2, 4 and 1, average 165, 110 and 55 complaints each year, respectively.

Allocation Scenario 1: Compensatory

The application of compensatory equity requires that resources be allocated based on need. Using home values as an indicator of need in Equityville, with the lowest home values reflecting the highest need, District 4 would receive the most new parkland, District 3 the second most, District 2 the second least and District 1 the least. If parkland allocations were to adhere strictly to home value proportions, the allocations from the \$10m bond issue would be: District 1, \$1m; District 2, \$2m; District 3, \$3m; and, District 4, \$4m. As a result, the Districts would receive 14.3 acres, 33.3 acres, 75 acres and 133.3 acres, respectively.

TABLE 2 *Continued*

<p><i>Allocation Scenario 1: Compensatory (Continued)</i></p> <p>Alternatively, proportional distribution of available new land, rather than the cost of providing that land, could be used as the basis for allocating parkland based on home value. The average cost of land is \$50,000 per acre, so 200 acres could be purchased from the \$10m bond issue. Allocating it on the basis of average home values would result in Districts 1, 2, 3 and 4 receiving 20, 40, 60 and 80 acres respectively.</p>
<p><i>Allocation Scenario 2: Equal Outcomes</i></p> <p>Allocations based on equal outcomes require that each district would receive an equal amount of developed parkland, regardless of the costs for development. Since the average cost to develop one acre of parkland in Equityville is \$50,000, 200 acres of parkland could be provided in Equityville, or 50 acres per district. However, the cost of the parkland in District 1 would be \$3.5m, while providing 50 acres each in Districts 2, 3 and 4 would cost \$3m, \$2m and \$1.5m, respectively.</p>
<p><i>Allocation Scenario 3: Equal Inputs</i></p> <p>In this case, equitable allocations are based on equal inputs. Thus, an equal amount of money, \$2.5m, would be spent developing a park in each district. Because development costs for District 1 are the highest, they would receive least parkland while District 4 would receive most. District 1 would receive 35.7 acres, District 2 would receive 41.7 acres, District 3 would receive 62.5 acres, and District 4 would receive 83.3 acres.</p>
<p><i>Allocation Scenario 4: Equal Opportunity</i></p> <p>Equal opportunity requires that residents in each community would have equal access to a neighborhood park. Because the area of District 3 is twice as large as the other districts, it would require twice as much parkland to provide equivalent access to residents in that district. The resulting acres of parkland thus would be 40 acres each for Districts 1, 2 and 4, while District 3 would receive 80 acres.</p>
<p><i>Allocation Scenario 5: Taxes Paid</i></p> <p>The application of market equity based on taxes paid requires that resources be allocated based on the amount of property taxes paid by each district. If home values were used as an indicator of this, with the highest home values reflecting the highest tax contributions and parkland allocations were to adhere strictly to property tax proportions, then given the different costs of land acquisition in each district, the allocations would be: District 1, \$4m, 57.1 acres; District 2, \$3m, 50 acres; District 3, \$2m, 50 acres; and District 4, \$1m, 33.3 acres.</p>
<p><i>Allocation Scenario 6: Direct Price</i></p> <p>This application of equity is applicable only in situations where users pay directly for the service or facility provided, rather than indirectly through the tax system. In the context of neighborhood parks, for the most part, there is no price charged so this operationalization is not applicable using the Equityville scenario.</p>

TABLE 2 *Continued*

<p><i>Allocation Scenario 7: Efficiency</i></p> <p>Allocation decisions based on efficiency, are based on input to output ratios. Because the cost of developing an acre of land in District 4 is cheaper (\$30,000) than developing an acre of land in Districts 1, 2 or 3 (\$70,000, \$60,000 or \$40,000, respectively) more parkland could be developed there than in the other districts (333.3 acres vs. 142.9 acres, 166.7 acres or 250 acres). As a result, strict adherence to this criterion would result in all \$10 million being allocated to District 4, which would receive 333.3 acres.</p>
<p><i>Allocation Scenario 8: Demonstrated Use</i></p> <p>If allocation decisions are based on demonstrated use, parkland is developed in districts where parks are most heavily used. If parks in District 2 were the most heavily utilized, with 400 daily visits, followed by District 3 (300 daily visits) District 4 (200 daily visits) and District 1 (100 daily visits), the allocation of new parkland would follow a similar pattern. Based on daily user rates, allocations for parkland would be \$1m, \$4m, \$3m and \$2m, for Districts 1 to 4, respectively, resulting in 14.3 acres, 66.7 acres, 75 acres and 66.7 acres, respectively.</p>
<p><i>Allocation Scenario 9: Vociferous Advocacy</i></p> <p>Vociferous advocacy may be operationalized by the amount of contacts with the Parks and Recreation Department each year, such as requests for new parkland or complaints about the amount of existing parkland. Residents in District 3 are the most vociferous, making approximately 220 contacts. Residents from Districts 2, 4 and 1 made 165, 110 and 55 contacts per year. Because residents from District 3 made the most contacts under this criterion, they would receive the most money for parkland (\$4m, or 100 acres), while Districts 1, 2 and 4 would receive \$1m, \$3m and \$2m, (that is, 14.3 acres, 50 acres, and 66.7 acres) respectively.</p>

Table 3 summarizes the implications of adopting alternate interpretations of equity in the context of a given scenario for allocating \$10million to provide new parkland “equitably” across four districts. The differences in allocation outcomes resulting from alternate interpretations of equity is striking. Table 3 shows that District 1 may receive from 0 to 57 acres; District 2 from 0 to 66.7 acres; District 3 from 0 to 100 acres; and District 4 from 33 to 333 acres. All of these outcomes, including those at the extremes, could be justified as “equitable.”

TABLE 3
Results of the Allocation Scenarios (Acreage and Dollars Spent per District)

Scenario	Operationalization	District 1		District 2		District 3		District 4	
		acres	millions	acres	millions	acres	millions	acres	millions
Compensatory	Comparative level of need based on: i) cost of providing new land ii) proportionate distribution of new land	14.3	\$1	33.3	\$2	75	\$3	133.3	\$4
Equal Outcomes	Equal # acres	50	\$3.5	50	\$3	50	\$2	50	\$1.5
Equal Inputs	Equal \$ spent	35.7	\$2.5	41.7	\$2.5	62.5	\$2.5	83.3	\$2.5
Equal Opportunity	Direct Size (access to parkland)	40	\$2.9	40	\$2.5	80	\$3.3	40	\$1
Taxes Paid	Property taxes (based on home values)	57.1	\$4	50	\$3	50	\$2	33.3	\$1
Direct Price	Not applicable	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Efficiency	Cost to develop parkland	0	\$0	0	\$0	0	\$0	333.3	\$10
Demonstrated Use	Park participation levels	14.3	\$1	66.7	\$4	75	\$3	66.7	\$2
Vociferous Advocacy	Number of contacts per year	14.3	\$1	50	\$3	100	\$4	66.7	\$2

Preferences for a specific equity perspective are likely to be influenced by background and social position (Crompton & Lamb, 1986). If these preferences are influenced by self-interest, however, it can be expected that low-income residents will favor compensatory equity, middle-income residents will favor equal opportunity and high-income residents will favor market equity. If political affiliation is strong, then it seems likely that liberals would support compensatory equity, while conservatives would support market equity.

Once selected, the dynamic environment of a community makes the implementation of an equity perspective difficult. Challenges to full implementation include difficulty in securing commitment and consistent interpretation by political and agency personnel; the frequently high turnover of elected officials; and changes in community composition over time that leads to changes in needs and preferences among residents. These changes are likely to lead to different patterns of service distribution under the existing equity perspective or changes in opinion as to which model of equity is appropriate (Crompton & Lamb, 1986).

Evaluating Allocation Decisions

The nature of public services requires that their performance be evaluated in terms of three criteria: equity, efficiency and effectiveness. The premise that public services should be evaluated first in terms of equity derives from the equal rights of individuals guaranteed by the U.S. Constitution. In practice, however, public services are often justified on the basis of their compensatory contribution and then evaluated in terms of their efficiency (Crompton & Lamb, 1983). “Efficiency has frequently dominated as the main evaluation criteria because effectiveness and equity are much more difficult to measure” (Crompton & Lamb, 1986). To properly evaluate services requires that evaluation criteria accurately reflect the appropriate measure.

Crompton & Lamb (1983) identify two factors contributing to the unfortunate tendency to evaluate services based on efficiency that were originally allocated according to a model of equity: more readily available measures for determining success or failure, and budgetary constraints that emphasize output maximization even at the cost

of a reduction in equity. As an example, current methods for quantifying service delivery often reflect an aggregate figure for an entire community. An alternative method might be to use a form of distributional analysis that breaks down the distribution of costs and benefits by socioeconomic group or class (Wicks & Crompton, 1989). This would provide decision-makers with insight into the potential effects of alternative services or facilities on various groups of people. The key for administrators is to select the most appropriate unit of analysis and service measures when choosing a method for quantifying service distribution (Wicks & Crompton, 1989).

Who Determines What Is Equitable?

In a municipality, there are essentially three basic entities responsible for making decisions on service allocation and distribution: elected officials, agency personnel and residents. While each of these entities possesses the ability to affect the process at any point of service delivery:

“The traditional government model suggests that the allocation of public services is implemented by a policy process that operates in the following way:

- 1) community priorities and values are articulated by citizens or citizen groups who
- 2) influence elected representatives who
- 3) convert the various demands into formal policy that
- 4) agency personnel endeavor to carry out” (Crompton & Lamb, 1986, p. 164).

Elected Officials

Elected officials are responsible for establishing the guidelines for allocation decisions within a community. They have the most influence on achievement of those allocation decisions through their control of the budgetary process, which allows them to mandate what services or facilities will be provided, as well as their capacity, scope and

location (Crompton & Lamb, 1986). Services of greater permanence and magnitude are more likely to be influenced by elected officials (Jones, 1981). They can also affect equity with either their opposition to a specific model or their unwillingness to become involved in a politically controversial issue.

Agency Personnel

Elected officials may have responsibility for establishing allocation guidelines, but decision-making discretion ultimately resides with agency personnel (Crompton & Lamb, 1986). Because elected officials are unlikely to have the time or resources necessary to supervise the deployment of their policies, considerable discretion is left to the agency personnel responsible for administering them. As implementers of policy, day-to-day management decisions, such as those relating to maintenance expenditures, staff assignments and equipment purchases, are the responsibility of agency personnel. These decisions can have a dramatic effect on park and recreation services in terms of equity and are often instrumental in determining winners and losers.

Both department managers and front-line employees have a substantial degree of discretion in determining who will receive what benefits (Antunes & Plumlee, 1977; Crompton & Wicks, 1988; Mladenka & Hill, 1977; Pellow, 2000). Managers are likely to have the greatest amount of discretion over allocational matters when managers are receptive to citizen involvement, when agency rules are not overly restrictive, and when political influence is weak (Crompton & Wicks, 1988). Front-line employees, such as recreation leaders or maintenance staff, are able to influence the allocation process through their interpretation and allocation of decision rules set by management.

According to Jones and Kaufman (1974, p. 12), “Many of the key decisions concerning service distributions are made by agency personnel, who are not only not elected, but because of civil service systems, are often immune from many of the most effective sanctions which might be used by the elected political functionaries to encourage response to citizen demand.” Outreach positions, where employees work outside the confines of a facility, often allow agency personnel the greatest amount of influence in determining an equity model (Crompton & Wicks, 1988).

Residents

“The marketing model of leisure service delivery recognizes that all residents should be invited to express their equity model preferences and influence the allocation process, because they supply an agency’s tax funding and are the beneficiaries of its services” (Crompton & Wicks, 1988, p. 298). Residents of a community can influence the delivery of public services through both formal and informal means. They can participate formally by forming citizen action groups that organize themselves with specific goals in mind. Typically, these residents are informed about local issues and have entered the political arena with the purpose of influencing policy and administration (Wicks, 1986). The ability of organized citizen groups in Chicago to influence the allocation of parks and recreation resources in that city demonstrates the potential of citizen action groups to affect the political process. Research has shown that effective interest groups possess the capability to influence the allocation process (Abney & Lauth, 1985; Jones, 1981; Steger, 1984).

In addition to organized citizen action groups, individual residents can also play an important role in public service delivery. Through the voting process, residents are capable of providing support for candidates and issues that reflect their opinions. Unfortunately, individual decisions on public service delivery are difficult to influence through the election process, where one candidate or issue may embrace both desirable and undesirable delivery options in different contexts. Therefore, residents are more likely to influence the political process by providing their opinions to elected officials and agency personnel, and reflecting those opinions by the choices they make politically and “with their feet.” Choices affecting political support include financial contributions to election campaigns and the election process itself. Choices made “with their feet” include the support or lack of support for individual programs or facilities provided by a department or for the entire department in general through participation.

Input from residents also can be useful to agency personnel, whose mission is to serve the public. They may expect residents who are in agreement with their service delivery patterns not to mobilize into effective opposition or initiate lawsuits against the agency based on equitable service distribution (Wicks, 1986). Individual opinions, however, often lack the political clout or ability to directly influence public service delivery. The complexity of such an issue also makes it difficult for policy decisions to be based on individual opinions.

CHAPTER III

A REVIEW OF EMPIRICAL LITERATURE RELATING TO EQUITY

Measurement Indicators of Equity

Research in social science can be challenging because of the difficulties surrounding the measurement of difficult to define variables. Equity can be assessed by three types of indicators: resources, activities or results (Lucy & Mladenka, 1980). The relationship between these was explained by Crompton & Wicks (1988) “Resources are used to engage in activities which achieve results” (p. 300). Resources are the inputs provided by the agency, such as money, personnel, equipment or facilities. Activities are the way in which the resources are used, for example, number of programs offered or frequency of maintenance. Results are the outputs used to measure the consequences of the inputs, such as evaluations of park cleanliness, customer satisfaction levels and participation rates.

As demonstrated in the Beal v. Lindsay court case, different methods for measuring equity can produce different conclusions. In that case, plaintiffs claimed discrimination based on inequalities in park cleanliness. While inequalities in results, that is park cleanliness, were substantiated, the allocation of agency resources, that is the amount of money and personnel assigned to maintaining the parks, was found to be equal.

Resource indicators are considered the easiest to use because of their ready availability and quantifiable nature (Crompton & Wicks, 1988). Although usage statistics meet both of these criteria, an inherent ambiguity is associated with their use in

assessing the equity of recreation service distribution. This ambiguity resides in the premise that while utilization may reflect either levels of quality or accessibility, it might also represent the extent of availability of viable alternatives. Perhaps for these reasons, the American courts have usually favored inputs as an indicator of equitable recreation services. As a result, many empirical equity assessments employ resource indicators. According to Lineberry (1977), however, the use of expenditure differences fails to consider geographic variances in cost, dissimilar rates of use and accompanying wear, and discrepancies in the needs of diverse populations. In addition, rather than indicating the level of public service delivery, public service expenditures may reflect the quality of goods, services and personnel purchased; diseconomies of scale; waste and inefficiency; or high labor and material costs (Lineberry, 1974).

While resource equity is necessary, it is not a sufficient condition to reduce outcome inequities (Berne, 1994b). Thus, concern has shifted from a focus largely on inputs to the extent to which they contribute to the achievement of positive outcomes (Levy, 1994). Evidence of this trend can be seen in the definition of organizational goals in terms of results and the commitment to measuring the quality of recreation programs in terms of benefits or outcomes rather than inputs. The use of activities and results together with resource measures is recommended, since analyzing resources should be considered in the context of how they were employed and with what results.

Findings from an evaluation of New York State's schools reflect the widespread concern about equity in the allocation of resources in a wide range of public services and reinforces the use of equal opportunity rather than outcomes in determining equity

(Gordon & Bonilla-Bowman, 1994). Within education, American society has traditionally adopted the equity contention “that all students have equal access to the opportunity for an adequate education”(Gordon & Bonilla-Bowman, 1994, p. 29). Gordon and Bonilla-Bowman (1994) identify three pivotal examples where this criterion has been used: the struggle for school desegregation, school finance equity cases, and the Lau decision concerning students with limited proficiency in English. The struggle for desegregation was based on the argument that segregation among schools resulted in unequal opportunity. In regards to the school finance debate, successful court challenges were initiated in California and New Jersey arguing “the unconstitutionality of inequitable distribution of educational resources resulting from the finances of public schools through local property taxes” (Gordon & Bonilla-Bowman, 1994, p. 30). This debate now reverberates in Texas. In the Lau decision, unequal access to education was considered to be a result of a school’s failure to offer instruction in the language of the student. In each of these instances, the concern was with ensuring that equal opportunity was facilitated by the allocation of educational resources.

The shift of focus from inputs to the extent to which they contribute to the achievement of positive outcomes, that is an “outcomes approach to leisure” (OAL), stems from the benefits movement in parks and recreation initiated by Driver (2002). The OAL focuses on accommodating three levels of recreation demand: level 1 demands are for recreation activity opportunities; level 2 demands are for satisfying recreation experiences, and; level 3 demands are for all of the benefits of leisure, including those from level 2. The OAL incorporates empirically supported concepts and principles from

modern management science, organizational psychology and personal choice theory with those from leisure, including results from leisure benefit research.

The OAL outlines cause and effect relationships between inputs, facilitating outputs, primary outputs and outcomes. Inputs are those things used or dedicated to the production of facilitating outputs, such as the knowledge, skills, time and effort of agency personnel; capital investments; rules and regulations; social norms and mores, and; information on stakeholder preferences. Facilitating outputs are the results of actions or anything that facilitates the creation of leisure opportunities, such as facilities, equipment and resources. Primary outputs consist of opportunities that have the potential to provide personal, economic, social and environmental benefits. They are both the beneficial and unwanted consequences of the use of primary outputs. Outcomes, on the other hand, result directly from managerial actions that occur without use by customers, for example contributions to the local economy from wages paid to park and recreation employees. According to the OAL, most outcomes are the result of participation, or the use of opportunities, and as such, participants create most of the benefits for themselves, as well as indirect benefits to other people and society at large.

A fundamental requirement of the OAL is the identification of clear, explicit management objectives for each of the targeted outcomes developed (Driver, 2002). Intended management actions would then accompany the management objectives. “This means that inputs must be related to facilitating outputs, primary outputs, and targeted outcomes by prescribed managerial actions as well as by the customers’ expected use of the primary outputs to create benefits for themselves” (Driver, 2002, p. 6). There are

two basic differences between the OAL and conventional approaches to the management of park and recreation resources: 1) its definition of relevant stakeholders is much broader than most other approaches, and 2) “managerial performance is evaluated primarily in terms of the positive outcomes produced and the negative outcomes prevented” (Driver, 2002, p. 7).

Another challenge associated with the measurement of equity is the choice of an appropriate unit of analysis. While the individual is the only unit of analysis considered in the Fourteenth Amendment, “proponents of urban service equalization recognize that services cannot literally be provided equally to every citizen” (Lineberry, 1974, p. 44). The object, rather, is an equity consideration of service distribution among various neighborhoods or areal units, rather than individuals. The question is thus raised “whether denials of equal protection in the delivery of municipal services must be demonstrated and rectified on an individual basis or on the basis of some larger aggregate; and, if the latter, at what aggregate level” (Lineberry, 1974, p. 44).

Lineberry raises two concerns with this issue. First, is the issue of ecological fallacy, which is the false application of inferences drawn from a sample population to describe the individuals within that sample. Because aggregated data are often used to demonstrate service inequalities, the danger of generalizing these data to represent a particular population is often present. The larger the unit chosen, the more the ecological fallacy may obscure any real correlations between the attributes of individuals and the services they receive. Second, the selection of very small units of analysis may make it impossible to guarantee consistent application of an equity model. In such

cases, achieving consistency may be expensive beyond reasonable expectations due to large diseconomies of scale.

If a compensatory model is adopted, then the selection of an area can be problematic: “Researchers are first confronted with the question of which subpopulation(s) in a society should be the focus for the purpose of...equity analysis” (Liu, 2001, p. 96). However, because Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, national origin, religion, sex, age or disability, these subpopulations are recommended for equity analysis (Liu, 2001). Because the concept of need is important when discussing equity, income level should also be included in the list of subpopulations used for comparison.

An equally relevant issue to differing groups that should be the focus of an equity study is how these groups are to be measured. Several difficulties are associated with using census data to define race and ethnicity, such as problems of self-identification and undercounting, but the lack of a better alternative suggests that the census is the most appropriate source. Almost all equity studies use census data of race and ethnicity, and the definitions of environmental justice that guide federal agencies typically follow census definitions (Liu, 2001).

Income reporting is similarly problematic because of the difficulties involved in selecting appropriate measures of income, family, households and population. Discrepancies between wealth and income, and between poverty thresholds and poverty guidelines, also contribute to the challenge of income measurement. While information from the census includes total income received in the calendar year preceding the

census, it does not include home or car ownership, both of which can have a dramatic effect on someone's wealth. Although poverty measures often are used to differentiate the wealthy from the economically disadvantaged, small differences in measures of poverty, poverty thresholds and poverty guidelines, can have a marked impact on who is put in which group. A particular problem with the poverty threshold information is that it does not make adjustments for regional differences in the cost of living.

Areas of concern for equity analysis in the context of transportation planning include transportation systems provided, accessibility and mobility, impacts on property values and the environment, user benefits and the fiscal impacts of transportation funding and pricing (Liu, 2001). Equity analysis is typically conducted using accessibility measures, however, a consensus on a universal measure of accessibility has not been reached (Liu, 2001). Traditional methods of measuring accessibility in parks and recreation utilized a geometric approach, which is grounded in location theory, with the goals of maximizing efficiency and minimizing costs (Nicholls, 2001). Recent advances in the field have used geographic information systems (GIS) to study accessibility and equity, which has enabled network analysis rather than a geometric approach to be adopted (Nicholls, 2001; Talen, 1997, 1998; Talen & Anselin, 1998).

Boots, Dawson, Silverman and Hatry (1972) used street roughness as an indicator of street quality because, in addition to the availability of technically accurate means for its measurement, the quality of pavement makes a considerable impact on the comfort of automobile passengers. As such, the authors chose to employ qualitative performance measures of street conditions. In terms of park and recreation services,

Jones (1993) proposes measurements of both quality and quantity in evaluating the relative level of equity and justice. Specifically, he suggests the following dimensions: how well costs and benefits are shared by the community; how well they meet specific performance dimensions, such as fit, access, claim and change; and how capable they are in recognizing the inherent cultural differences in a community.

In addition to problems associated with measuring sub-populations of people and determining who among them are disadvantaged, the distribution patterns of communities have important implications for studying equity (Liu, 2001). Much of this has to do with the uneven spread of wealth in the United States: “Regional differentiation in population distribution indicates that the choice of study area is important; regional studies may generate results that differ substantially from nationwide studies” (Liu, 2001, p. 109). For example, the percentage of minority population is significantly higher in metropolitan areas than the national average. In a review of literature on the effect of choice of unit of analysis, Liu (2001) contended that it does effect equity findings.

The focus of this dissertation is on developing an instrument capable of guiding allocation decisions to reflect residents’ opinions of equity. However, most of the empirical literature has investigated equity in terms of the existing distribution of services in a community. Many of these investigations were designed to test one of four hypotheses: per-capita equality, underclass discrimination, compensatory equity or contributory equity (Boyle & Jacobs, 1982). Research on per-capita equality investigates whether or not public services are distributed equally among geographic

areas within a municipality using per-capita as the unit of analysis. The underclass hypothesis, on the other hand, suggests that the distribution of municipal services will discriminate against poor and minority areas. Compensatory equity is the inverse of the underclass hypothesis, and research on it attempts to determine the extent to which services are distributed on the basis of need. In contrast, investigations using contributory equity are designed to test for a relationship between the distribution of municipal services in an area and its tax contributions. In each of these cases, an attempt is made to determine if services have been distributed inequitably and, if so, who are the winners and losers of the inequities found.

The Influence of Different Operationalizations on Outcomes

Evaluations of equity have been found to vary according to how equity is operationalized (Figure 4). For example, in research on libraries, services that were equitable (equal) in terms of user rates were found to be inequitable in terms of per-capita income and geographic distribution (Lineberry, 1974). Compared to libraries in wealthier neighborhoods, those in low-income neighborhoods were found to receive fewer librarians, books, periodicals and newspapers, smaller budgets and less qualified personnel despite similarities in cleanliness, attractiveness and the allocations of special equipment.

Conflicting results reported by Cingranelli (1981) and a different interpretation of results from those reported by Lineberry using the same Boston data, led Bolotin and Cingranelli (1983) to analyze the methodologies utilized. This resulted in an observation that the methodology employed in analyzing the distribution of municipal services

largely determines the findings. A comparison of the methodology employed by most of the previous equity studies in which an analysis of all tracts were compared with one in which business tracts were excluded from the analysis, and in which the effects of need and political clout were controlled, showed that the same data set led to two very different conclusions. The first analysis, which examined the degree to which a cross-sectional comparison of service provisions were compared to different geographic sections of a community, rejected the “underclass hypothesis,” that in the distribution of public services in a community “some groups suffer because of their race, because of their social status, or because of their paucity of political power” (Lineberry, 1977, p. 12).

When Bolotin & Cingranelli (1983) reanalyzed the same data, however, they found that although the mean per capita expenditure on police services in all neighborhoods was \$78.11, the mean for residential neighborhoods was only \$43.18. Thus, the business tracts, which represented less than 20 percent of the neighborhoods, raised the mean level of service by \$35, or over 80%. They proposed that the reason previous research failed to support Lineberry’s “underclass hypothesis” was that a majority of the analyses included business tracts in their analysis, making it more difficult for a correlation to be found between service delivery distribution and socioeconomic variables.

Even after excluding the business tracts in their analysis, however, Bolotin and Cingranelli were able to find support for only one element, political power, of Lineberry’s underclass hypothesis using the bivariate results. They suggested this was

due to the misleading nature of bivariate correlations and that a more useful test would be a multivariate equation that took all three elements, race, income and political power, into account. When this was done, they found that “after controlling for the effects of need and electoral clout with the mayor, neighborhoods with proportionately larger Black populations...receive a lower level of service per capita. [Thus,] given two neighborhoods with similar rates of crime and similar electoral support for the mayor, we would expect the neighborhood with a lower percentage of minority residents to receive a greater amount of police services” (Bolotin & Cingranelli, 1983, p. 218).

Who Are the Winners and Losers?

Three explanations have been developed in response to the contention that urban public services may be allocated differentially to various neighborhoods: the underclass hypothesis, the ecological hypothesis and the bureaucratic decision-rule hypothesis (Lineberry, 1977). The first suggests that some “underclass” group receives less than their fair share of services. The ecological hypothesis suggests that service distribution is a function of the ecological attributes of a neighborhood, for example its age and density, rather than a result of overt discrimination. The bureaucratic decision-rule hypothesis suggests that allocations are the result of internal decision-making, affected by the results of convenient, timesaving decisions made by bureaucracies.

Variations Due to the Underclass Hypothesis

The original notions of race preference, class preference and power-elite preference over time were integrated into what is known as the “underclass hypothesis,” reflecting Lineberry’s opinion that the inter-correlations among race, class and power are

too high to permit the measurement of their independent effects on service allocation. Nevertheless, particular studies tend to have focused on one or two of these dimensions of the underclass hypothesis rather than on the integrated impacts. Because none of the studies reviewed considered the presence of race preference or class preference independently, these dimensions are reviewed simultaneously. The review embraces public services beyond parks and recreation because the equity issue is generic and there may be insights to be gained from findings in other public services.

Race and Class Preference

In addition to their investigation of race preference bias in Boston, Bolotin and Cingranelli (1983) found that income lacked a strong association with their measure of services. They were unable to reject the class preference hypothesis, however, once they modified their analyses to exclude business tracts, using multivariate analyses and incorporating appropriate measures of need for service, for example crime rate. Upon controlling for the effects of need and electoral clout with the mayor, they found that low-income neighborhoods received fewer services.

In a study of multiple neighborhoods in New York City, tax contributions were the major factor in explaining differences in expenditures for property related-services, such as police, fire and sanitation, while the distribution of expenditures for human services like welfare, health and education, favored nonwhite, low-income residents (Boyle & Jacobs, 1982). When total allocations were aggregated, however, districts with the greatest number of poor residents received the most resources, although tax

contributions remained a major factor. On the other hand, variations according to race were not found to be a factor in determining expenditures for property related-services.

In another study, a comparison of New York State public school expenditures per pupil reported that New York City received the lowest per-pupil spending despite higher prices and higher levels of pupil needs. Although per-pupil spending is only one means of measuring educational inputs, it tends to be significantly related to other measures of educational quality, such as class size and size and quality of teaching force. For instance, below-average spending in New York City translated to above average class sizes, lower teacher salaries, higher teacher turnover rates and lower percentages of certified or licensed teachers compared to the rest of the state (Berne, 1994a). The input inequalities found in New York State's schools were reflected in the socioeconomic status of geographical areas. The worst funded schools were consistently found to be among the lowest scoring on elementary school test scores and strong relationships were identified between high school dropout rates and poverty. The racial and ethnic composition of pupils was also found to be strongly negatively related to teacher salaries and strongly positively related to teacher turnover and percentage of teachers not certified or licensed (Berne, 1994a).

The inequalities found in New York State's schools were not limited to inputs. Strong and consistent negative relationships were also found between third grade test scores and minority composition. Similarly, strong relationships were identified between high school dropout rates and measures of race and ethnicity. For example, the dropout rate in schools with the highest minority composition (minority composition

over 81%) was almost four times as high as the dropout rate for those with the lowest minority composition (minority composition under 20%). Upon analyzing these data, Berne concluded, “there is solid evidence that despite the design of the state aid formula and rhetoric often associated with the formula designers, school finance in New York State is inequitable” (p. 11-12).

In their investigation of a single municipal service, Antunes and Plumlee (1977) compared variations in street quality in Houston, Texas with neighborhood racial composition and socioeconomic status. Following the precedent of Boots et al. (1972), the authors used street roughness as an indicator of street quality. The tests determined that the association between income and roughness was extremely low ($r=-.15$) and the combined influence of race and income accounted for only 1% of the variance in street roughness. Although Antunes and Plumlee did find wide variations in Houston street quality, they could not relate these variations with income and thus concluded that the variations were random and not attributable to socioeconomic or ethnic biases. Although only 11 of the 265 streets within the sample were unpaved, all but one of these were in African American neighborhoods. When these eleven unpaved streets were included in the analysis, the roughness mean was greater in African American neighborhoods, but this difference was not statistically significant at the .05 level. Levy, Meltsner and Wildavsky, (1974) in their research on street, school and sewer services in Oakland, California, also found random variations due to socioeconomic status. In their findings, they reported that service distributions sometimes favored the rich, and sometimes the poor.

Libraries in low-income neighborhoods in Houston were found to receive less support than their more affluent counterparts (Mladenka & Hill, 1977). They received fewer books, smaller budgets, fewer librarians, less qualified personnel, and fewer periodicals and newspapers. However, they were found to compare favorably to facilities in wealthier areas in terms of cleanliness, attractiveness and special equipment. Whereas Mladenka and Hill (1977) found inequities in library resource distribution, their research failed to demonstrate inequality over time in the spatial distribution of libraries, or in the spatial distribution of park acreage or accessible facilities. This, however, varied according to the measure of equity employed, because library services in low-income neighborhoods were deemed adequate when based on user rates rather than spatial distribution patterns. Lineberry's (1974) San Antonio study also reported inequities in library resource distribution. In this case, census tracts with lower socioeconomic levels or higher ethnic ratios were found to be closer to libraries and fire stations. Additional research into the quality of libraries and fire stations revealed variations, but the inequalities were found to correlate poorly with racial or socioeconomic neighborhood attributes.

A 1974 study by the National Recreation and Park Association, Open Space in Recreation in America's Inner-cities, found that "as the percentage black increases, open space, outdoor recreation facilities, park and recreation personnel (seasonal, part-time year-round and full-time year round), and the number of volunteers in the study area decreases" (p. 27). On the other hand, the study also found that many study variables, such as recreation buildings, measures of finance, recreation programs and unit

evaluation were not related significantly to the percentage of African Americans in the population. Evidence of bias was also found within selected low-income, high-density city center census tracts in the 25 cities studied, however, it is not possible to draw conclusions on how the provision of recreation opportunities in these tracts compared with provision in other areas of the cities because the study only included low-income, high-density census tracts (National Recreation and Park Association, 1974).

A study of the distribution of recreation services that same year by the Washington D.C. Department of Recreation, led authors Fisk and Lancer (1974) to report contradictory results. They found that while youth 19 years of age and under in a predominantly Anglo American area of the city received disproportionately more services than those in a predominantly African American area, the results were reversed when the analysis was extended to all age groups (Fisk & Lancer, 1974). However, all of the comparisons made by Fisk & Lancer were done without the use of statistical analysis.

Mitchell and Lovingood (1976) investigated spatial relationships between park density and selected population, family, housing and economic characteristics. The findings led the authors to conclude that park density was greatest at the lower end of the socioeconomic scale. While their research did not specifically test for variations according to race or ethnicity, racial composition and urban sprawl were identified as key contributors to distribution patterns. The authors observed that park density was concentrated in census tracts with the greatest densities of population, older age cohorts and renters.

The authors proposed the notion that methodological limitations might have explained some of their findings. For instance, the substitutability of nonpublic space for public space (yards, churches, streets and public schools, for example), especially in suburban areas, was not addressed. They concluded, however, that the majority of activities required formal recreational space, so potential substitutability did not compromise their findings. Simple correlation analysis revealed ten socioeconomic variables that were significantly related to park density: density of families with female head, density of population 62 years and over, population density, density of families with children under 18 years, density of housing units, density of population under 18 years, density of housing units with 1.01 or more persons per room, density of renter occupied housing units, density of owner occupied housing units and Black population density. According to the authors “the evidence presented supports the generalization that park density is greatest in those tracts at the lower end of the socioeconomic scale” (Mitchell & Lovingood, 1976, p. 12).

In a critique of their work, Godbey and Dunn (1976) cited the 1974 NRPA study cited earlier, Open Space in Recreation in America’s Inner-cities, which reported contradictory evidence indicating a negative relationship between the percentage of studied families below the poverty level and the number of park and recreation areas in the cities. Lovingood and Mitchell (1978) responded to the critique by suggesting that comparisons between the studies were not appropriate due to differences between the study areas. While the NRPA study investigated entire cities, Lovingood and Mitchell looked at an “Urbanized Area,” as defined by the Bureau of the Census. Thus,

according to Lovingood and Mitchell, the NRPA study analyzed data at a city or county unit level, that is a macro-spatial level, while Lovingood and Mitchell's study focused on the city at a micro-spatial scale.

Mladenka and Hill (1977) investigated variations in park facilities and acreage and the areal distribution of parks in Houston, Texas. Multiple demographic characteristics were employed as independent variables but all associations were found to be low, explaining less than 10% of variation in park quality measures. When demographic factors were compared with average distances of residents to park facilities, only a weak inverse relationship was found suggesting that minority and low-income groups were marginally more likely to live closer to the nearest park facility. In addition, no evidence was found to indicate that parks located in wealthy areas received more facilities, better lighting or more park acreage. These results led the authors to conclude low-income neighborhoods were not discriminated against, either in terms of park acreage or number of available park facilities.

In a more recent study by Talen (1998), parks in Pueblo, Colorado were used to demonstrate the application of equity mapping in planning. She also reported that low-income areas were not discriminated against in terms of access to park space. In her application of geographical information systems (GIS) to equity analysis, Talen cited the existence of visually observable discrepancies in access in areas of high Hispanic population and suggested that further research was necessary to confirm that the patterns were not random and, if they were not, to identify why they existed. In another application of GIS to determine equity, Nicholls (2001) reported that less advantaged

groups, especially minority and low-income groups, tended to have better access to park and recreation resources in Bryan, Texas. Cingranelli (1981), however, reported racially based discrepancies in his analysis of the distribution of police and fire protection resources in Boston, Massachusetts in the early 1970s (using what appears to be the same data set as the aforementioned work by Bolotin and Cingranelli). “Black neighborhoods received higher per capita expenditures in an absolute sense, but they received lower expenditures per capita than comparable white neighborhoods - comparable especially in terms of political power and need for services” (Cingranelli, 1981, p. 664). In addition, the author contended that equal inputs were insufficient to compensate for the difference in needs.

Similar results to Cingranelli’s were found in Savannah, Georgia, prior to the city’s 1973 adoption of their Responsive Public Services Program (RPSP) (Toulmin, 1988). When comparisons were made between city planning units (PUs), 70% of those PUs with scores worse than the mean were poor, black neighborhoods, suggesting that levels of service were lower in heavily ethnic, low-income neighborhoods. The ambitious goal of the RPSP was to achieve output equality, rather than the commonly adopted input equality. As part of the program, Savannah was divided into 21 PUs, whose service levels were then compared with respect to various functional areas of municipal government, such as dog control, street conditions and recreation use.

With the introduction of the RPSP, the City of Savannah took a compensatory equity approach in the distribution of services and began targeting resources at those PUs defined as having lowest service levels. Savannah’s application of the RPSP

provides a working example of the process developed by Wicks and Crompton (1989) for implementing a preferred equity model (See Figure 1). In the normative distribution phase, the first step in incorporating the public's equity preferences into service allocation decisions, city officials determined that they wanted to adopt a compensatory approach to equity. After documenting distribution patterns in 1974, as part of the actual distribution phase, city officials began setting and prioritizing equity objectives as part of the synthesis phase. In 1976, the policy review phase began with the city's first report update and a reevaluation of their distribution patterns. Minor adjustments were then made during the policy modification phase. These last two phases were repeated again in 1979 with the publishing of a third report in 1980. Still, a program like the one in Savannah had to overcome several obstacles in order to achieve its goal of creating equal service levels (Toulmin, 1988): partial control, the concept that societal forces can be stronger than program forces; racism; a lack of political power; external political problems; and internal political problems. In a longitudinal analysis of the program, great disparities were found among the program's ability to effect service deliveries within all of the functional areas; however, the gap between the advantaged and the disadvantaged narrowed by 60-90% in all areas except crime and fire incidence between 1973 and 1980 (Toulmin, 1988).

Detroit's per capita service measures in the provision of recreation services from 1968-1969 were measured in terms of income, race, age, population density, juvenile delinquency rate and population change (Gold, 1974). Although results indicated that services varied widely across neighborhoods, simple correlations between demographic

and socioeconomic characteristics and service measures were generally weak. Gold did find, however, that Black neighborhoods were more likely to have less park acreage and older facilities than average, but were also likely to have more personnel per capita in the summer. Differences in the age of facilities were surmised to have been the result of the phenomenon that “poor blacks live in the oldest neighborhoods, poor whites in the next oldest, and high-income whites in the newest, and that recreation centers are built at about the time that the homes in the neighborhood are constructed” (Gold, 1974, p. 114). Gold’s final conclusion was that service levels in areas considered “most in need” by the Detroit Parks and Recreation Department were not consistently lower than elsewhere in the city. Farnham (1981) reported similar findings in his research on urban recreation service distribution in Oakland, CA. Though “no systematic evidence of discrimination against blacks” could be found, family income appeared to have an influence once percentage of Black and other independent variables were held constant (Farnham, 1981, p. 359).

In their research on Chicago, Mladenka (1980) and Koehler and Wrightson (1987) reported different conclusions as to whether or not differences in the distribution of park facilities could be attributed to race or income. Upon investigating for correlations between racial variables and service delivery patterns, Mladenka was unable to conclude that such a relationship existed. Using the same data, however, Koehler and Wrightson found that park facilities were positively related to median income and percent of home ownership and inversely related to the percent of African American population living in each ward.

Differences in the findings were attributed to Koehler and Wrightson's focus on geographically stable population subsets and on facilities that were susceptible to short-term redeployment. Previous work by Mladenka had failed to consider the substantial population mobility of the time, which included a 100% increase between 1960 and 1970 in the number of wards that were 80% or more African American and a 31.6% increase in the city's African American population, from 837,656 to 1,102,620 (Koehler & Wrightson, 1987). In addition, they expanded the categorization of park facilities from two variables, All Facilities and Selected Facilities, to five variables with the addition of Outdoor Facilities, Indoor Facilities and Programs. All Facilities, one of the two original variables, counted the total number of facilities at each park, while the other original variable, Selected Facilities, counted swimming pools, athletic fields, golf courses, day camps, playgrounds and gymnasiums. The three new variables, Outdoor Facilities, Indoor Facilities and Programs, were added to reflect recent additions from the Chicago Park District's *Table of Parks and Park Facilities*.

As expected, the pattern of correlations between facilities and each independent variable increased consistently according to mobility characteristics, that is the ability of the service to be provided elsewhere. The correlations therefore increased from Outdoor Facilities to Indoor Facilities to Programs. However, once population mobility and program mobility were controlled for, park facilities were found to be "inversely related to the percent of African American population living in each ward, and positively related to percent home ownership and median income" (Koehler & Wrightson, 1987, p. 89). Of these three variables, percent African American and home ownership were found to

have substantial independent influence over park facility distribution, while median income had virtually none.

Although much of the available literature is twenty years old, economic differences among various demographic groups continue to exist. “Despite forward moves in democratizing urban social programs, strong disparities in lifestyles and living conditions as a result of economic stratification still exist” (Mandel, 1996, p. 1). Social and economic discrimination now extend beyond race to include national origin, ethnicity, the homeless, the unemployed and those with fewer economic resources. Meanwhile, the political process is driven by those with far greater resources, capable of spending larger sums of money than their opponent when publicizing their candidate for political office (Mandel, 1996).

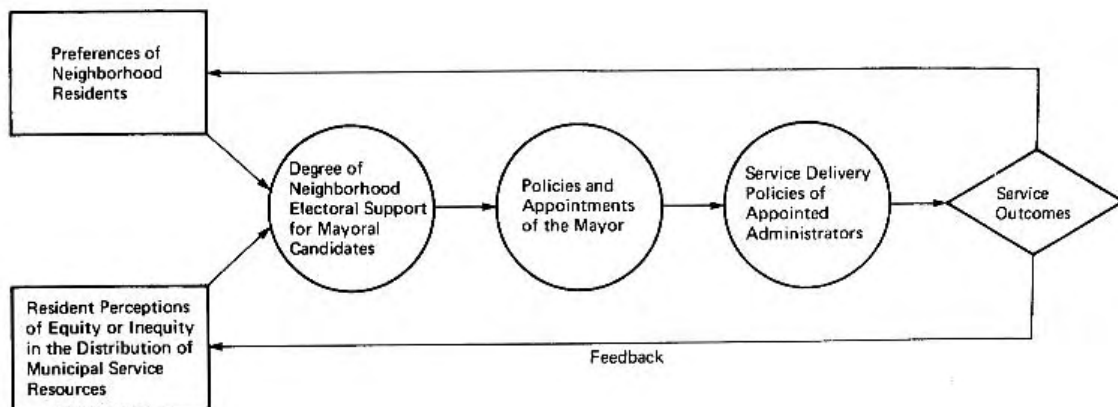
Power-Elite Preference

In addition to race and class preferences, the underclass hypothesis represents bias associated with relative influence on the power structure of a government. The underclass consists of individuals who lack political power. The concept stems from the idea that “parties use public policies in order to win votes and adopt public policies congruent with preferences of the median voter” (Lineberry, 1985, p. 408). Essentially, voters consider the list of benefits, ranging from paved streets to garbage removed, promised to them by each of the candidates when making their decision, and those who do not vote tend to be ignored. “Voters make electoral choices and, through those choices, give office-holders the power to make distributive decisions and appoint

administrators who also will make distributive decisions in behalf of the elected representatives” (Cingranelli, 1981, p. 667). See Figure 5.

According to Steger (1984), when resources are limited and demands for funding exceed the resources available, the scarcity produces conflict. In an urban context, this conflict is characterized by “the competitive struggle among urban groups, those who win are most probably organized groups (rather than individuals) and those groups that have political resources at their disposal” (Steger, 1984, p. 376). Throughout the equity literature, researchers attempting to account for the unpatterned inequalities that could not be attributed to race or socioeconomic factors have also considered the possible effect of bureaucratic or political decision-making.

Figure 5: A General Political Model of Municipal Service Delivery Policy



Source: Cingranelli, D. L. (1981). Race, Politics and Elites: Testing Alternative Models of Municipal Service Distribution. *American Journal of Political Science*, 25(4): 664-692.

Lineberry (1985) argues that “nothing is so commonplace in politics and political analysis as the presumption that politicians reward their supporters through favorable policies” (p. 413). However, little empirical research can be found that urban politicians manipulate the allocation of services to benefit their constituents, where “the rich get richer and the poor get poorer” (Crompton & Lamb, 1986, p. 154). Research attempting to link power in congress and the ability to deliver geographical benefits has failed to find a systematic pattern (Ray, 1980). What Ray (1980) did find was that “In the aggregate, those with power did little better (or little worse) than those without influence” (p. 31). An investigation by Anagnoson (1980) into the distribution of federal grants by the Economic Development Administration found similar patterns. In a study on local politics, Mladenka (1980) found no relationship between city politics and the distribution of Chicago’s park facilities.

Based on this research, Lineberry argued that the tendency of politicians is instead to universalize benefits (1985). However, subsequent research on the distribution of Chicago’s park facilities by Koehler and Wrightson (1987), using the original data and updated data from 1983, concluded that significant correlations existed between political variables and the distribution of park facilities, “the results of our analysis provide strong evidence that politics plays an important role in Park District decisions” (Koehler & Wrightson, 1987, p. 95). They reported little support for the position that compensatory equity or equality models were a factor in Park District decisions. Instead, the authors reported strong evidence that the politics (vociferous

advocacy in Figure 4) and efficiency considerations played an important role in Park District decisions on the distribution of facilities.

Variations According to the Bureaucratic Decision-Rule Hypothesis

According to Lineberry (1985), “politicians define need and then ask bureaucracies to allocate benefits” (p. 413), so an alternative to the power-elite hypothesis is whether or not variations in service delivery are attributable to decisions made by bureaucrats. The premise behind this notion is that “Many of the key decisions concerning service distribution are made by agency personnel, who are not only not elected, but because of civil service systems, are often immune from many of the most effective sanctions which might be used by the elected political functionaries to encourage response to citizen demand” (Jones & Kaufman, 1974, p. 12). The performance criteria upon which agency personnel are evaluated can also make a tremendous impact. When agency personnel are evaluated according to efficiency, they are encouraged to concentrate their efforts on those least in need of assistance so as to demonstrate high levels of productivity (Brudney & Morgan, 1984). For example, Dommel et al. (1978) reported that block grant funds were targeted to moderate- and upper-income areas because city officials feared that if funds were allocated to lower-income areas, they would be wasted or insufficient to make a difference, or that improvements would be undone by vandalism.

In addition, decisions made by bureaucrats rarely warrant the attention of elected officials. “Elected officials have little knowledge of and, consequently, exercise little control over the manner by which [municipal] resources are allocated (Mladenka & Hill,

1977, p. 89). Several authors have investigated the extent to which the municipal bureaucracy responds to groups or individuals with strong political resources and to individual citizens' requests for service, and whether or not the subsequent response varies by race or socioeconomic status (Mladenka, 1975).

Nardulli and Stonecash (1981) examined the effect of bureaucratic decision rules in the context of police services in Champaign, Illinois. According to the authors, in previous studies of allocative questions in the area of policing, the role of decision rules was not addressed because of concerns about the availability of data and their inherent complexity. However, improved computer technology and increased professionalism enhanced the desire and ability of departments to systematically track what they did and for whom, or to whom, they did it. The complexity was reduced through focusing on a single research setting and reducing the scope of the inquiry, so it was limited to the patrol division. The authors identified several factors influencing police response to violence: resource availability, for example, the number of cars available; situational characteristics, such as whether an assailant was present; demographic criteria, including race, sex and age; and preferences of an individual officer.

The type of criteria affecting response was also found to vary at different stages of the process. Specifically, earlier phases were dominated by professional-rational concerns while demographic considerations were more likely to show up in later phases. The analysis of police response in common-crime, vandalism, burglary and theft, cases and the ticketing of accident cases reflected similar influences. An exception to this was the lack of evidence that demographic factors affected police response in common-crime

cases. These factors were, however, found to play a role in the ticketing of accident cases. The authors concluded “these results suggest that the impact of these influences is more significant in discretionary areas that are more routine and mundane” (Nardulli & Stonecash, 1981, p. 164).

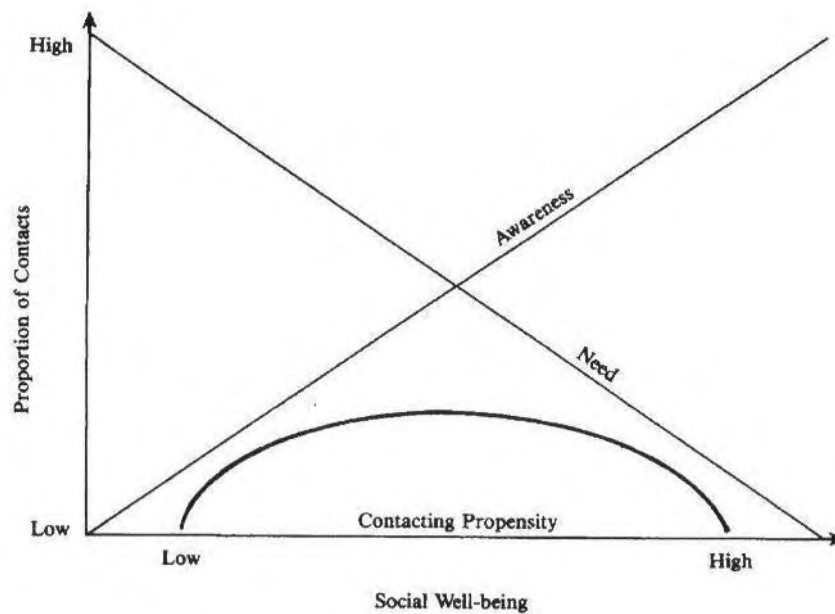
In a study of individual citizen requests for service in Houston, Texas, Mladenka found: 1) the level of individual demand-making was very low, suggesting that citizen complaints were unlikely to play a prominent role in influencing the bureaucracy; 2) demand priorities were similar across neighborhoods; 3) the level of bureaucratic responsiveness was low, with most requests being ignored; 4) responsiveness seemed to relate directly to the amount of effort needed for compliance; 5) demands were more likely to be made in neighborhoods with higher concentrations of African Americans and Mexican-Americans; and 6) variations in bureaucratic responsiveness across demand categories were not a function of race or wealth (Mladenka, 1975). When Levy et al. (1974) found service distributions in Oakland, California sometimes favored the rich and sometimes the poor, they used anecdotal evidence to support their contention that bureaucratic decision rules were the cause of the ambiguities.

Research on citizen-initiated contacts with ten municipal departments in Cincinnati, Ohio tested the traditional socioeconomic model, a newer parabolic model and a “clientele participation” model, which argued that “contacts are a function primarily of the individual’s perceived needs and secondarily of socioeconomic factors (Thomas, 1982). The parabolic model considered that different mixes of awareness and

needs would produce a parabolic relationship between citizen-initiated contacts and social well-being.

Figure 6 suggests there would be low contacting rates among the deprived, whose needs would be great but who would lack awareness of how government might assist their needs; and also among the affluent, who would have little need for government assistance, despite high awareness (Thomas, 1982). This implies that perceived needs for urban services are likely to change with shifts in socioeconomic variables, especially income. For example, Lovrich (1974) found interest in social services, such as police and fire protection, road maintenance and waste collection, to be greater among low-income residents, while more affluent residents had a greater interest in quality of life services, such as parks, recreation and libraries. Lovrich's results favored the traditional linear socioeconomic model over the parabolic model, and the clientele participation model over both of the others in predicting Cincinnati contacts. A 1984 analysis of local Community Development Block Grant (CDBG) allocation decisions which compared the relative effects of group influence and decision-making rules found that while both had an impact, neither had a more significant influence on the process than the other one (Steger, 1984).

Figure 6: The Parabolic Model of Citizen-initiated Contacts



Source: Thomas, J. C. (1982). Citizen-initiated contacts with government agencies: A test of three theories. *American Journal of Political Science*, 32 26(3): 504-522.

Demand was found to be relatively low for library resources in low-income neighborhoods and services provided by branch libraries in low-income neighborhoods were found to be adequate when the test for adequacy employed user rates. (Mladenka & Hill, 1977). The authors concluded that consumption levels were perceived as demands by the library bureaucracy who then allocated resources accordingly. Interviews and observational data revealed that the collections of books and materials at libraries in different neighborhoods of varying ethnic composition were almost identical, yet user rates were found to be much lower among ethnic neighborhoods. The authors proposed that a possible explanation for these low user rates might have been the failure

of libraries to reflect the interests of the neighborhoods they serve, rather than a lack of need or interest by residents. If need, rather than demand, had been applied as a test for equity, library services were found to be inequitably distributed. On the other hand, consumption levels were not the primary determinant for the location of branch facilities, reported earlier to favor low-income neighborhoods.

Lineberry's "underclass hypothesis" is well known, perhaps because "almost everyone who has lived in a large city intuitively believes [it]" (Bolotin & Cingranelli, 1983, p. 209). Since variations in municipal service allocations according to race, class or political power might be more indirect than direct, it is also prudent to investigate the potential for these neighborhood characteristics to influence bureaucratic decision rules which in turn result in inequities.

Research testing the legitimacy of the underclass hypothesis includes a study which examined one-to-one citizen-administrator interactions for bias (Thomas, 1986). Evidence was sought for how helpful and courteous citizens perceived staff to be on a broad range of contacts with the municipal bureaucracy in Cincinnati, Ohio. The research was unable to support the contention that municipal departments that serve primarily African Americans were less helpful or less courteous than those which serve primarily Anglo Americans. Although possible racial discrimination was identified, it was limited to only a few types of contacts and was not generalizable to most contacts. According to Thomas, most of the apparent racial discrimination was a result of African Americans bringing more difficult problems to the bureaucracy, rather than from

bureaucrats giving them less consideration. The bureaucratic treatment of citizens did not vary significantly according to income level, however.

As part of his evaluation of the Responsive Public Services system implemented in Savannah, Georgia, Toulmin (1988) asked the question, “Does such a system succeed only in functional areas where there is little discretion available to “street-level bureaucrats,” who may dislike the compensatory equality philosophy of the program and its “top-down” implementation? (p. 390). Upon examining the results of the program seven years after implementation, Toulmin found that crime, a functional area with a high degree of street-level bureaucratic discretion, had less RPS success than other functional areas with less discretion. However, the housing area, which is also considered to have high street-level discretion, did rather well under the program. Thus, he concluded that street-level bureaucratic discretion appears to have little explanatory value.

Variations According to the Ecological Hypothesis

In Lineberry’s study of libraries and fire stations, he discovered that the older and more densely settled a census tract was, the closer it was to them. Lineberry suggested that these findings were due to the ecological attributes of the tracts, with urban growth concentrated at the city’s periphery composed of households with higher incomes. “Understandably, construction of public facilities lags behind suburban tract development” (Lineberry, 1974). Although research into the quality of services revealed variations that were only randomly correlated to the ecological attributes of the census tracts served, ecological attributes were found to be correlated with the proximity of

service facilities. The findings, however, supported rejecting Lineberry's null hypothesis that the older and more densely settled a census tract was, the lower the quantity of public services delivered to that tract. Instead, the older and more densely settled a neighborhood was, the closer it was to fire stations and library facilities.

That same year, in a comparison of Detroit's per capita recreation service provisions, Gold (1974) concluded that although they had more personnel per capita in the summer, African American neighborhoods were more likely to have less park acreage and older facilities than their Anglo American counterparts. Gold hypothesized that ecological factors, in this case, the phenomena that recreation centers are constructed along the same time frame as the houses in an area, were a primary contributor to the differences found. His theory was based on the premise that poor African Americans live in the oldest neighborhoods, poor Anglo Americans in the next oldest, and high-income Anglo Americans in the newest. The result of his theory was that newer recreation centers were found in newer neighborhoods, more likely to be occupied by high-income Anglo Americans.

Why Public Service Distribution Might Vary by Race or Socio-Economic Status

It has been suggested that the historical development of urban areas within the United States has been controlled by those in power at the expense of the powerless (Jones, 1993). Immigration in the late eighteenth and early nineteenth centuries segregated populations into communities identified by distinct races, cultures and income levels (Jones, 1993). Accordingly, extreme discrepancies often were found in

the level of municipal services provided across communities, and issues of social justice and equity were often overlooked.

Three possible explanations for racial variations in exposure to environmental risks have been offered: pure discrimination, the Coase theorem and the theory of collective action (Hamilton, 1995). A consideration of these explanations in the broader context of the distribution of public resources may provide insight on possible reasons for racial variations in the distribution of public services. Hamilton's category of pure discrimination relates to the siting of environmentally adverse facilities in communities composed of racial groups against which the owners of such facilities are prejudiced. The same argument to intentionally disadvantage a particular racial group might be used in some contexts to explain the allocation of public resources.

The second explanation, the Coase theorem, suggests that environmentally adverse facilities are sited where compensation due to damages is least. According to the Coase theorem, when property rights are well-defined and freely transferable without transaction costs, properties will go to their most socially valued uses (Liu, 2001). Coase thus argued that government intervention was unnecessary since mechanisms effectively defined social value. He went further to suggest that victims of environmental pollution should be taxed, not compensated, since their decisions to locate near a polluter increase the damages sustained as a result of the polluter's activity (Liu, 2001). If the area remained undeveloped, much less damage would be inflicted. Opponents of the Coase theorem argue that bargaining in real world situations with a large number of parties, the relevance of transaction costs, and equity considerations

make application of the theory unrealistic (Liu, 2001). Siting environmentally adverse facilities at locations where compensation paid for damage is least, suggests the Coase theorem may be applied to property values or a resident's willingness to pay for an amenity, or payments made to avoid a negative amenity. In the context of public services, the Coase theorem suggests resources are allocated to areas where damages attributable to official decisions are minimized **or** where benefits are maximized, which highlights the potential for political influence to dictate the distribution of public resources. As such, it correlates closely with the efficiency operationalization of market equity presented in Figure 4.

Hamilton's third explanation is that different racial groups have different propensities for political participation. Because environmentally adverse facilities tend to be built in places where residents are least likely to engage in collective action, and traditionally many racial minority areas have not been politically active, sitings of these facilities using this criterion became racially segregated. Clearly, this theory of collective action has potential legitimacy for explaining the possibility of differences in public service distribution according to racial groups. This is clearly related to vociferous advocacy, one of the operationalizations of market equity. According to vociferous advocacy, "the squeaky wheel gets the oil." In other words, benefits accrue in proportion to level of political participation. This notion also serves as the basis for the power-elite hypothesis.

Equity Model Preferences

A significant amount of research has been reported on distributive preferences in terms of income (Rutstrom & Williams, 2000; Tata & Bowes-Sperry, 1996) and equity preferences in terms of general public goods and service provision (Chan, Godby, Mestelman, & Muller, 1997; Gaertner et al., 2001; Scott et al., 2001; Van Duk & Wilke, 1993), but relatively little has focused on the allocation of park and recreation services (Crompton & Lue, 1992; Farnham, 1981; Mitchell & Lovingood, 1976; Wicks & Crompton, 1986, 1989).

Research in the area of distributive justice preferences for income distribution has reported contradictory conclusions of individuals' preferences for equality or compensatory models of equity probably reflecting that these preferences vary across jurisdictions. Some have, however, identified a significant gender gap in preferences (Scott et al., 2001; Tata & Bowes-Sperry, 1996). For instance, in decisions about pay raises, women were found to be more likely to consider interactional justice, which focuses on the interpersonal treatment people receive and addresses whether they believe they have been treated honestly and respectfully, while men were more likely to consider distributional justice, which considers the fairness of outcomes in terms of comparing effort invested with outcome received (Tata & Bowes-Sperry, 1996).

When research on equity has been conducted on the provision of public goods, the results suggest that individuals are not solely concerned with their own interests, but tend also to consider fairness norms in their distribution choices (Chan et al., 1997; Van Duk & Wilke, 1993). In their initial research, Wicks & Crompton (1986) surveyed

residents and municipal park and recreation directors within Texas in an effort to gain empirical insights into the allocation preferences of park resources for these two groups. Although four alternative equity models were presented, both groups overwhelmingly supported allocations based on equality, rather than need, demand or amount of taxes paid. The authors hypothesized that conflict avoidance by directors and a lack of real understanding by the general population of the other non-equality models explained these equality preferences. The widespread and adamant opposition, reported particularly by African Americans and the elderly, to allocating parks to citizens who are the most persistent in requesting them is particularly important given the prevalence of demand, or political advocacy, in government decision-making (Wicks & Crompton, 1986).

To determine strength of support of various equity models across park and recreation services in Austin, Texas, Wicks & Crompton (1989) administered a questionnaire to present and past city council members, all park and recreation department employees, and a random sample of citizens who were members of neighborhood organizations. Community group members were selected because, as discussed in the section “Who Determines What Is Equitable?,” community group members are perceived as having greater awareness of service allocation patterns than average residents.

The eight alternative equity models suggested for providing leisure services included were:

- to those with the greatest need (based on socioeconomic factors) (Compensatory);

- equally to each individual or unit of analysis (Equality);
- where fewest examples of the service now exist (Equality);
- where the service is most used (Demand);
- where levels of citizen advocacy are greatest (Demand);
- to those who pay the most taxes (Market);
- where fees cover costs (Market); and
- where the cost of service provision is lowest (Market) (Wicks & Crompton, 1989).

Results from their research indicated: “1) different models of equity are measurable; 2) equity preferences are likely to differ by service type; 3) equity preferences are likely to differ between decision making groups; and 4) equity preferences may differ within decision making groups” (Wicks & Crompton, 1989). Specific results from the surveys also had policy implications for the Austin Parks and Recreation Department for service delivery. For example, justification for revising user fee policies was based on strong and widespread support for fee-supported athletic programs, providing much-needed support to counteract the self-serving position of those who were opposed to fee increases, i.e. heavy users of those programs. Similarly, the unanimous rejection of fee-supported neighborhood parks and the overwhelming support for providing them equally across the city had obvious implications for the department.

In a follow-up study using the same data, Wicks and Crompton (1990) tested the efficacy of two sets of independent variables to predict support for the eight aforementioned equity models in seven recreation service contexts (pools, neighborhood parks, community education, metro parks, athletic programs, park maintenance and senior citizen programs). Results from a series of stepwise regression models indicated that independent variables traditionally used in social science were generally poor

predictors of equity preferences. Some consistency between independent variables and equity preferences was found, however. For instance, in all seven service types residents describing themselves as liberal were less likely to prioritize resources on the basis of entrance fees covering operating costs, more likely to support allocating resources for services where fewest exist now; and more likely to support allocating more resources to the economically disadvantaged. Similarly, residents identifying themselves as conservative were more likely to allocate resources in accordance with the amount of taxes paid in six of the seven types of services.

Residents who were high users reported a significantly lower preference for support of fees in five of the seven service types. In other words, heavy users preferred a system in which taxpayers subsidized them. Long-term residents were less likely to support the addition of more resource based services, such as parks and pools, where they were most used. As expected, there was a positive relationship between increases in age and support for seniors' programs where they were most used. Increases in age were also positively correlated with support for allocating resources to those who were most persistent in requesting services.

Findings were much less consistent among department employees. However, correlations were found between race of employees and their preference for allocating resources to low-income areas, with non-whites more supportive of compensatory distribution. In addition, type of service had a significant effect in all seven service contacts, with employees in recreation oriented jobs more likely to support the allocation of resources to those most persistent in requesting the services. Support for allocating

resources where the cost of development is lowest was consistently low among both residents and employees. While the findings reported here were found to be significant, R^2 values were low, predicting a maximum of only 20% of the explained variance in equity preference of employees and 15% for residents.

A similar study of residents in California was conducted by Crompton and Lue (1992). Results of this study, however, indicated a clear preference for the demand model based on demonstrated use. The alternative demand model, using vociferous advocacy, received relatively little support and substantial opposition. Market equity operationalizations received varying degrees of support and opposition. Direct price was most likely to be favored, while allocations based on taxes paid or where cost was lowest were more likely to be opposed. Compensatory allocations based on income and those based on equal inputs were likely to be the most controversial because levels of support and opposition were relatively similar. By contrast, allocating services to those areas with fewest facilities received substantial support and minimal opposition. It is difficult to compare this study with those done earlier by Wicks and Crompton (1986; 1990) because sampling procedures varied; the level of specificity of park and recreation services varied to which equity guidelines were directed; and different question formats were used (Crompton & Lue, 1992).

The Relationship of Equity and Standards

It is proposed here that residents' perspectives of equity should be the key criterion guiding resource allocation. A prevailing current guiding criterion is the notion of standards, which is not necessarily consistent with a resident based perspective. The

evolution of standards and their implications for equity are discussed here. The first standards for recreational open space were introduced in England in 1883 when the Earl of Meath, founder of the Metropolitan Public Gardens Association, proposed that “a public space for recreation should be within a quarter of a mile of everyone’s door” (Holmes (1911) in Theobald, 1984, p. 193). Later, in 1891 Sir Robert Hunter suggested 5% of the area of each new town be dedicated as public open space (Theobald, 1984). London playground standards also were being set as early as 1891. Even then, “the most widely used approach to recreation resource planning [was] the acreage-to-population ratio method” (Theobald, 1984, p. 194).

Similar efforts were being made in the United States when the Superintendent of Keney Park in Hartford, Connecticut, George A. Parker, led a committee appointed by the American Park and Outdoor Art Association with the charge of determining park areas for cities, and their relation to population, income and valuation. The committee’s report in 1901 concluded that 5% of a city’s area should be reserved for parks, playgrounds and squares, with one acre of park area for every 200 people. Variations of the acreage-to-population ratio have evolved since 1901, but the concept itself has since remained the major planning criterion for the provision of recreation resources (Theobald, 1984). Even in the early 1900’s, concern was expressed about the overuse of standards and planners’ potential reliance on them as an absolute. The National Playground Association of America prefaced its 1906 adoption of a playground acreage-to-population standard with the following: “That while there is no inherent relation

between space and children, and the exact amount of space required cannot be determined...” (Wilkinson, 1985, p. 191).

In the 1930’s, George Butler, a representative of the National Recreation Association (NRA, later merged into the National Recreation and Park Association, NRPA) reluctantly responded to requests for park standards (Mandel, 1996). After analyzing 5,000 responses to a citizen survey and other NRA research, he offered a guideline of 10 acres of park and open space per 1,000 residents. Since then, however, “more than one critic has pointed out that the park acreage needed in New York City for Manhattan to comply with accepted standards would exceed the entire acreage of that island” (Ammons, 1996, p. 152). Yet this figure is still employed frequently today, despite Butler’s original fear shared to this day by the NRPA, that it is “likely to be used indiscriminately, regardless of location and other factors that must modify the standard locally” (Mertes & Hall, 1995, p. 6). One such factor to be addressed when providing park and open space, is which equity perspectives should be adopted. The standards criterion implies an equality equity perspective but there are alternate operationalizations of that perspective and other perspectives, which should also be considered (Figure 4). Other factors include which must be considered as important elements in developing public space include user preference, leisure objectives, recreation experience, optimum, form and function, time horizons, economic feasibility and political efficacy (Wilkinson, 1985).

Additional standards were set by NRPA in 1969 with the suggestion that 20 acres of outlying regional park be developed per 1,000 residents (Mandel, 1996). Then in

1972, NRPA developed a minimum standard for neighborhood parks: 2.5 acres per 1,000 residents within a ½-hour walk. However, in 1983 this standard was redefined with the recommendation that a neighborhood park provide a service radius from ¼ to ½ mile, serving up to 5,000 residents and providing 1 to 2 acres per 1,000 residents. The NRPA also acknowledged in that year, that besides the almost unquestioned standard of 10 acres per 1,000 residents, other standards had evolved, such as ‘percent of area,’ user characteristics, participation projections and carrying capacity of the land, as means of determining area needs.

The NRPA’s position was that park and recreation standards are important as:

- a.) a national expression of minimum acceptable standards,
- b.) guidelines for determining land requirements for recreation,
- c.) a means for relating recreational needs to spatial analysis,
- d.) a structuring element in regional development, and
- e.) a tool for justifying the need for recreational sites within the overall land use pattern (Mandel, 1996).

Later, in 1985, Wilkinson proposed the use of community-specific standards, “in which detailed research on the character, needs and wants of a specific community underlies the provision of meaningful and realistic open space standards,” to replace the previously widespread and misused national standards (Wilkinson, 1985, p. 201).

In its 1994 document on standards, the NRPA appears to demonstrate a Rawlsian view in its proposal that communities develop a “Level of Service (LOS)” standard to operate as the stated minimum below which the quantity of land and facilities should not fall. They also caution administrators against using demand as the basis for determining equity and propose instead that departmental equity policies should be contained in a comprehensive master plan, adopted by the park and recreation board and elected

officials and used to guide departmental decisions. In addition to advocating against the use of demand as the guiding criterion for equity decisions, administrators are warned against being influenced by efficiency criteria to the point at which equity is impaired.

Specifically, the NRPA advocates that the LOS should reflect an equal opportunity to use basic park and recreation services provided from the general fund. Once these basics, as defined in the comprehensive plan, are provided uniformly throughout the community, differences in services can then be provided on the basis of the need or demand of residents in a particular area. Besides equal opportunity, NRPA stresses equal access and the provision of services of equal quality. Ammons (1996) proposes that rather than attempting to adhere to the previously proposed standard of 10 acres per 1,000 residents, which left many communities judging themselves too harshly, communities should identify appropriate benchmarks with which to compare themselves. Indeed, this was reinforced by later Supreme Court decisions dealing with exactions (Crompton, 1999).

Inequitable Service Allocation Patterns? Conclusions

A summary of the findings of the research studies on equity is given in Table 1. Koehler and Wrightson (1987) provided the following conclusions in a review of the equity literature on equity model preferences in the context of urban services: 1) Services are often distributed equally, although variations exist between services and over time; 2) when distributions are unequal, they appear to be unpatterned, failing to support the notion of a systematic underclass bias due to race, income, or political

TABLE 4
The Allocation of Public Services: A Summary of the Empirical Literature

Author(s)	Year	Location Studied	Municipal Service Area Studied	Independent Variables	Dependent Variables	Research Methodology	Hypotheses Tested	Support or Rejection of Hypotheses Tested
Antunes & Plumlee	1977	Houston, TX	Neighborhood Streets	Ethnicity, Socioeconomic Status & Bureaucracy	Quality of Neighborhood Streets (Street roughness, land use and the presence of covered storm drains, curbs and sidewalks)	One tail tests of significance, Correlations	Underclass (Race, Income and Power-Elite), Bureaucratic Decision-Rule	No support for the Underclass Hypothesis or the Bureaucratic Decision-Rule.
Bolotin & Cingranelli	1983	Boston MA	Police	Crime rate, Land Use, Income, % Black, Mayoral Support	Police Expenditures	Multiple Regression	Underclass (Race, Income and Power-Elite)	Support was found for the Underclass Hypothesis, in terms of race and political power.
Boots, Dawson, Silverman & Hatry	1972	Fairfax County, VA	Neighborhood Streets	Ethnicity, Housing Value, Density, % Home Ownership	Roughness of Neighborhood Roads	Correlations and Covariance Analysis	Underclass (Race)	Mixed findings were reported, neither supporting nor rejecting the Underclass Hypothesis in terms of race.
Boyle & Jacobs	1982	New York, NY	Police, Health, Fire, Sanitation, Education, Human Resources	Ethnicity, Income, Age, Professional Status, Tax Contribution	Municipal Expenditures	Comparison of means and standard deviations used to investigate per-capita equality; Multiple Regression used to investigate Underclass Hypothesis.	Underclass (Race and Income)	Findings were mixed and unable to conclusively support or reject the Underclass Hypothesis, in terms of race or income.

TABLE 4 *Continued*

Author(s)	Year	Location Studied	Municipal Service Area Studied	Independent Variables	Dependent Variables	Research Methodology	Hypotheses Tested	Support or Rejection of Hypotheses Tested
Cingranni	1981	Boston, MA	Police & Fire	Need for Services (Crime & Fire Rates), Mayoral Support, SES (Income, % Black), Neighborhood Conditions (% of Parkland, Density, Age), Land Use	Police/Fire Expenditures	Bivariate Regressions, Path Analysis	Underclass (Race, Income and Power-Elite) and Bureaucratic Decision-Rule	Little evidence was found to support either the Bureaucratic Decision-Rule Hypothesis or the Underclass Hypothesis, in terms of race or income.
Farnham	1981	Oakland, CA	Recreation Services	Race, Income, Age, Population Density	Recreation Capital Stock	Least Squares Regressions	Underclass (Race and Income)	The empirical evidence provided little support for the Underclass Hypothesis in terms of race or income.
Fisk & Lancer	1974	Washington, D.C.	Recreation Services	Ethnicity, Age	Capital & Operating Expenditures, Quantity and Quality of Opportunities, Utilization Rates		Underclass (Race)	Findings were mixed and unable to conclusively support or reject the Underclass Hypothesis, in terms of race or income.
Gold	1974	Detroit, MI	Recreation Services	Income, Race, Age, Population Density, Juvenile Delinquency Rate, Population Change	Quality & Quantity of Services (attendance rates, periods with leadership personnel present, # hours of leadership personnel)	Multiple Regression	Underclass (Race and Income)	Little evidence was found to support the underclass hypothesis in terms of race or income. Instead, results indicated the distribution of services, in terms of quantity, favored non-whites and low-

TABLE 4 *Continued*

Author(s)	Year	Location Studied	Municipal Service Area Studied	Independent Variables	Dependent Variables	Research Methodology	Hypotheses Tested	Support or Rejection of Hypotheses Tested
								income residents.
Koehler & Wrightson	1987	Chicago, IL	Park & Recreation Facilities	Race, Home Ownership, Median Income, Vote (for the mayor at that time)	All Facilities, Selected Facilities, Outdoor Facilities, Indoor Facilities, Programs	Multiple Regression	Underclass (Race and Income)	Support was found for the Underclass Hypothesis in terms of race and home ownership. Strong evidence was found for the Underclass Hypothesis in terms of Power-Elite and the Bureaucratic Decision-Rule Hypothesis.
Lineberry	1974	San Antonio, TX	Fire and Libraries	Ethnicity, Population Density, Age of Area, SES	Location of Fire Stations and Libraries, Service Quality of Libraries	Correlations	Underclass (Race and Income) and Ecological Hypothesis	No support was found for the Underclass Hypothesis, in terms of race or income, or the Ecological Hypothesis. Instead, results indicated proximity to libraries and first stations favored older, more populated neighborhoods, non-whites and low-income residents.

TABLE 4 *Continued*

Author(s)	Year	Location Studied	Municipal Service Area Studied	Independent Variables	Dependent Variables	Research Methodology	Hypotheses Tested	Support or Rejection of Hypotheses Tested
Mitchell & Lovingood, Jr.	1976	Columbia, SC	Parks	Population Density, Ethnicity, Age, Home Value/Rent, Income	Park Density	Correlations	Underclass (Race and Income) and the Ecological	No support for Underclass or Ecological Hypotheses. Instead, results indicated park density favored older, more populated neighborhoods and low-income residents.
Mladenka	1980	Chicago, IL	Parks and recreation, fire protection, refuse collection and education	Income, racial and electoral characteristics	Park and Rec Services (acreage & facilities), Fire Protection Services (# stations and equipment), Educational Resources (# teachers # staff, age of physical plant, # of foreign languages/special ed programs offered, teacher experience & qualifications), Refuse Collection Services	Interviews, Correlations	Underclass (Race and Power-Elite)	No support was found for the Underclass Hypothesis in terms of the power-elite. Mixed findings were reported and the Underclass Hypothesis in terms of race was neither supported nor rejected.

TABLE 4 *Continued*

Author(s)	Year	Location Studied	Municipal Service Area Studied	Independent Variables	Dependent Variables	Research Methodology	Hypotheses Tested	Support or Rejection of Hypotheses Tested
Mladenka & Hill	1977	Houston, TX	Parks and Libraries	Ethnicity, Housing Value, Education, Income, Rent, Density, Poverty %	Park Acreage, Park Quality (presence of facilities), Lighting, Distance (to nearest park), Library Branch Distribution and Library Quality (# books, # periodicals and newspapers, budget, # and qualifications of personnel)	Bivariate Correlations, Step-wise regressions	Underclass (Race and Income) and the Bureaucratic Decision-Rule	Findings were mixed and unable to conclusively support or reject the Underclass Hypothesis, in terms of race or income. Evidence was found to support the Bureaucratic Decision-Rule Hypothesis.
Nicholls	2001	Bryan, TX	Parks	Population Density, Ethnicity, Age, Housing Value/Rent, % of Housing Renter Occupied	Park Access	Geographic Information Systems and Mann-Whitney Analysis	Underclass (Race and Income)	No support was found for the Underclass hypothesis (race or income). Instead, results indicated park access favored non-whites and low-income residents.
Talen	1998	Pueblo, CO	Park & Recreation Facilities	Ethnicity, SES (housing value, # rooms, # single family units, # owner occupied units)	Access to Park Facilities	GIS (spatial univariate, bivariate or multivariate analysis)	Underclass (Race and Income)	Intent of research was to stimulate further inquiry. However, the results did not indicate that provision was related to income or race.

TABLE 4 *Continued*

Author(s)	Year	Location Studied	Municipal Service Area Studied	Independent Variables	Dependent Variables	Research Methodology	Hypotheses Tested	Support or Rejection of Hypotheses Tested
Thomas	1986	Cincinnati, OH	Traffic Engineering, Buildings and Inspections, Fire, Waste Collection, Police, Health, and Highway Maintenance	Race, Income, Education, Age, Sex	One-to-one Citizen-Administrator Interactions	Correlations	Bureaucratic Decision-Rule	No support was found for the Bureaucratic Decision-Rule Hypothesis.

power; and 3) unpatterned inequalities are likely to be the result of bureaucratic decision rules. In addition to the above conclusions, the findings reviewed in this chapter indicate the following: 4) bureaucratic decisions may be influenced by factors other than race, class, political power, such as professional norms, efficiency and demand; 5) most of the analyses imply that equality, rather than other models of equity, is the appropriate criterion in distribution.

The literature review of research undertaken on service distribution patterns in parks and recreation provided little evidence for the contention that park and recreation services vary according to demographic or socioeconomic factors. Although inequities exist, their distribution is scattered and unsupported by either the underclass hypothesis or the ecological hypothesis. The underclass hypothesis, the belief that the disadvantaged are treated unfairly in urban service delivery, has been discredited by several researchers (Antunes & Plumlee, 1977; Farnham, 1981; Jones & Kaufman, 1974; Levy et al., 1974; Mladenka & Hill, 1977), each of whom reported no systematic deprivation of services by the “underclass” groups when compared to other groups. Class, race and income do not seem to have a disproportionate effect on the quality or quantity of public service provisions. While some studies have reported inequitable service delivery (Association, 1974; Fisk & Lancer, 1974), most were unable to do so or failed to find any support for the contention that this variance is significantly related to the demographic or socioeconomic characteristics of residents (Gold, 1974; Lineberry, 1977; Mladenka, 1975). No group could, therefore, be identified as “losers” among these “unpatterned inequalities.” In many cases, the disadvantaged were actually found

to receive *more* services (Gold, 1974; Lineberry & Welch, 1974; Mitchell & Lovingood, 1976; Nicholls, 2001). Race and income characteristics were found to explain little of citizens' evaluation of service satisfaction and citizens' desire for additional service delivery, despite there being substantial differences among residents' opinions (Fitzgerald & Durant, 1980).

Similarly, the power-elite hypothesis generally has not been supported in the empirical literature. Levy et al. (1974) were unable to find evidence to support the citizen participation model. According to this model, groups with high levels of participation will receive benefits proportional to their efforts spent contacting elected officials. The conclusion that elected officials exercise little control over the distributional process lends support for the notion that bureaucrats are often left unsupervised to determine on their own who will benefit from municipal policy decisions (Bolotin & Cingranelli, 1983; Boyle & Jacobs, 1982; Koehler & Wrightson, 1987; Levy et al., 1974; Lineberry, 1977, 1985; Mladenka, 1980; Mladenka & Hill, 1977).

Bureaucratic decision rules may be influenced by a variety of factors, including: race, class, political power, demand, need and other fiscal factors. When demand is employed as the test for equity, the distribution of resources to proportionately reflect demand levels often emerges as an equitable arrangement in terms of equality according to demand levels, but opposing conclusions are found when need is used as the test for equity (Mladenka & Hill, 1977). Lineberry proposes that due to their access to education and wealth, and their level of political participation, individuals in upper-

income neighborhoods are more articulate in expressing their demands, thereby producing positive effects on the level of services they receive.

With very few exceptions (Savannah, GA), municipalities are not following the Model of Equity Implementation proposed by Wicks and Crompton (See Figure 2.). Nor are they selecting a particular model of equity on which to base their allocation decisions. Instead, decisions appear to be based frequently on professional norms, efficiency and demand (Antunes & Mladenka, 1976; Koehler & Wrightson, 1987). The two most significant fiscal factors affecting allocation decisions appear to be 1) economies of scale and 2) variable land and construction costs (Farnham, 1981). Crompton & Lamb (1986) identify five specific reasons that public facilities are located inequitably: 1) the inheritance of facilities located on the basis of outdated decisions; 2) donation of the facility, with the location determined by the donor; 3) centralization of facilities, for reasons of economy and to expedite bureaucratic procedures; 4) unavailability of other sites in the area; and 5) relatively low land costs (p. 202).

While generalizable conclusions from the results of equity studies may be unclear, the most significant commonality among them is their use of data in attempting to confirm or disconfirm equity in terms of equality, rather than in terms of alternate models of equity or perceived fairness. Longitudinal research has also been scant and unable to demonstrate bias preferences. Mladenka and Hill (1977) demonstrated inequality over time in library resource distribution, while Wicks and Backman (1994) working with Austin, Texas residents' equity preferences suggested that equity constructs are both measurable and stable over time. Results of their study disputed

previous arguments that residents' understanding of services may be unclear due to the complexity of social equity as a concept. Their research also demonstrated that the public's perceptions of equitable service allocations for parks were more clearly formulated than they were for recreation services, suggesting the possibility that perceptual differences may exist between these two types of public leisure services.

CHAPTER IV

METHODOLOGY

In previous chapters, four theoretical conceptualizations of equity and their corresponding operational implications were described. From these four conceptualizations, nine alternate operationalizations were identified as possible bases for the allocation of municipal resources. This chapter describes the steps which were taken to construct a multiple-item scale for measuring residents' perceptions of the appropriate operationalization of equity for allocating park and recreation resources in their community. The chapter's components are: (1) development and pretest of the instrument; (ii) item generation and content validity checks by expert judges; and (iii) data collection procedures.

Instrument Development

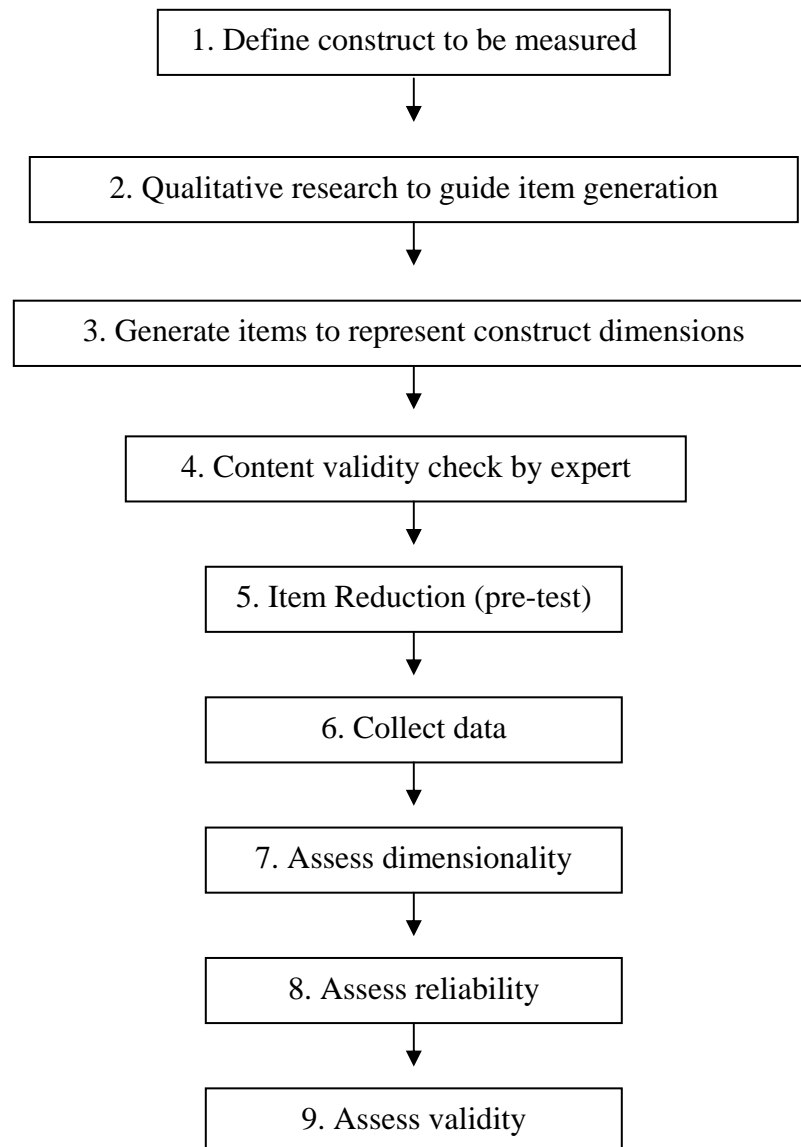
A widely accepted standard process for the construction of scale instruments is the multi-step procedure proposed by Churchill (1979). The process comprises the following eight steps: (i) definition of the construct to be measured; (ii) the generation of items to represent construct dimensions; (iii) content validity check by expert judges; (iv) item reduction (pre-test); (v) data collection with revised scale; (vi) assessment of the scale's dimensionality; (vii) assessment of scale reliability; and (viii) assessment of construct validity. Churchill's process has been used widely in the marketing field, (Cronin & Taylor, 1992; Parasuraman, Zeithaml, & Berry, 1988) tourism field (Ap & Crompton, 1998; Lee & Crompton, 1992; Mo, Howard, & Havitz, 1993) and in the recreation field (Kaczynski, 2003; McKay, 1994). To aid in the item generation process,

a ninth step was added to Churchill's original eight steps. The additional step preceded his second step and involved undertaking qualitative research, using a sample from the population of interest, to assist in generation of the initial items in language that would be understandable to a broad range of community residents. A summary of the nine-step process is given in Figure 7. Step 1, the construct of equity, was defined earlier in this study (Figure 4, Tables 1 and 2). Steps 2-6 are discussed in this chapter while steps 7-9 are discussed in Chapter V (Results).

Qualitative Research

In-depth interviews were undertaken with a sample of people from the community. The sample was selected so as to include individuals from a wide spectrum of ethnicity, income, education, gender and age. The purpose was to solicit insights from community members and to record the language of the people pertaining to equity. Eight interviews were conducted with residents from Bryan, Texas, whose names have been withheld to protect their privacy. A summary of the sociodemographic profile of each respondent is presented in Table 5.

Figure 7: Scale Development Process



Reprinted with permission from *Journal of Marketing Research*, Volume 16, pages 64-73, published by the American Marketing Association, Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs.

TABLE 5
Sociodemographic Status of Respondents Participating in the Qualitative Interviews

Respondent	Gender	Ethnicity	Age Group	Family Size	Education	Occupation
1	Male	African American	60s	2	B.S.	Retired (Ex-Schoolteacher)
2	Male	African American	40s	4	M.S.	College Coach
3	Male	Caucasian	20s	2	H.S.	Maintenance
4	Male	Caucasian	30s	1	B.S.	Entrepreneur
5	Female	Caucasian	40s	4	PhD	Administration
6	Female	Hispanic	20s	6	H.S.	Custodial
7	Female	Hispanic	30s	3	B.S. in progress	Secretary
8	Male	Hispanic	50s	2	B.S.	Administration

With the respondents' permission, all of the interviews were tape-recorded using a micro-cassette recorder in private settings. Dr. C. Scott Shafer, Associate Professor at Texas A&M University, supervised the first interview conducted in order to advise on their implementation. The order of the interviews, which depended on the interviewer's ability to identify respondents who met the desired sociodemographic profile, respondents' willingness to participate in the study and respondents' availability, was: Respondent 7, Respondent 5, Respondent 4, Respondent 1, Respondent 6, Respondent 8, Respondent 3 and Respondent 2. Only one potential respondent refused to participate: an African American male with a potentially low-income who was identified and asked to participate during a visit to a local laundromat and pool hall. All of the respondents

either were known personally by the interviewer or were identified as potential respondents by friends of the interviewer. Respondents were first contacted by phone to secure their commitment to participate and to agree mutually convenient times and places for the interviews.

Henderson (1991) identified four forms of interviews useful for qualitative research: closed-end, standardized open-ended, interview guide approach and informal conversational. The interviews conducted for this research were done using the interview guide approach. In this approach topics and issues to be covered are identified, but the particular way with which questions should be asked is not specified (Henderson, 1991). A list of the topics to be covered is given in Appendix A. The questions were rarely asked verbatim or in the order indicated. Rather, the wording and the order of the questions tended to flow from the progression of the interview. In addition, probing questions, such as “How do you feel about that?” or “Can you think of a situation where...?”, were frequently used to solicit further detail.

Non-controversial questions were used at the beginning of the interviews to help respondents feel at ease, to open lines of communication and to encourage them to begin thinking about their use of local park and recreation services. For example, “Do you use parks? “What about your family and friends?” Questions were then asked relating to what benefits could be derived from the use of these services and who might benefit from their provision, as in “Who benefits the most from different park and recreation opportunities?” The next set of questions solicited their opinions on both current and ideal distribution patterns of park and recreation services in Bryan, as well as current and

ideal methods for financing their distribution. Examples include, “How should the community decide where to build new park and recreation facilities or offer new programs?” and “Do you think property taxes should be used to pay for park and recreation opportunities?”

The primary reason for including this qualitative research step was to provide guidance on the appropriateness of the language to be used in initial scale development. In addition, respondents were able to provide a level of detail in explaining or justifying their opinions that could not be elicited from data that were collected using surveys. The following discussion identifies trends, similarities and differences among the nine respondents’ answers.

Park Use

All respondents were users of Bryan’s park and recreation services, with the exception of Respondent 8, who had been a frequent parks user when his sons were children,. Those with higher incomes reported using the parks less often for informal reasons and more often for sports-related programming. Respondents were mostly supportive of the services provided in Bryan: “We don’t take advantage as much as we should,” “Seems adequate...our needs are being met.” The issue of safety, with regards to park usage, was introduced by low-income and medium-income respondents of color, but it was not brought up by high-income or Caucasian respondents. One of the African American respondents, Respondent 1, was concerned that the park in his neighborhood was inferior in quality in terms of maintenance levels and amenities available, “if a park isn’t next to a school, it goes down [in quality].”

Programs or facilities that respondents felt were needed in Bryan tended to reflect individual needs. For example, Respondent 1 wanted improvements made to his neighborhood park, Respondents 3 and 4, who liked to run and roller blade, were interested in additional trail development, while Respondent 6, a mother of four, desired a track that would “allow people to exercise while being supervised by someone seated in the park.” The only recommendation by a respondent not seeking a direct benefit was from Respondent 7, who was interested in providing after-school programs in low-income neighborhoods.

Benefits Received

When asked “What benefits do you and your family receive from the park and recreation opportunities in your community?,” respondents identified a variety of user benefits, including quality of life, quality family time, physical and mental health, social opportunities and the provision of safe places for children, as well as benefits to non-users, such as open space, fresh air, community pride, community education and the enhancement of community relationships. Those people most often identified as receiving the greatest benefits from public park and recreation opportunities were families. In addition, several respondents suggested that everyone benefits “some” and that “opportunities are there for whoever is interested.” Other responses were youth, upper-middle income residents benefited most from programs, while middle/low income residents, benefited most from facilities.

The groups of individuals identified by one respondent as least likely to use public park and recreation opportunities included local college students who would not

have the necessary information to do so; those who are less healthy, and thus less interested; and those who lack transportation. In addition, older adults and wealthy citizens were identified by more than one respondent. Reasons given for the lower proclivity of older adults to use services were their potential lack of mobility and the lack of appropriate facilities. Wealthy citizens, however, were thought to be less likely to use public services, because they would prefer private services and those provided by local churches.

Allocation of Services

A majority of respondents were unsure of what criteria were used to determine how parks were distributed in Bryan. Their answers included arbitrarily, based on efficiency (i.e. efficient maintenance or where one facility could serve two clientele), where land is available, near subdivisions, in older areas, and based on population. Their answers resembled several of the nine operationalizations of equity identified in Table 1: the notion that parks are allocated based on population or near subdivisions relates to *Equal Opportunity*, the opinions that parks are allocated based on efficiency and where land is available represent an allocation based on *Efficiency*, and the belief that parks are allocated in older areas suggests *Compensatory* based allocations. The belief that allocating parks in older areas represents *Compensatory* based allocations stems from the notion that older areas of a community tend to consist of residents with fewer resources than those who are building in new subdivisions located on the edges of a community where growth is possible. Responses to how they felt parks “should” be distributed were most likely to reflect the *Compensatory* and *Equal Opportunity*

operationalizations. While all respondents identified some form of equal opportunity, i.e. based on population numbers or on access, the three Hispanic respondents were the only ones to identify need, a *Compensatory* based reasons.

Respondents tended to be unsure of how park and recreation services were funded in their community. Many of them thought that “taxes” paid for the services, but they tended to provide that answer in the form of a question, with little confidence in their response, “Taxes?” Other correct responses included grants, fees, and through parkland dedication fees. Incorrect answers included through gas and electric bills or from “tickets for cars.” Upon providing an answer as to how they thought park and recreation services were funded, respondents were given the answer by the researcher. They were then asked how they *thought* these services should be funded. Most of the respondents agreed that the use of property taxes was fair because these services are a “part of quality of life,” “part of a community,” and “part of living in a city.” Two respondents, 5 and 7, were undecided if this was appropriate, while Respondent 2 replied that it was only fair if the parks are well-maintained and attractive. Only Respondent 3 mentioned that it might not be appropriate because it would mean “the one using it least [higher-income residents] would pay the most because they probably pay higher taxes.” Similarly, Respondent 3 also indicated that he felt the poor were the most likely to benefit from paying for these services using taxation, because they would use it the most and pay the least. Other respondents agreed with paying for park and recreation services through taxation, reflecting earlier stated opinions that park and recreation services

provide benefits to the entire community. According to Respondent 5, this is fair because even though “non-users don’t see the benefits...they get them.”

Operationalizations of Equity

After answering open-ended questions on the services they use, benefits received and how they think parks should be allocated or how a community should decide where to build new facilities or offer new programs, respondents were asked to react to providing services based on each of the nine operationalizations: vociferous advocacy, demonstrated interest, need, equal outcomes, equal inputs, equal opportunity, direct price, taxes paid and efficiency. Responses were mixed regarding their reactions to allocations based on *residents’ requests*. “I agree in part, but it would be unfair to people who don’t know they can do it or who wouldn’t do it” (Respondent 3).

Justifications for affirmative opinions reflected a belief that input is beneficial since it offers insight as to what people want and what they will use. However, others felt certain groups of people might be less likely to make requests. According to Respondent 8, they may include immigrants, older adults and low-income residents. Respondent 7 agreed that high-income residents were more likely to make requests, but Respondent 3 suggested that they were less likely to make requests because of a lower interest in public services attributable to their use of private services.

When asked to react to allocating services based on *need* (for example, in areas with a higher density of population, greater number of youth, lower income, or less access to transportation), upper-income respondents were more likely to agree that this would be beneficial. “These areas need more recreation opportunities.” Caucasian

respondents were more likely to favor the provision of services based on interest because simply providing something “doesn’t mean they’ll use it.” They did, however, support the provision of services in favor of those who can least afford private opportunities because they suggested that this group would be more likely to use public services.

As discussed in the literature review, equality can be operationalized in three ways: *equal outcomes*, *equal opportunity* and *equal inputs*. When requested to react to a particular equity operationalization, respondents overwhelmingly emphasized the allocation of services according to interest over any form of equality, “Different people have different needs and don’t need the same stuff.” These are not mutually exclusive, however, because interest still has to be operationalized by resource allocation decisions, i.e. an equity operationalization. Respondent 4 supported all three equality options. Respondent 1, who agreed with the concept of all three options, demonstrated a preference for providing additional inputs in neglected areas, most likely reflecting his earlier interest in having improvements made to the park in his neighborhood, which he believed was inferior in quality to those in other neighborhoods. All respondents were in favor of maintaining parks and facilities at an equal level. While respondents agreed that there were basic amenities that each area of town should have, there was no consensus regarding what these should be.

Reactions to the use of *user fees* to pay for a service varied. Respondents did agree, however, that this should be limited to areas where fees could be collected easily. For example, not in parks, but in facilities that were more likely to resemble private facilities; in facilities with higher maintenance or staffing costs; and for services where

there was a high demand. In cases where fees needed to be collected, they should be “as minimal as possible”; “Not everything is free but you need to keep it reasonable so ability to pay is not a problem” (Respondent 5).

Although several respondents indicated that they believed parks were built where land was available, there was no consensus among respondents in terms of whether services should be provided according to the *efficiency* criterion. When respondents were asked whether they favored building one large facility or several smaller facilities, responses that supported a single large facility were based on lower operating costs, improved supervision opportunities and the ability to encourage visitation with a nicer facility. One of the problems with this choice, as identified by Respondent 8, was that a large facility might become dominated by a particular group of residents, discouraging its use by other residents outside of that group. Responses supporting several smaller facilities tended to focus on access. However, Respondent 1 believed that smaller facilities would invoke a greater sense of ownership among residents. Respondent 5 suggested that having smaller facilities would avoid having to decide where to locate only one facility.

Item Generation and Content Validity Checks by Expert Judges

Item Generation and Initial Content Validity Check

An initial pool of items relating to equity in the allocation of park and recreation resources was derived from the aforementioned qualitative research and exhaustive review of scientific literature in the areas of park and recreation, urban planning and environmental justice (See Chapters II and III An original list of 87 items developed by

the researcher was refined and edited for content validity by nine expert judges who were either faculty members (7) or PhD candidates (2) in the Recreation, Park and Tourism Sciences Department at Texas A&M University (Appendix B). Each of these judges was given a brief description of the nine dimensions of equity derived from the literature review (See Figure 4) and a list of potential distinctive facets that characterized each dimension and then asked to complete five tasks:

- 1) Rate each item as being (Petrick, 2002):
 - a. *Clearly relevant* to the equitable (fair) allocation of public park and recreation services
 - b. *Somewhat relevant* to the equitable (fair) allocation of public park and recreation services
 - c. *Not relevant* to the equitable (fair) allocation of public park and recreation services
- 2) Assign each of the items in the (a) and (b) categories into one of the nine equity dimensions according to the operationalizations provided by the researcher (Appendix B).
- 3) Review those items in the (a) and (b) categories which do not fit into one of the nine specified dimensions and, if possible, suggest additional dimensions into which these items might fit.
- 4) Edit and improve the items provided for clarity, readability and/or content.
- 5) Answer a short list of questions provided:
 - a. Indicate any additional operationalizations of equity that might apply to the study.
 - b. Indicate any items that may be objectionable to respondents.
 - c. Provide any suggestions, along with a corresponding dimension, for additional items that would improve the content validity of the scale.
 - d. Indicate any other suggestions that might contribute to improving the study.

Based on responses from the nine expert judges, the initial pool of 87 items was reduced to 63 items and the wording on some items was refined. Of the twenty-four items that were discarded: four were identified as duplicate items by at least one of the judges and agreed upon by the researcher, and twenty items were identified by more than one of the nine expert judges as “not relevant.” An exception to this last criterion was that items intended to represent the *Vociferous Advocacy* dimension were retained because although the expert judges were correct in indicating that these items did not represent equity in a direct sense, political decisions, such as the allocation of municipal resources, are often believed to be based on *Vociferous Advocacy*. Since it was an alternative judgment upon which political decisions may be based, it was considered desirable to include it among the choices presented to residents. Appendix B lists the 24 items that were removed.

In addition, several modifications were made to the original list of dimensions based upon the recommendation of at least one expert judge and agreement of the researcher. Each of the following modifications are reflected in Table 6, which supercedes Table 1 in identifying potential distinctive facets of the alternate operationalizations of equity. A *Professional Judgment* dimension was added to represent the allocation of resources based on the professional judgment of experienced park and recreation staff. Due to its emphasis on providing recreation professionals with freedom, or the lack of constraints, when making a decision, it aligns with the theoretical operationalization, Libertarianism. The *Demonstrated Use* dimension was retitled and adapted to become *Demonstrated Interest* in order to capture demand in terms of both

participation levels, and interest levels as reflected in needs assessments. In addition, *Vociferous Advocacy* was modified to *Advocacy*, so as to embrace the positive aspects of effectively organizing to produce governmental changes. For example, a neighborhood association which supervises and maintains a trail that runs through its neighborhood might be rewarded with the building of additional trails in that neighborhood. Table 7 supercedes Table 2 in describing various allocation scenarios based on the revised operationalizations of equity presented in Table 6.

TABLE 6
Potential Distinctive Facets of the Alternative Operationalizations of Equity (Revised)

Operationalization of Equity	Potential Distinctive Facets of the Operationalization
Compensatory	<ul style="list-style-type: none"> • Low-income residents have a greater need for public recreation and park (R&P) resources due to their reduced ability to pay for alternative options in the private sector. • Communities have a responsibility to improve the situation of the economically disadvantaged. • R&P improves the quality of life of those in greatest need. • R&P redistributes resources in an effort to improve the opportunities of those in greater need. • R&P fosters a closer sense of community by eroding class and wealth barriers.
Equal Outcomes	<ul style="list-style-type: none"> • R&P provides benefits to non-participants, as well as to participants. • New resources for R&P services should go to areas of a community that currently have fewest such services. • Each area of a community should have equal parks and recreation amenities regardless of variations in their cost of production. • Equal amounts of services are provided to all areas of the community regardless of costs, need or the amount of taxes paid. • All residents should have equal access to R&P services.

TABLE 6 *Continued*

Operationalization of Equity	Potential Distinctive Facets of the Operationalization
Equal Inputs	<ul style="list-style-type: none"> • Equal amounts of resources (factors of production) should be provided to each area of a community. • An equal allocation of resources to each area within a community may or may not result in differences in terms of R&P services that can be provided. • Staff should commit an equal amount of time and effort to each area of the community.
Taxes Paid	<ul style="list-style-type: none"> • Those residents contributing the most taxes receive the most services. • Staff should commit most time and effort to areas of the community whose residents pay the most taxes.
Direct Price	<ul style="list-style-type: none"> • R&P services are allocated in proportion to user fees collected. • Underutilized R&P services are not subsidized. • Charging realistic prices provides residents with the option of not paying through the tax system for services they do not want or do not use.
Efficiency	<ul style="list-style-type: none"> • R&P services are offered at sites where the costs of delivering services are lowest. • Decisions on whether to provide one large facility or several smaller facilities throughout a community are based primarily on which option is less expensive. • R&P delivery decisions are based on providing the greatest good for the greatest number of people. • Allocation decisions are based on maximizing the input to output ratio.
Demonstrated Interest	<ul style="list-style-type: none"> • Resources are provided for R&P services that are most heavily used. • Resources are provided for R&P services that are desired most by residents, as expressed in resident surveys. • Residents demonstrate their desire for additional R&P services through their use of existing services. • Resources for new R&P services are allocated to the areas of a community that use existing services most.
Advocacy	<ul style="list-style-type: none"> • Resources are provided for R&P services to reflect the level of input by residents and/or organized resident groups. • Resources should go to areas of the community where residents are most vocal about requesting R&P services.

TABLE 6 *Continued*

Operationalization of Equity	Potential Distinctive Facets of the Operationalization
Professional Judgment	<ul style="list-style-type: none">• R&P services are provided based on the professional judgment of full-time R&P staff members.• R&P services are provided based on criteria paid staff feel are appropriate.

TABLE 7
Allocation Scenarios Based on the Revised Operationalizations of Equity

Each of the three elements of community profile presented below have been developed to facilitate the illustration of one of the new or revised operationalizations of equity as it might be applied in the fictitious town of Equityville, population 40,000, which was described in Chapter II (Table 2). Allocation scenarios 1-7 remain unchanged from those shown in Table 2 except that the scenario for the allocation of parkland based on Equal Opportunity is discarded. Allocation scenarios for the revised *Advocacy* and *Demonstrated Interest* dimensions and the new *Professional Judgment* dimension are presented below.

As a reminder, Equityville voters, in a recent bond election, authorized \$10 million to be spent on new parks. The three new profile features below describe elements of Equityville's community profile, in addition to those given in Table 2, which might be used to allocate resources. The resultant equity operationalizations are also included below.

- *Community Involvement*: Residents in District 2 are most involved in citizen action groups that maintain area parks, and are more active in coaching youth sports teams, followed by District 1, District 3 and District 4. If their involvement in citizen action groups and youth sports coaching was placed on a 10-point scale, with 10 indicating the highest level of involvement, the four districts would receive 8, 6, 4 and 2 points each, respectively.
- *Interest*: In a community wide survey of park interest, 50% of District 1 indicated they would use additional parkland. The percentage of residents from Districts 2, 3 and 4 indicating they would use additional parkland was 25%, 25% and 0%.
- *Community Growth*: Based on the amount of developable land available in each district and conversations with local developers, government officials predict that District 3 will see the most growth (30%), followed by Districts 1 (15%) and 4 (10%), respectively. The land in District 2 is completely developed with on potential for growth in population.

Allocation Scenario 8 (Revised): (i) Demonstrated Interest - Interest

Allocations based on demonstrated interest would be made in response to residents' expressed opinions of interest or need for parkland, as determined by means of a survey or similar instrument. Twice as many residents in District 1 wanted additional parkland, when compared to Districts 2 and 3, while nobody in District 4 was interested in additional parkland. Therefore, District 1 would receive twice as much as money for parkland as Districts 2 and 3 while District 4 would receive none. The resulting distribution would be as follows: District 1 would receive \$5m, Districts 2 and 3 would receive \$2.5m each, and District 4 would receive none. In terms of acreage, the Districts would each receive 71.4 acres, 41.7 acres, 62.5 acres and 0 acres, respectively.

TABLE 7 *Continued*

<p><i>Allocation Scenario 8 (Original): (ii) Demonstrated Interest - Use</i></p> <p>If allocation decisions are based on demonstrated use, parkland is developed in districts where parks are most heavily used. If parks in District 2 were the most heavily utilized, with 400 daily visits, followed by District 3 (300 daily visits) District 4 (200 daily visits) and District 1 (100 daily visits), the allocation of new parkland would follow a similar pattern. Based on daily user rates, allocations for parkland would be \$1m, \$4m, \$3m and \$2m, for Districts 1 through 4, respectively, resulting in 14.3 acres, 66.7 acres, 75 acres and 66.7 acres, respectively.</p>
<p><i>Allocation Scenario 9 (Revised): (i) Advocacy - Involvement</i></p> <p>Advocacy may be operationalized to reflect allocations made in response to level of involvement and support of organized citizen groups. If the involvement level of residents was placed on a scale of 1 to 10, with one being the most involved, residents in District 3 are the most involved, earning a score of 8, while residents in Districts 1, 2, and 4 earned scores of 2, 6 and 4. Because residents from District 3 were the most active, they would receive the most money for parkland (\$4m, or 100 acres), while Districts 1, 2 and 4 would receive \$1m, \$3m and \$2m, (that is, 14.3 acres, 50 acres, and 66.7 acres) respectively.</p>
<p><i>Allocation Scenario 9 (Original): (ii) Advocacy - Contact</i></p> <p>[Vociferous] Advocacy may be operationalized by the amount of contacts with the Parks and Recreation Department each year, such as requests for new parkland or complaints about the amount of existing parkland. Residents in District 3 are the most vociferous, making approximately 220 contacts. Residents from Districts 2, 4 and 1 made 165, 110 and 55 contacts per year. Because residents from District 3 made the most contacts under this criterion, they would receive the most money for parkland (\$4m, or 100 acres), while Districts 1, 2 and 4 would receive \$1m, \$3m and \$2m, (that is, 14.3 acres, 50 acres, and 66.7 acres) respectively.</p>
<p><i>Allocation Scenario 10: Professional Judgment</i></p> <p>Allocations of parkland would be based on criteria deemed to be most appropriate to the professional judgment of parks and recreation staff. For example, if Equityville staff members were to base this on where government officials predicted growth in population would be most likely to occur, the resulting distributions of money and parkland would be \$3m and 42.9 acres, \$0m and 0 acres, \$6m and 150 acres and \$1m and 33.3 acres, respectively.</p>

An outcome of the content validity check by expert judges was a lack of agreement on the placement and applicability of items intended to represent the three equality dimensions, *Equal Inputs*, *Equal Opportunity*, or *Equal Outcomes*. Although all

but one of the items for these three **dimensions** were determined to be clearly or somewhat relevant by at least eight of the nine expert judges, there was lack of agreement on the placement and applicability of fourteen of the fifteen **items** chosen to represent these dimensions, suggesting that the dimensions overlapped.

Upon closer inspection, it also appeared that *Equal Opportunity* was actually a subset of *Equal Outcomes*. In *Equal Opportunity*, residents would have equal access to resources, such as having parks within a specific walking distance of their homes. This same operationalization could apply to *Equal Outcomes*, however, where the outcome of measurement would involve ensuring equal outcomes, measured by walking distance between residents' homes and a park. A review of the original operationalizations for the dimensions of equity (Table 6) reveals that the potentially distinctive facets assigned to *Equal Opportunity* also apply to *Equal Outcomes*: recreation and park resources are allocated according to adopted community standards, and equal amounts of services are allocated to all areas of the community regardless of costs, need or the amount of taxes paid.

In addition, if *Equal Outcomes* was applied to the *Equal Opportunity* scenario provided in Table 7, or vice versa, results for each scenario would be the same. Finally, the concept of measuring opportunity, rather than outcomes, appears to be widely accepted in the field of education. In education, for instance, outcomes might refer to student grades, whereas opportunity is the access to resources. Because students have different levels of intelligence and are influenced by different environmental factors that also contribute to their grades, it would be unreasonable to expect equal outcomes in

terms of grades to emerge from access to equal resources. Similarly, it would be unreasonable to expect equal outcomes in terms of residents' fitness levels or levels of juvenile crime in different areas of a community would emerge if there was equal opportunity in terms of access to parks and recreation services, because of the numerous other factors which could influence these measures.

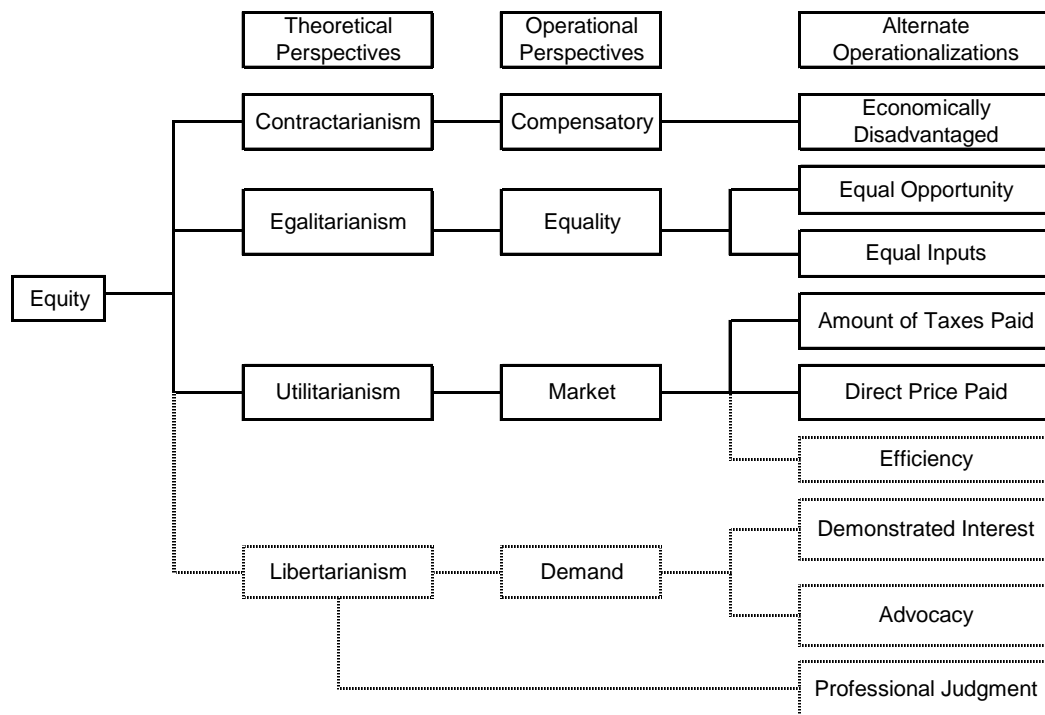
As a result, the *Equal Outcomes* dimension was dropped and the operationalizations for the remaining two dimensions were adjusted. This is reflected in Table 6. The modification of dimensions and operationalizations resulted in the revised taxonomy of political philosophies and their associated equity models shown previously in Figure 4. The revised taxonomy is provided in Figure 8.

Subsequent Content Validity Check Using Expert Judges

Five new items reflecting the added dimension, *Professional Judgment*, were added to the list of 63 items remaining from the initial content validity check. The new 68 item list was re-sent to the original nine expert judges and four additional judges who were faculty members at four different universities and who had recently published work on equity in the park and recreation field. This time, however, judges were asked only to assign the items to one of the revised dimensions (*Compensatory, Equal Opportunity, Equal Inputs, Taxes Paid, Direct Price, Efficiency, Demonstrated Interest, Advocacy* and *Professional Judgment*), and to offer suggestions in clarity, readability and/or content. Nine of the thirteen judges returned the information within the given timeframe. Each item that was not assigned to the same dimension by at least five of the nine expert judges was discarded, resulting in nine items being eliminated. Corrections in clarity

and readability also were made. Appendix C shows which items were added, to the initial content validity check, and which items were dropped from the final content validity check because they were not assigned to the same dimension by a majority of the expert judges.

Figure 8: Revised Taxonomy of Political Philosophies and Their Associated Equity Models for Delivering Public Leisure Services



Note: Serrated lines indicate “pseudo-models of equity,” because they do not provide predictable decision-making by explaining *why* a particular proposal should be favored over another.

Based on: Crompton, J. L. & Wicks, B. E. (1988). Implementing a preferred equity model for the delivery of leisure services in the US context. *Leisure Studies*, 7, 287-304. <http://www.tandf.co.uk/journals>

Content Validity Confirmation

The 59 items remaining after the final content validity check by expert judges were sorted by dimension and the number of items assigned to each dimension is shown in parentheses: *Compensatory* (12), *Equal Inputs* (5), *Equal Opportunity* (12), *Taxes Paid* (5), *Direct Price* (3), *Efficiency* (6), *Demonstrated Interest* (4), *Advocacy* (6), and *Professional Judgment* (6). In his development of a scale for measuring the perceived value of a service, Petrick (2002) proposed that future research on his proposed scale should examine the redundancy of items “to make the scale more succinct, and less taxing on respondents” (p. 133). In consideration of this suggestion, the twelve items chosen by expert judges to reflect the *Compensatory* dimension were redistributed to the nine expert judges who had responded to the final content validity check. Judges were asked to review the items in relationship to the facets of the *Compensatory* dimension, and to identify the six items which best represented all facets of the dimension without duplication. Seven of the nine expert judges were able to respond within the requested timeframe. The six items on which there was most agreement among the judges were retained to best represent the *Compensatory* dimension. In this way, the original list of 59 items was reduced to 53 items.

Upon recommendation of one of the expert judges, two items (#49 and #54 in Appendix D) were added to the revised *Advocacy* dimension in order to better represent the new, affirmative side of the dimension, reflected in its rewording to include the positive aspects of effectively organizing to produce governmental change. This resulted in a final list of 55 pre-test items with the following distribution among

dimensions: *Compensatory* (6), *Equal Inputs* (5), *Equal Opportunity* (12), *Taxes Paid* (5), *Direct Price* (3), *Efficiency* (6), *Demonstrated Interest* (4), *Advocacy* (8), and *Professional Judgment* (6).

The same procedure for reducing the items reflecting the *Compensatory* dimension was also followed to reduce the *Taxes Paid* dimension from 12 items to 5 items (Pre-test items #11, #21, #26, #33, #45, #50 and #51 were dropped). All twelve items were unwittingly included in the pre-tests, but only the five items selected by a majority of the judges to represent the *Taxes Paid* dimension were used for analysis during purification of the scale in the item reduction step of scale development. (See Appendix C for a list of the original *Compensatory* and *Taxes Paid* items, and those items that were removed after being reviewed by judges).

Scale Purification

Data collected from 273 undergraduate students enrolled in classes at Texas A&M University were used as a pre-test to assess the dimensionality and internal reliability of the 55 scale items. Questionnaires were distributed and collected in classrooms (Appendix D). Using undergraduate students, rather than the intended population, is a common practice when faced with the temporal and fiscal constraints of collecting data from the population with whom the instrument will eventually be tested (Ap & Crompton, 1998; Lee & Crompton, 1992; Mo et al., 1993; Petrick, 2002). It is argued that using a homogenous sample, such as university students, reduces the variance from intervening variables so that observed relationships are expected to be a result of the scale rather than extraneous factors (Calder, Philips, & Tybout, 1982; Lee &

Crompton, 1992). According to Tabachnick and Fidell (2001), a sample size of 200 is fair and one of 300 is considered good for factor analysis. There also appears to be a general “rule of thumb” to have at least five times as many respondents as there are items to be factor analyzed (Hair, Anderson, Tatham, & Black, 1998; Tinsley & Tinsley, 1987).

The reliability of the scale was initially investigated using Cronbach’s coefficient alpha to determine whether items comprising each dimension shared a common core (Churchill, 1995; Mo et al., 1993; Parasuraman et al., 1988). The coefficient alphas for each of the items and dimensions are shown in Table 8. Interpretation of the alphas resulted in eight items (#3, #6, #18, #28, #49, #50, #52, #54) being discarded, leaving 42 items in the scale.

TABLE 8
Cronbach's Coefficient Alphas for Equity Dimensions and Corresponding Items (Pre-Test Instrument)

<i>Equity Dimension</i>	<i>Alpha</i>	<i>Equity Dimension</i>	<i>Alpha</i>	<i>Equity Dimension</i>	<i>Alpha</i>
<i>Compensatory</i>	<i>.7518</i>	<i>Equal Inputs</i>	<i>.6472</i>	<i>Equal Opportunity</i>	<i>.5935</i>
Item 10	.7492	Item 1	.5369	Item 2	.5498
Item 15	.7414	Item 6	.6618	Item 32	.5043
Item 31	.6553	Item 12	.5908	Item 37	.5514
Item 36	.6465	Item 17	.5529	Item 44	.5105
Item 40	.7308	Item 42	.6059	Item 47	.5721
Item 52	.7457				
<i>Taxes Paid</i>	<i>.8358</i>	<i>Direct Price</i>	<i>.7226</i>	<i>Efficiency</i>	<i>.5756</i>
Item 7	.8147	Item 25	.6007	Item 3	.6160
Item 20	.8195	Item 35	.5098	Item 14	.5284
Item 22	.8031	Item 53	.7664	Item 18	.6434
Item 26	.7931			Item 24	.4856
Item 46	.7965			Item 39	.4723
Item 50	.8706			Item 41	.6423
Item 55	.7959				
<i>Dem. Interest</i>	<i>.5671</i>	<i>Advocacy</i>	<i>.8854</i>	<i>Pro. Judgment</i>	<i>.8336</i>
Item 9	.5425	Item 5	.8704	Item 4	.8037
Item 27	.5088	Item 8	.8694	Item 16	.7900
Item 34	.4295	Item 13	.8701	Item 19	.8190
Item 48	.4984	Item 23	.8569	Item 28	.8336
		Item 29	.8615	Item 30	.7871
		Item 38	.8649	Item 43	.8001
		Item 49	.8715		
		Item 54	.8771		

Typically, items were dropped if excluding them from the analysis would enhance the total coefficient alpha for that dimension. Exceptions to this decision rule were made for items #41 and #35. Item #41 was retained because although deleting items #18 and #41 would have improved the total coefficient alpha, doing so would have

left only three items to represent the *Efficiency* dimension. Similarly, item #53 was kept because it was one of only three items representing the *Direct Price Paid* dimension.

In addition, a factor analysis using the principal axis with varimax rotation option was run on the a-priori assignment of items into the nine identified dimensions to provide further insight into whether or not items should be dropped. As a result, items #49, #52 and #54 were also dropped. They failed to load saliently (.40) on the a-priori dimensions; each of them contributed negligibly to improving the total alpha of their associated dimension and their deletion reduced the number of items in their dimension to a more manageable number. The factor loadings for the retained items are provided in Table 9.

From the factor analysis, the *Compensatory*, *Taxes Paid*, *Efficiency*, *Advocacy*, *Professional Judgment* and *Equal Opportunity* dimensions were readily recognizable. An additional factor reflected a combination of *Equal Inputs* items (3) and *Equal Opportunity* items (2). Earlier efforts to reduce confusion among the equality related dimensions had resulted in the dropping of the *Equal Outcomes* dimension from the initial content validity check and a revision of the remaining *Equal Input* and *Equal Opportunity* dimensions. Even after these steps, those items receiving majority agreement were less recognizable by the expert judges than other items, as determined by a lower number of judges indicating agreement with their assignment. The factor analysis results suggested that the pre-test respondents had similar difficulty distinguishing between these dimensions. Four of the five items, item 1, “provide the same quality of p&r services in all areas of the city”; item 17, “provide equal amounts of

services to all areas of the community regardless of cost”; item 2, “provide the same p&r services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all areas of the city”; and item 44, “provide equal amounts of services to all areas of the community regardless of need” represent the *Equal Inputs* Dimension as defined in Table 6. This factor was, therefore, considered representative of the *Equal Inputs* dimension. Only item 12, “make sure all parks and facilities are maintained at the same level, even if extra resources are needed in some areas due to heavy use,” was clearly intended to represent *Equal Opportunity*.

A factor seeming to represent the *Demonstrated Interest* Dimension was also identified but two *Direct Price* items and one *Efficiency* item were included among the three *Demonstrated Interest* items. Apparently the *Direct Price* items gave respondents most difficulty, as they were also scattered among the *Taxes Paid* and *Demonstrated Interest* factors and were the only items which did not group together on their own factor. This may have been partially attributable to only three *Demonstrated Interest* items remaining in the scale following the validity checks performed by the expert judges.

TABLE 9

Salient (.40) Factor Loadings Grouped by Factor for the Pretest Instrument Items

<i>Item #</i>	<i>Item Description</i>	<i>Factor</i>								
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
55	provide more p&r services in areas of town where residents pay the most property taxes - so higher income neighborhoods would receive more p&r services.	.82								
26	residents that pay higher property taxes deserve more p&r services.	.79								
46	provide park maintenance in proportion to the amount of property taxes paid - so the more a neighborhood pays in property taxes, the nicer the parks in that neighborhood will be.	.76								
22	provide higher quality p&r services where residents pay higher property taxes.	.62								
7	provide parks in all areas of town, but provide more parks in areas of town where residents pay the most property taxes.	.57								
53	provide more p&r services in areas of town where they will be used primarily by residents who can afford to pay for them through user fees.	.55								
20	provide equipment and staffing for recreation programs in proportion to the amount of property taxes paid.	.54								
32	provide equal amounts of services to all areas of the community regardless of the amount of property taxes paid.	-.49			.47					
23	provide more p&r services where citizens are most persistent in making requests to city council.		.79							
29	provide more p&r services where citizen action groups are most persistent in making requests to the p&r department.		.76							
38	provide more p&r services where citizens are most persistent in making requests to the p&r department.		.73							
5	provide more p&r services where residents make most complaints to the p&r department.		.72							
8	provide more p&r services where citizens make the most complaints to city council.		.71							

TABLE 9 *Continued*

<i>Item #</i>	<i>Item Description</i>	<i>Factor</i>								
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
13	provide more p&r services where citizen action groups are most persistent in making requests to city council.		.67							
16	provide p&r services according to decisions made by p&r professionals because they have the information needed to make the correct decisions.			.77						
30	provide p&r services according to the opinions of p&r professionals because they are aware of community growth patterns.			.74						
43	distribute p&r services according to the opinions of p&r professionals because they are more likely to be in touch with national trends than taxpayers.			.71						
4	provide p&r services according to decisions made by p&r professionals because they will be more knowledgeable on the issues involved than taxpayers.			.69						
19	make decisions on where to add new p&r services according to the opinions of p&r professionals because they are aware of community interests.			.61						
1	provide the same quality of p&r services in all areas of the city				.76					
17	provide equal amounts of services to all areas of the community regardless of cost.				.60					
2	provide the same p&r services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all areas of the city.				.60					
44	provide equal amounts of services to all areas of the community regardless of need.				.49					
12	make sure all parks and facilities are maintained at the same level, even if extra resources are needed in some areas due to heavy use.				.45					
34	provide more p&r services in areas of town where current facilities are most heavily used.					.59				
27	provide more p&r services in areas of town where citizens agree to assist with building or maintenance efforts.					.52				

TABLE 9 *Continued*

<i>Item #</i>	<i>Item Description</i>	<i>Factor</i>								
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
35	provide more p&r services in areas of town where user fees can cover all costs of providing the program.	.42				.50				
41	provide more p&r services in areas of town where other agencies (e.g. schools, non-profit organizations) who use them can help pay to operate them (e.g. utilities, staffing, maintenance).					.50				
48	provide more p&r services in areas of town where they are most desired according to needs assessment surveys.					.47				
25	provide more p&r services in areas of town where user fees can cover the cost of providing staff and equipment to run the program .					.45				
31	provide more p&r services in areas of town with the most low-income residents, because those residents have less money to spend on alternatives.						.73			
36	provide more p&r services in areas of town where most low-income residents live.						.72			
40	use program fees collected from higher income residents to help subsidize low-income residents who want to participate.						.53			
15	provide more p&r services in areas of town with the highest crime rates.						.46			
24	provide more p&r services in areas of town where land is least expensive.							.66		
14	provide more p&r services in areas of town where the cost to maintain them is lowest.							.62		
39	provide more p&r services in areas of town where the costs of delivering services are lowest.							.61		
47	provide the same basic p&r amenities in each area of town, but provide one distinctive facility in each area (e.g. one area would receive a skatepark, another a small water park, and another a golf course, etc...).								.63	

TABLE 9 *Continued*

<i>Item #</i>	<i>Item Description</i>	<i>Factor</i>									
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	
37	spend the same amount of money in each area of town to provide one distinctive facility in each area (e.g. one area would receive a skatepark, another a pool, another a golf course, etc...).									.45	
9	provide more p&r services in areas of town where current facilities are used by the most people.										
10	provide more p&r services in areas of town where residents have limited transportation alternatives.										
42	maintain all p&r facilities at the same level, even if extra resources are needed in some areas due to vandalism in those areas.										
Eigenvalue		7.70	5.01	2.79	2.49	2.08	1.62	1.42	1.22	1.10	
Cumulative % of variance		18.3	30.3	36.9	42.8	47.7	51.6	55.0	57.9	60.5	

Note: Absolute coefficient values less than .40 are not reported.

Key to Factor Labels:

1 – Taxes Paid

2 – Advocacy

3 – Professional Judgment

4 – Equal Inputs

5 - Demonstrated Interest

6 – Compensatory

7 – Efficiency

8 – Equal Opportunity

9 – N/A

A comprehensive list comparing the assignment of items to dimensions in the pre-test with their assignment in the final survey instrument is presented in Appendix E. The pre-test consisted of 55 items. Five items were dropped before analysis to reduce the number of *Taxes Paid* items from twelve to a more manageable number of seven; eight items were dropped to improve the coefficient alpha score for the dimensions they represented; and twelve items (8, 16, 23, 26, 29, 34, 35, 36, 38, 43, 47, and 55) were dropped to further reduce the redundancy of items within a dimension. Summaries of the pre-test items that were collapsed into single items for the final survey instrument and of pre-test items that were eliminated from the final survey instrument for reasons of similarity are given in Appendices F and G.

Thirty items remained in the final survey instrument (Appendix H). Some of these items were slightly reworded after the pre-test to improve the scale's readability. For example, "of" rather than "on," or "resident surveys" instead of "needs assessment surveys." The most frequent rewording was the use of "neighborhoods" to replace the phrases "areas of town" and "areas of the community." The appropriateness of modifying instrument content without retesting the instrument has been recognized by others (Croker, 1991; Epstein et al., 1993; Lippincott & Williams, 2002; Seabert et al., 2002; Vestal, 1997).

Instrument Design

The final instrument consisted of five sections (Appendix H). The first and second sections consisted of single items that directly described each of the nine dimensions and asked respondents to indicate how they felt park and recreation

resources in Bryan SHOULD be designated and how they are CURRENTLY designated, respectively. These global dimensional measures were included to provide criteria against which the construct validity could be measured. Two sections, each containing the list of the 30 final items, requested respondents' opinions both on how Bryan SHOULD designate resources and how Bryan CURRENTLY designated resources. These latter two sections were separated visually by a section requesting basic demographic information. Visually separating the two sections of final items was intended to help respondents recognize the difference between the answers needed for each of these. Demographic information requested from respondents included gender, ethnicity, length of residency in Bryan and monthly park usage. Rather than asking respondents to self-report their income levels, which people are notoriously reluctant to do, a surrogate measure of their socioeconomic status was obtained by using appraisal values of their homes provided by the Brazos County Tax Appraisal Office.

Data Collection

The instrument was administered to community residents in Bryan, Texas. A sample was drawn from the Bryan Texas Utility (BTU) company's list of Bryan residential customers. From their list of 25,066 Bryan residential customers, 1,000 were randomly selected to participate in the study. Of these, 903 were usable, while 97 were duplicates. Duplicate customers were those who paid for utilities at more than one address. The final sample size of 903 Bryan residents was considered likely to produce an adequate number of useable questionnaires to test the instrument within the fiscal constraints of the project. Crompton and Tian-Cole (1999) suggested that a 55%

response rate could be expected from samples in which respondents' interest in parks and recreation is relatively unknown. This would yield approximately 495 useable questionnaires, considerably more than the 300 minimum recommended for performing factor analysis Fidell (Comrey & Lee, 1992; Tabachnick & Fidell, 2001).

The likely response rate of minority and/or low-income residents, whose input is critical for research on equity, was a concern, since their response rates tend to be lower than those of Caucasian and/or more affluent respondents (Kauff, Olsen, & Fraker, 2002). Thus, data also were collected by hand in neighborhoods comprised of residents reflecting these characteristics to ensure their better representation.

Administration of the mail survey followed a modified Dillman technique (Dillman, 2000). Each sample household was mailed an envelope using City of Bryan stationary containing the following: a personalized cover letter on City of Bryan letterhead (Appendix I), questionnaire (Appendix H), and a postage-paid business reply envelope. The cover letter was signed by the Director of the City of Bryan Parks & Recreation Department and two community activists who were well known within the minority populations of Bryan, one was the founder and chair of the Bryan African American History Museum while the other was a member of both the Hispanic Forum and the League of United Latin American Citizens (LULAC). A fluorescent mailing label imprinted with the statement, "Respondents will be placed into a drawing to win one of five prize packages worth \$50 each!" was placed on the bottom right hand corner of the cover letter.

A reminder postcard (Appendix J) asking residents to complete and return the questionnaire and thanking them if they had already done so was mailed three days following initial distribution of the surveys. Two weeks after the initial mailing, a second cover letter (Appendix K), questionnaire, and reply envelope were sent to households which had not responded. Another two weeks later, a third cover letter (Appendix L), questionnaire and reply envelope were sent to households which still had not responded.

Of the 903 households surveyed, 47 surveys were undeliverable and 423 usable surveys were returned, resulting in an effective response rate of 49.4%. A summary of the return rates is presented in Table 10.

TABLE 10
A Summary of Mail Survey Response Rates

Survey Distribution Results	# of Responses	Rate*
Surveys Returned – First Round	311	36.33%
Surveys Returned – Second Round	63	7.36%
Surveys Returned – Third Round	47	5.49%
Surveys Returned – Total	423	49.42%

*The effective rate for returned surveys was determined based on the total number of deliverable surveys sent to capable respondents (856).

On-site data collection targeting minority and low-income neighborhoods was conducted on the day that the third round of surveys was mailed. A map of low-income areas within census tracts/block groups (Appendix M), according to the 2000 Bryan Census, was obtained from the Community Development office in Bryan. Questionnaires were distributed by hand within neighborhoods selected by the

researcher based on (i) their low-income designation on the Community Development office map; (ii) the density of the neighborhoods so as to facilitate efficient data collection; and (iii) the perceived ethnic composition of the neighborhood. In addition, data collection efforts were geographically dispersed across the community in order to capture differences based on variances in the distribution of park and recreation services. Appendix M shows the twelve low-income areas of Bryan in which surveys were distributed by hand.

Data collectors were trained by the author. They were instructed to knock on approachable doors, identify themselves as representatives from the City of Bryan Parks and Recreation Department, and ask an adult in the household if he or she would mind completing a survey about park and recreation services in Bryan. Residences were considered unapproachable when doors were behind fences or when dogs were present. Cover letters addressed to “Bryan Resident,” on City of Bryan letterhead in order to legitimize the data collection, and pencils were offered to all potential respondents. Potential respondents were also informed they would be entered into a drawing for one of five prize packages worth \$50 each. If a potential respondent agreed to complete the survey, he or she was told that somebody would return in approximately thirty minutes to collect it or the survey could be left out near the front door. Potential respondents who indicated they were unable to complete the survey that quickly were given a business reply envelope and asked to fill it out and return it by mail.

Out of the 203 delivery attempts made at homes deemed to be approachable in which capable adults were available, 20 households refused to participate, 183

households accepted surveys and 122 were subsequently collected, resulting in an on-site response rate of 60.1%. Distributed surveys were unable to be collected when nobody answered the door and the survey was not left in sight when the data collector returned to the home. If somebody was home but the survey had not yet been completed, the data collector gave the potential respondent a reply envelope and asked him or her to mail in the completed survey.

TABLE 11
A Summary of Mail and In-Person Survey Response Rates According to Ethnicity

Ethnicity	Mail Only Return Rates (% of Responses)	Combined Return Rates (% of Responses)	2000 Census Profile
African American	11.4%	16.5%	17.7%
Asian American	.2%	1.1%	1.7%
Caucasian	66.5%	57.6%	64.7%
Hispanic/Latino	12.8%	14.9%	27.8%
Native American	3.6%	3.9%	.4%
Other	1.7%	1.3%	n/a
Not Specified	3.8%	4.6%	n/a

As Table 11 indicates, the response rates among minority respondents were improved and found to more closely resemble the rates reflected in the 2000 Census data for Bryan. Despite the efforts to target Hispanic and Latino respondents, the increase in response rate for this ethnic group was only negligible compared to 2000 Census data. One possible explanation for these differences is that the research instrument requested respondents to select a single ethnicity from among the ethnic groups in Table 11, while the 2000 Census allowed respondents to indicate race separately from whether or not

they identified themselves as Hispanic or Latino. For example, a respondent could identify himself as African American and Hispanic or African American and not Hispanic.

Profile of Respondents

Of the 543 usable questionnaires returned, respondents were fairly evenly distributed by gender (Table 12). Respondents had lived in Bryan from 0 to 101 years with a mean length of 30.56 years (Table 13) and a median length of 29.00 years. A majority of respondents never used Bryan's park and recreation services or used them less than one time each month (Table 14). The appraised values of respondents' homes ranged from \$3,220 to \$927,930 with a mean value of \$87,659 and a median value of \$72,775. The ethnicity profile was described in the previous section (Table 11).

TABLE 12
A Summary of Mail and In-Person Survey Response Rates According to Gender

Gender	By Mail	On-Site	Total
Male	224 (53.2%)	43 (37.7%)	267 (51%)
Female	186 (44.2%)	71 (62.3%)	257 (49%)
Total	410 (100%)	114 (100%)	524 (100%)
Not Specified	11	8	19

TABLE 13

A Summary of Mail and In-Person Survey Response Rates According to Length of Residency

Length of Residency	By Mail	On-Site	Total
0-12 years	79 (19.8%)	41 (37.3%)	120 (23.5%)
13-28 years	108 (27.0%)	25 (22.7%)	133 (26.1%)
29-44 years	97 (24.3%)	20 (18.2%)	117 (22.9%)
45+ years	116 (29.0%)	24 (21.8%)	140 (27.5%)
Total	400 (100%)	110 (100%)	510 (100%)
Not Specified	21	12	33

TABLE 14

A Summary of Mail and In-Person Survey Response Rates According to Park Use

Park Use	By Mail	On-Site	Total
Never	65 (15.8%)	8 (7.0%)	73 (13.9%)
<1X/Month	161 (39.2%)	37 (32.5%)	198 (37.7%)
1-4X/month	115 (30.0%)	36 (31.6%)	151 (28.8%)
5-8X/month	36 (8.8%)	21 (18.4%)	57 (10.9%)
9-12X/month	20 (4.9%)	6 (5.3%)	26 (5%)
13+X/month	14 (3.4%)	6 (5.3%)	20 (3.8%)
Total	411 (100%)	114 (100%)	525 (100%)
Not Specified	10	8	18

TABLE 15

A Summary of Mail and In-Person Survey Response Rates According to Appraised Value of Home

Length of Residency	By Mail	On-Site	Total
\$0-45299	91 (22.2%)	40 (32.8%)	131 (25.0%)
\$45300-72799	86 (21.0%)	45 (36.9%)	131 (25.0%)
\$72800-114299	113 (27.6%)	18 (14.8%)	131 (25.0%)
\$114300+	129 (31.5%)	2 (1.6%)	131 (25.0%)
Total	409 (100%)	115 (100%)	524 (100%)
Not Specified	2	17	19

CHAPTER V

RESULTS

Reliability Assessment

Reliability assesses the internal consistency of a scale, that is, its ability to provide similar results (Churchill, 1995). To determine the internal consistency of items, researchers in the past sometimes used a split-half reliability test in which the total set of items was randomly divided into two halves, whereupon the total scores for the two halves were correlated. However, criticism of split-half reliability tests led Churchill (1995) to suggest that using coefficient alpha to assess inter-item correlation is a more appropriate approach for determining reliability. The coefficient alphas were examined to determine the extent to which each item represented the dimension to which it had been assigned. Items were dropped when their elimination improved the corresponding alpha values (Mo et al., 1993; Parasuraman et al., 1988). The results, reported in Table 16, indicated that dropping item 25 would strengthen the *Efficiency* dimension from .57 to .61 and it was therefore dropped from the instrument. Twenty-nine items remained in the final scale.

Data represented in the table suggest that the *Efficiency*, *Direct Price* and *Demonstrated Interest* dimensions may not be adequately captured by the set of items chosen to represent them, based on Nunnally's (1994) rule of thumb that the minimum acceptable coefficient alpha is .70. The *Demonstrated Interest* dimension was particularly suspect since it had the weakest coefficient alpha score of .48. The *Demonstrated Interest* dimension was conceptualized to represent interest based on (i)

opinion surveys; (ii) usage statistics and (iii) coproduction. However, the interrelationship between the three does not appear to be clear to respondents. It was therefore dropped from the scale. Future research should explore the utility of operationalizing *Demonstrated Interest* as three independent concepts rather than merging them into a single dimension. Although the coefficient alphas for the *Direct Price* and *Efficiency* dimensions (.63 and .61, respectively) were below Nunnally's (1994) recommendation of .70, others have suggested that, in the case of a two- or three-item scale, the minimum acceptable coefficient alpha is .60 (Cortina, 1993) or .50 (Nunnally & Bernstein, 1994).

TABLE 16
Cronbach's Coefficient Alphas for Equity Dimensions and Corresponding Items (Final Instrument)

<i>Equity Dimension</i>	<i>Alpha</i>
<i>Compensatory</i>	<i>.74</i>
Item #7: Provide more p&r services in neighborhoods whose residents have limited transportation alternatives.	.70
Item #11: Provide more p&r services in neighborhoods with the highest crime rates.	.70
Item #20: Provide more p&r services in neighborhoods with the most low-income residents, because those residents have less money to spend on alternatives.	.61
Item #24: Use program fees collected from higher income residents to help subsidize low-income residents who want to participate.	.71
<i>Equal Inputs</i>	<i>.70</i>
Item #1: Provide the same quality of p&r services in all neighborhoods of the city.	.63
Item #8: Maintain all parks and facilities at the same level, even if more funding is needed for those areas most heavily used.	.66
Item #12: Provide equal amounts of services to all neighborhoods regardless of cost.	.59
Item #26: Maintain all p&r facilities at the same level, even if more funding is needed in some neighborhoods due to more vandalism in those neighborhoods.	.65

TABLE 16 *Continued*

<i>Equity Dimension</i>	<i>Alpha</i>
<i>Equal Opportunity</i>	<i>.71</i>
Item #2: Provide the same p&r services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all neighborhoods of the city.	.66
Item #21: Provide equal amounts of services to all neighborhoods regardless of the amount of property taxes paid.	.64
Item #22: Spend the same amount of money in each area of town to provide one distinctive facility in each neighborhood (e.g. one area would receive a skatepark, another a pool, another a golf course, etc...).	.69
Item #27: Provide equal amounts of services to all neighborhoods regardless of need.	.60
<i>Taxes Paid</i>	<i>.84</i>
Item #5: Provide more p&r services in neighborhoods whose residents pay the most property taxes.	.79
Item #14: Provide equipment and staffing for recreation programs in proportion to the amount of property taxes paid by neighborhoods.	.79
Item #15: Provide higher quality p&r services to neighborhoods whose residents pay higher property taxes.	.77
Item #28: Provide park maintenance resources in proportion to the amount of property taxes paid by neighborhoods.	.84
<i>Direct Price</i>	<i>.63</i>
Item #17: Provide more p&r services in neighborhoods where user fees are likely to cover the cost of providing staff and equipment to run the program.	n/a
Item #30: Provide more p&r services in neighborhoods where they will be used primarily by residents who can afford to pay for them through user fees.	n/a
<i>Efficiency</i>	<i>.57</i>
Item #10: Provide more p&r services in neighborhoods where the cost to maintain them is lowest.	.41
Item #16: Build new facilities where land is least expensive.	.53
Item #23: Provide more p&r services in neighborhoods where the costs of delivering services are lowest.	.41
Item #25: Provide more p&r services in neighborhoods where other agencies (e.g. schools, non-profit organizations) who use them can help pay to operate them (e.g. utilities, staffing, maintenance).*	.61
<i>Demonstrated Interest</i>	<i>.48</i>
Item #6: Provide more p&r services in neighborhoods where existing facilities are most heavily used.	.41
Item #18: Provide more p&r services in neighborhoods where citizens agree to assist with facility building or maintenance efforts.	.35
Item #29: Provide more p&r services in neighborhoods where they are most desired according to resident surveys.	.39

TABLE 16 *Continued*

<i>Advocacy</i>	<i>.74</i>
Item #4: Provide more p&r to those neighborhoods whose residents complain most to the city.	n/a
Item #9: Provide more p&r services to those neighborhoods whose residents are most persistent in making requests to the city.	n/a
<i>Professional Judgment</i>	<i>.87</i>
Item #3: Provide p&r services according to decisions made by p&r professionals because they will be more knowledgeable of the issues involved than taxpayers.	.84
Item #13: Make decisions on where to add new p&r services based on the opinions of p&r professionals because they are aware of community interests.	.79
Item #19: Provide p&r services based on the opinions of p&r professionals because they are most aware of community growth patterns.	.82

* Item 25 was dropped to strengthen the *Efficiency* dimension.

Dimensionality Assessment of the Scale

The dimensionality of the scale refers to how consistently the items used in the scale reflect each of the dimensions of equity to which they were assigned. In essence, it answers the question, “Are they capturing the construct being used?” In addition to using coefficient alphas to assess the reliability of a scale, it has been suggested that structural equation modeling (SEM), a comprehensive statistical approach to testing hypotheses about relations among multiple variables, should be used to evaluate its dimensionality (Byrne, 1994; Hoyle, 1995).

The primary goal of factor analysis, a type of SEM, is to reduce data by explaining the correlations between multiple observed variables using a relatively few underlying latent variables (Bollen, 1989). The two main approaches to factor analysis are exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The most significant difference between them is that in EFA a model relating latent and observed

variables is not specified in advance. CFA, however, tests “the hypotheses that a particular linkage between the observed variables and their underlying factors does in fact exist (Byrne, 1994, p. 5).” Latent variables, commonly known as factors or dimensions, represent theoretical constructs that cannot be observed directly (Byrne, 1994). Rather, they are presumed to be manifested in specified observed measures. In this study, latent variables are the a-priori dimensions. Because latent variables are not directly observable, their measurement must be obtained indirectly through their linkage with observable variables (Byrne, 1994). Thus, the individual items in the scale were the observed variables that indicated the underlying construct which they were presumed to represent.

Additional differences between EFA and CFA are that in EFA the number of latent variables is not predetermined; all latent variables can influence all observed variables; measurement errors may not correlate; and it is common for parameters to be underidentified (Bollen, 1989). In contrast, CFA requires that a model be constructed with the number of latent variables specified in advance; the influences of latent variables on observed variables are specified; measurement errors are allowed to correlate; the covariance of latent variables can be set to any value; and parameter identification is required.

Bollen (1989) suggests that the two forms of factor analysis overlap in their use, as researchers using EFA may focus on one factor and the indicators they believe are influenced by it. In addition, researchers with poorly fitting models using CFA may modify their model by using EFA. According to Bollen, EFA is most valuable to

identify underlying patterns in data when little is known about a substantive area. “If, however, hypotheses about plausible model structures exist, then exploratory factor analysis can frustrate attempts to test these ideas” (Bollen, 1989, p. 228). Bollen (1989) identifies three limitations to using EFA when model hypotheses exist: 1) The analyst is unable to constrain some of the factor loadings to zero; 2) correlated errors of measurement are not allowed; and 3) EFA requires that either all factors are uncorrelated or all factors are correlated. CFA is able to overcome these limitations by requiring researchers to formalize ideas based on expertise or precedent, into a model, which can then be estimated and its fit to the data assessed.

In the context of confirmatory factor analysis, “measurement is the process by which a concept is linked to one or more latent variables, and these are linked to observed variables” (Bollen, 1989, p. 180). Bollen identifies four critical steps to the measurement process: 1) give the meaning of the concept; 2) identify the dimensions and latent variables to represent it; 3) form measures; and 4) specify the relationships between the measures and the latent variables. The first step entails developing a theoretical definition that explains the meaning of the concepts. Then, those dimensions are identified which define distinctive aspects of the concepts. These dimensions become the latent variables for the proposed structural equation model. Third, measures of the latent variables that represent each concept are chosen. Finally, a measurement model is constructed which formulates the structural relationship between the latent variables and the observed variables.

The data in this study were analyzed using Mplus, a statistical program designed for SEM. Mplus was chosen to perform the confirmatory factor analyses because of its ease of use and ability to calculate correlations between ordinal indicators, i.e. polychoric correlations. Since responses to each of the items were limited to a five-point Likert scale, the data were considered ordinal rather than continuous (Muthen, 1993; Tabachnick & Fidell, 2001).

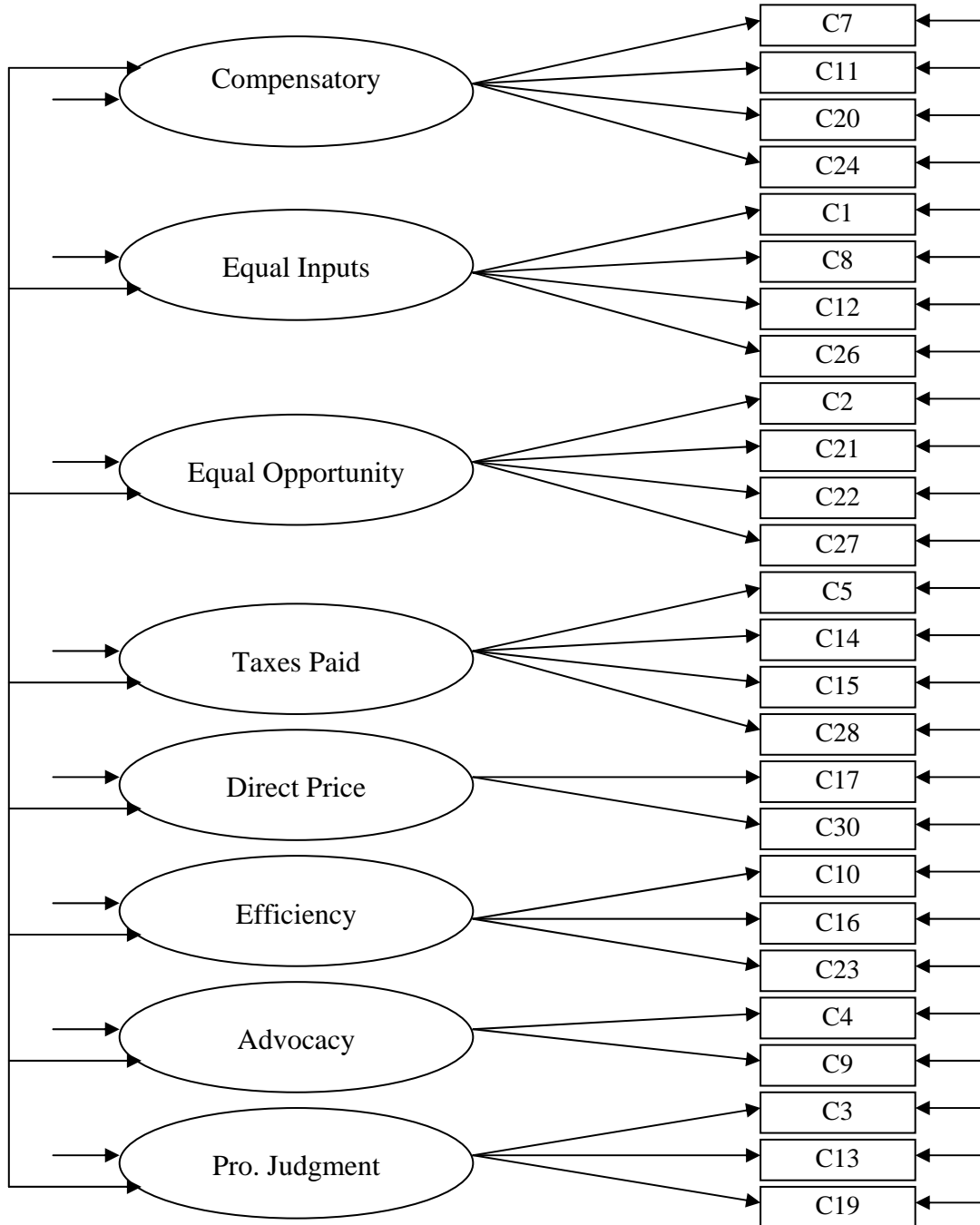
A series of four confirmatory analyses were undertaken using the 26 items that remained following the reliability analysis. First, eight confirmatory factor analyses (CFAs) were run, one on each of the eight sub-models, where each sub-model represented one of the a-priori dimensions (Figure 9). Second, to allow for comparison with the proposed theoretical model, a CFA was run with all of the scale items loading on a single dimension, Equity. Third, a CFA was run on a model consisting of four dimensions of equity based on the operationalizations of Compensatory, Equality, Market and Demand. Finally, a CFA was run on the proposed overall model consisting of eight dimensions and their items.

The goodness of fit indices used for this study were the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), the root-mean-square error of approximation (RMSEA) and the root-mean-square residual (RMSR). Hu and Bentler (1999) recommend reporting the RMSR and a CFI. Tabachnik and Fidell (2001) suggest that CFI and RMSEA are the most frequently reported and that multiple indices should be reported if results of the fit indices are inconsistent. The chi-square test statistic was not used, as it has been shown to be sensitive to model complexity and too powerful for

“trivially misspecified” models with large samples (Hu & Bentler, 1995; Muthen & Kaplan, 1992; Tabachnick & Fidell, 2001; Yu, 2002).

“Trivially misspecified” models are those that have relatively small and insignificant misspecifications. Any model, regardless of whether it uses continuous or categorical data, can be misspecified in large ways or in trivial ways. The chi-square test essentially reacts too strongly to only small misspecifications, especially with large sample sizes, such as that used here, giving the message that there are important problems with the model when really there are none. "The chi-square commonly appears to react unduly to small parameter changes with large samples and therefore provides a too sensitive instrument for judging model fit" (Muthen, 1989, p. 25). Since all models are merely approximations of reality, all or nearly all models will fail the chi-square test given large enough samples. Although fit indices can be effective, Hu and Bentler (1995) suggest that it is also appropriate to use a more traditional approach of describing and evaluating residuals that result from fitting a model to the data. Thompson (2000) proposes the need for multiple fit statistics to prevent judgment based on analytic choice. Byrne also advocates “assessment of model adequacy must be based on multiple criteria that take into account theoretical, statistical, and practical considerations” (1998, p. 119).

Figure 9: 8-Factor Structural Equation Model for Residents' Perceptions of Equity in the Allocation and Distribution of Park and Recreation Resources



Note: The line on the far left is used to indicate that all of the latent variables are correlated with one another.

Hu and Bentler (1999) recommend the following cutoff values for concluding that a model is a good fit with the data: CFI close to 0.95, TLI close to 0.95 and RMSEA close to 0.06. However, their recommendations were based on continuous outcomes and this research involved the use of categorical outcomes (Yu, 2002). Suggested cutoffs for categorical outcomes (Yu, 2002) are: CFI or TLI greater than or equal to .95, an RMSEA less than or equal to .05, and an RMSR less than or equal to .07 (Yu, 2002). Fit indices are not, however, meant to test the null hypothesis (Hu & Bentler, 1995). Instead, they “quantify the extent to which the variation and covariation in the data are accounted for by a model,” similar to the manner in which R-square accounts for variance in multiple regression (Hu & Bentler, 1995, p. 82).

Results of CFAs for Each of the 8 Sub-Models

Confirmatory factor analyses were run independently on each of the eight dimensions as if they were eight independent sub-models intended to represent each facet of equity. The fit indices for each of the sub-models, reported in Table 17, suggested that each of them was a good model and would make a positive contribution to the overall model.

TABLE 17
Fit Indices for Sub-Models (Equity Dimensions)

Dimension	Items	CFI	TLI	RMSR	RMSEA
Compensatory	7, 11, 20, 24	1.000	.999	.012	.018
Equal Inputs	1, 8, 12, 26	.975	.950	.030	.135
Equal Opportunity	2, 21, 22, 27	1.000	1.002	.008	.000
Taxes Paid	5, 14, 15, 28	.986	.979	.025	.183
Direct Price	17, 30	n/a	n/a	n/a	n/a
Efficiency	10, 16, 23	n/a	n/a	n/a	n/a
Advocacy	4, 9	n/a	n/a	n/a	n/a
Pro. Judgment	3, 13, 19	n/a	n/a	n/a	n/a

Note: Fit indices cannot be calculated on a model with less than four observed variables.

Results of CFAs for a Null Model and a 4-Dimension Model of Equity

As a baseline model, a single factor with all of the observed variables (26) was run but the model could not converge as the number of iterations was exceeded suggesting that the observed variables were not measuring a single dimension. A model using the operationalized dimensions of the four operational perspectives of equity, Compensatory, Equality, Market and Demand, (Figure 10) was also run for comparison with the eight operationalized dimensions. Results of the 4-dimension model indicated a very poor fit (CFI of .744, a TLI of .799, an RMSEA of .176 and an RMSR of .118) suggesting that the concept of equity is not fully captured using the four broad operational perspectives.

Results of a CFA for the Proposed 8-Dimension Model of Equity

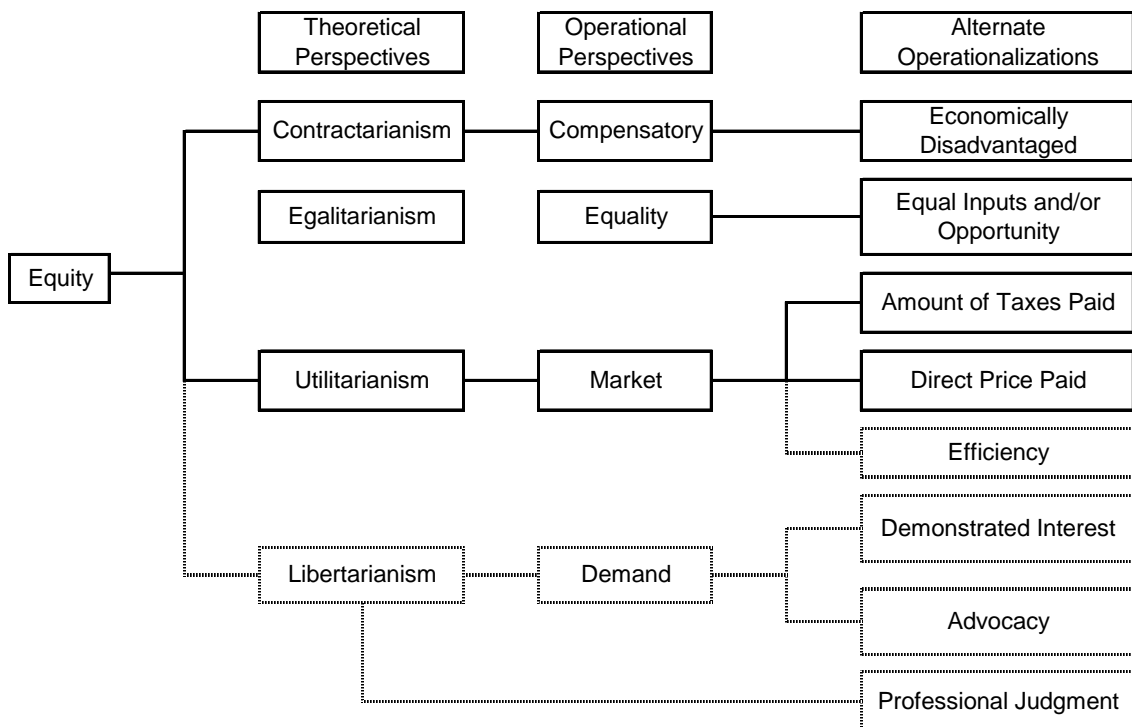
A confirmatory factor analysis was then run on the proposed 8-dimension model of equity. Originally, all of the dimensions (latent variables) were assumed to be positively correlated at some level as they all reflected a particular component of the

concept of equity. However, the initial confirmatory factor analysis run on the 8-dimension model revealed that two of the dimensions, *Equal Inputs* and *Equal Opportunity* were almost perfectly correlated (1.08). When the standardized coefficient between two factors is greater than one, they have almost perfect correlation and cannot be distinguished by the subjects. When this occurs, the psi matrix will be non-positive definite, i.e. unable to converge, factor scores cannot be computed and the model will be considered inappropriate. Because the inverse of the sample covariance matrix is needed to compute estimators, solutions are not possible from the estimation procedure when variables are linearly dependent (Chou & Bentler, 1995). Since this correlation caused estimation problems with the original model during confirmatory factor analysis, a second model was proposed.

During the initial work in the development of the scale, reported in Chapter IV, there were three measures of equality: equal inputs, equal opportunity and equal outcomes. At that point some of the expert judges had difficulty in ascertaining the difference between these concepts. A decision at that time was made to remove the source of greatest confusion, the inclusion of equal outcomes. Despite an attempt to polarize the concept of equality into the two measures of equal inputs and equal opportunity, the results of the CFA suggested respondents also had difficulty distinguishing them. While the two concepts are theoretically distinct, their operationalizations appeared to be virtually identical to respondents. Given the original difficulty of the expert judges and the respondents' inability to discriminate between the two remaining equality operationalizations (*Equal Inputs* and *Equal Opportunity*), their

items were combined into a single *Equality* dimension, resulting in a new seven-factor (dimension) model. Figure 10 shows the revised theoretical model and Figure 11 shows the new structural equation model.

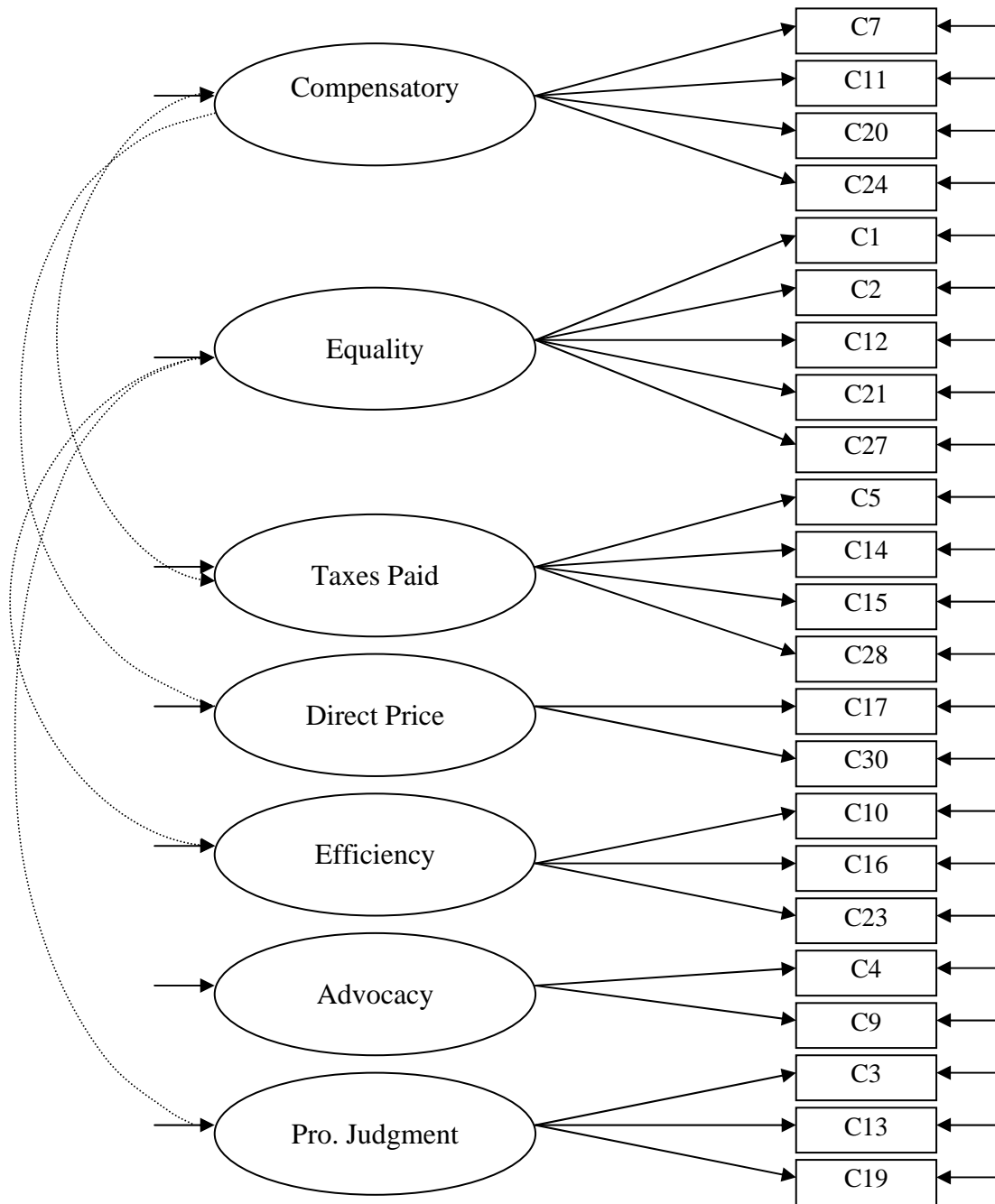
Figure 10: Further Revised Taxonomy of Political Philosophies and Their Associated Equity Models for Delivering Public Leisure Services



Note: Serrated lines indicate “psuedo-models of equity,” because they do not provide predictable decision-making by explaining *why* a particular proposal should be favored over another.

Based on: Crompton, J. L. & Wicks, B. E. (1988). Implementing a preferred equity model for the delivery of leisure services in the US context. *Leisure Studies*, 7, 287-304. <http://www.tandf.co.uk/journals>

Figure 11: 7-Factor Structural Equation Model for Residents' Perceptions of Equity in the Allocation and Distribution of Park and Recreation Resources



Note: In order to minimize the number of lines, dashed lines represent those factors which are **NOT** correlated.

Following the “rule of parsimony,” the *Equality* dimension was reduced from the eight items used to measure *Equal Inputs* and *Equal Opportunity* to five items. This reduction in the number of items intended to reflect the *Equality* dimension helps to make the instrument less cumbersome to administer by removing redundancy. Items 8, 22 and 26 had both the lowest corrected item-total correlation scores and R-square values (See Table 18) and, thus, were removed from the model. The coefficient alpha score for the *Equality* dimension was insignificantly affected, going from .82 with all eight items to .81 with the five remaining items. Upon replacing the *Equal Inputs* and *Equal Opportunity* dimensions with the *Equality* dimension, twenty-three items remained in the scale.

Confirmatory factor analysis was run on the 7-dimension model with encouraging results (CFI .93, TLI .94, RMSEA .11 and RMSR .07). Again, the dimensions were expected to be significantly correlated, but the output indicated that some of the dimensions were not significantly correlated (*Compensatory* was not significantly correlated with either the *Direct Price* or *Taxes Paid* dimensions and neither was *Equality* with the *Efficiency* or *Professional Judgment* dimensions). Therefore, the model was modified by removing the previously assumed correlations between these dimensions. Results of a final confirmatory factor analysis reflecting these changes to the overall model suggested that the 7-dimension model was a better model. However, the indices failed to meet Yu’s cutoff criteria of CFI or TLI greater than or equal to .95, an RMSEA less than or equal to .05, and an RMSR less than or equal to .07 (Table 19). Nevertheless, in their evaluation of a model with a CFI of .94

and an RMSEA of .06, Tabachnik and Fidell (2001) suggest the indices “all seem to indicate a good-fitting model” (p. 721), suggesting that the appropriate cut-off criteria are still subject to debate and discussion.

TABLE 18
Corrected Item-to-Total Correlations and R-square Values for 8 Original Equality Items

<i>Equality</i>	<i>Corrected Item-to-Total Correlation</i>	<i>R-Square</i>
Item #1: Provide the same quality of p&r services in all neighborhoods of the city.	.57	.59
Item #2: Provide the same p&r services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all neighborhoods of the city.	.60	.51
Item #8: Maintain all parks and facilities at the same level, even if more funding is needed for those areas most heavily used.	.41	.26
Item #12: Provide equal amounts of services to all neighborhoods regardless of cost.	.66	.59
Item #21: Provide equal amounts of services to all neighborhoods regardless of the amount of property taxes paid.	.59	.65
Item #22: Spend the same amount of money in each area of town to provide one distinctive facility in each neighborhood (e.g. one area would receive a skatepark, another a pool, another a golf course, etc...).	.44	.25
Item #26: Maintain all p&r facilities at the same level, even if more funding is needed in some neighborhoods due to more vandalism in those neighborhoods.	.51	.40
Item #27: Provide equal amounts of services to all neighborhoods regardless of need.	.59	.49

An additional consideration is the number of observed and latent variables used in the model because models with a lot of constraints tend not to demonstrate a strong fit. In CFA, each observed variable is only allowed to relate to a single latent variable so

all other relationships are set to 0 (each observed variable would otherwise have a potential relationship with each of the factors). The more parameters that are forced to 0, the lower the fit indices. In the proposed 7-dimension model, there are 161 (23x7) parameters in which all but 7 were set to 0. As a result, lower fit values were expected. Comparing the 4-dimension model and the null model with the 7-dimension model was another method of evaluating fit. In both cases, the proposed 7-dimension model was a substantially better fit (Table 19). A review of the modification indices did not suggest any conceptually sound changes that should be made to the 7-dimension model.

TABLE 19
Fit Indices for Various Equity Models

Model	CFI	TLI	RMSR	RMSEA
Null Model*	n/a	n/a	n/a	n/a
4-Dimension Model	.74	.80	.12	.18
8-Dimension Model	n/a	n/a	n/a	n/a
7-Dimension Model	.93	.94	.11	.07

*The null model could not converge as the number of iterations was exceeded and the 8-dimension model had estimation problems due to the high correlation between *Equal Inputs* and *Equal Opportunity*.

Validity Assessment

Although a scale must be reliable in order to be valid, the mere presence of reliability does not ensure validity. Validity, synonymous with accuracy, suggests that a measure accurately captures the characteristic of interest (Churchill, 1995). Because it is not possible to know the true score, we must infer validity by looking for evidence of its pragmatic, content and construct validity (Churchill, 1995). Pragmatic validity is the

ability of the instrument to predict some other characteristic or behavior. In the initial development of a scale, it is more important to determine what the measure actually measures than whether it predicts accurately or not. To determine this requires concentrating on content and construct validity. “Content validity focuses on the adequacy with which the domain of the characteristic is captured by the measure” (Churchill, 1995, p. 534).

According to Churchill, the key to content validity is in the procedures used to develop the instrument. The specific procedures he identifies include conceptually defining the domain of the characteristic by examining the literature and “formulating a large collection of items that broadly represent the variable as defined” (Churchill, 1995, p. 535). Both of these were accomplished through steps 1-4 of the scale development process employed in this study: definition of construct to be measured; qualitative research to guide item generation; generation of items to represent construct dimensions; and content validity check by expert judges (Figure 7).

Measuring construct validity, on the other hand, requires ensuring that the instrument is actually measuring what it intends to measure (Churchill, 1995). According to Nunnally and Bernstein (1994), construct validity measures “constructs,” that is, variables that are abstract and latent rather than concrete and observable. They suggest that the most appropriate method for assessing the construct validity of a general-purpose instrument, one that is intended to maximize relevant individual differences among diverse samples of subjects, is to investigate the coefficient alphas for

each of the a-priori dimensions (Nunnally & Bernstein, 1994), reported earlier in this chapter.

Determining construct validity involves assessing an instrument's convergent and discriminant validity. Convergent validity investigates whether the measures believed to be related are actually related and whether the measures believed not to be related are actually unrelated. Discriminant validity determines the extent to which one latent variable is different from another. To determine convergent validity, the correlation matrix was analyzed for expected outcomes. Expected outcomes were higher correlations for items within a dimension than for items in different dimensions, and higher correlations for dimensions within an operational construct (compensatory, equality, market and demand) than for dimensions in different operational constructs. The 23-item correlation matrix is reported in Appendix O.

A majority of the item-item correlations displayed expected results. That is, those items within a dimension correlated more highly with one another than with other items not within the same dimension. Similarly, items in different dimensions tended to correlate poorly, or negatively, with one another. A notable exception, however, was Item 16 (Build new facilities where land is least expensive). Although Item 16 was more highly correlated with items within the *Efficiency* dimension than those in other dimensions, none of its correlations exceeded .32, suggesting that it is not highly correlated with any item. Other items in the *Efficiency* dimensions were Item 10, "Provide more p&r services in neighborhoods where the cost to maintain them is lowest." and Item 23, "Provide more p&r services in neighborhoods where other

agencies (e.g. schools, non-profit organizations) who use them can help pay to operate them (e.g. utilities, staffing, maintenance.”). The correlation matrix also indicated that the strongest correlations among items were within the *Professional Judgment*, *Advocacy*, *Equality* and *Compensatory* dimensions, suggesting that the operationalizations of these are the strongest in the model.

Correlations among dimensions were generally consistent with expectations. (Table 20). Because dimensions were constructed to represent unique operationalizations of the concept of equity, they were not expected to correlate highly with one another. None of the dimensions exhibited correlations greater than .40 and only four of 21, exhibited scores above .28. Dimensions that were expected to be more highly correlated were those within the same operational construct, such as *Taxes Paid*, *Direct Price* and *Efficiency* from a Market perspective. Indeed, results indicated that *Taxes Paid*, *Direct Price* and *Efficiency* were the most highly correlated. Results from the item-item and dimension-dimension correlation matrices suggest the scale possesses both convergent and discriminant validity.

The other measure of construct validity required respondents to indicate their level of agreement with each dimension. Means for each of the dimensions were obtained by asking respondents to indicate the degree to which they agreed with each of nine statements describing the nine dimensions of equity. (Appendix H, Sections A and B). The dimension description means, were then correlated with residents’ mean responses for the operationalized scales. The results are shown in Table 21. With the exception of *Efficiency*, all of the dimension description means correlated significantly

($p < .001$) with their respective operationalized means. Those that correlated strongest were *Taxes Paid* (.67), *Professional Judgment* (.67), *Advocacy* (.63), *Equality* (.61) and *Compensatory* (.59). *Direct Price* (.49) exhibited the weakest significant correlation.

TABLE 20
Correlations among Dimensions

Dimension	Compensatory	Equality	Taxes Paid	Direct Price	Efficiency	Advocacy	Professional Judgment
Compensatory		.14	.00	.00	.22	.27	.08
Equality	.14		-.27	-.18	.00	.07	.00
Taxes Paid	.00	-.27		.40	.36	.23	.13
Direct Price	.00	-.18	.40		.31	.15	.17
Efficiency	.22	.00	.36	.31		.32	.12
Advocacy	.27	.07	.23	.15	.32		.16
Professional Judgment	.08	.00	.13	.17	.12	.16	

The *Efficiency* means were not significantly correlated, with an identified correlation of $-.018$. The dimension description mean for *Efficiency* was based on the description, “The city of Bryan should designate funding so the greatest number of people will benefit.” In hindsight, because the term benefit was not defined, people may have had different opinions as to its definition. For instance, one respondent may have felt that people must use the resource directly in order to benefit, while others may not. Efficiency also considers the number of people who benefit in terms of output from a given amount of input resources. A large number of people could benefit by allocating

additional resources, such as spending more money to place parks in every neighborhood of the community, which would reflect equity dimensions other than efficiency. Thus, the lack of convergent validity in this dimension may have been attributable to a poorly specified definition of the *Efficiency* dimension. An alternative specification for the Efficiency dimension would consider both inputs and outcomes, such as “designate funding so that most park and recreation services will be provided for a given expense to the city.”

TABLE 21
Dimension Mean Scores

Dimension/Factor	Dimension Description Mean	Operationalized Mean	N	r	p<
Compensatory	2.93	2.98	487	.59	.000
Equality	3.46	3.58	482	.61	.000
Taxes Paid	2.25	2.42	497	.67	.000
Direct Price	2.86	2.83	502	.49	.000
Efficiency	3.97	2.94	499	-.02	.694
Advocacy	2.29	2.35	508	.63	.000
Pro. Judgment	2.93	3.07	502	.67	.000

The ability of a model to accurately measure the underlying constructs can be assessed by three indicators. Besides its fit indices, R-square values and factor loadings for each of the latent variables can assist in determining a model’s fit (Table 22). An R-square value indicates the amount of variation in an item (observed variable) that can be accounted for by the factor (latent variable). In other words, it is a measure of the strength of the relationship between the latent and observed variables. For example,

Item 1 has an R-square of .648 which indicates that 64.8% of the variation in Item 1 is attributable to Factor 2, the *Equality* dimension. The rest of the variation is due to measurement error. Only three of the 23 items had an R-square score below 40.0% and 15 of the 23 items had an R-square score over 50%. These R-square values are considered relatively strong (Allison, 1999; Bollen, 1989; Cohen, 1988; Kenny, 1979) and suggest that the model is appropriate (Bollen, 1989; Kenny, 1979; Tabachnick & Fidell, 2001). "Even highly developed causal models do not explain behavior very well. A good rule of thumb is that one is fooling oneself if more than 50% of the variance is predicted. It might then be argued that the remaining unexplained variance is fundamentally unknowable and unexplainable" (Kenny, 1979, p. 9). In his work on statistics in the behavioral sciences, Cohen suggests that an R-square of above .25 is large. For instance, Cohen found that "about 40% of the correlation coefficients among the nine clinical scales of the Minnesota Multiphasic Personality Inventory which are reported in the literature are in the .25-.35 range," resulting in R-square values below .10 (1988, p. 80).

In addition to using the R-square scores to evaluate the overall model, these results provide insights into the contribution of individual items towards the overall model. For instance, the R-square values for each of the observed variables lead to several conclusions. First, Items 3, 9, 13, 15, 19 and 20 are the strongest items in the model in explaining their respective dimensions. Second, according to R-square values, Item 16 was the weakest item in the model and its elimination should be considered first when making decisions on how best to improve the model. The weakness of this item

based on the correlation matrices was discussed earlier in this section. Third, when the observed items are grouped by dimension, the R-square scores suggest that the *Professional Judgment*, *Advocacy*, *Direct Price* and *Taxes Paid* dimensions are well represented. The *Compensatory* and *Efficiency* dimensions, on the other hand, have some strong items, but also incorporate an item whose contribution is more marginal, suggesting that these dimensions could be strengthened with possible minor modifications to a single item. Specifically, the *Compensatory* and *Efficiency* dimensions could be enhanced by improving Items 24 and 16, respectively.

R-square values look at the contribution of individual items towards the latent variable (dimension), whereas factor loadings look at the magnitude of this effect with *t*-tests to indicate whether they are significant or not. These *t*-tests investigate the null hypotheses that the coefficients are equal to zero. A *t* statistic greater than 2.56 is needed for significance at $p < .01$ (Tabachnick & Fidell, 2001). Since the *t*-tests in this study were all significant at the .01 level, all paths were determined to assist in the prediction of their assigned dimensions, which also suggested a good overall model fit. See Table 22 for a summary of the factor loadings for each of the items.

TABLE 22
R-Square Values and Factor Loadings for Individual Items Operationalizing the Seven Equity Dimensions

<i>Compensatory</i>	<i>R-Square Values(%)</i>	<i>Factor Loadings</i>	<i>Equality</i>	<i>R-Square Values(%)</i>	<i>Factor Loadings</i>
Item 7	42.5	1.000	Item 1	64.8	1.000
Item 11	47.0	1.051*	Item 2	48.8	0.868*
Item 20	70.0	1.283*	Item 12	60.2	0.963*
Item 24	34.0	0.894*	Item 21	70.2	1.040*
			Item 27	41.5	0.800*
<i>Taxes Paid</i>	<i>R-Square Values(%)</i>	<i>Factor Loadings</i>	<i>Direct Price</i>	<i>R-Square Values(%)</i>	<i>Factor Loadings</i>
Item 5	68.0	1.000	Item 17	38.1	1.000
Item 14	66.3	0.987*	Item 30	64.1	1.297*
Item 15	72.3	1.031*			
Item 28	49.3	0.851*			
<i>Efficiency</i>	<i>R-Square Values(%)</i>	<i>Factor Loadings</i>	<i>Advocacy</i>	<i>R-Square Values(%)</i>	<i>Factor Loadings</i>
Item 10	62.6	1.000	Item 4	54.8	1.000
Item 16	16.9	0.520*	Item 9	74.3	1.164*
Item 23	52.7	0.918*			
<i>Pro. Judgment</i>	<i>R-Square Values(%)</i>	<i>Factor Loadings</i>			
Item 3	72.1	1.000			
Item 13	83.5	1.076*			
Item 19	69.7	0.983*			

- Indicates a significant relationship indicated by t-tests, at the .01 level, between the item and the dimension it represents.

The t-statistics provide insight into potential improvements in the overall model's performance. The relatively strong items appear to be 13, 14, 15, 19, 21 and 28, while the relatively weak items, which suggest they could be improved upon, again are Items 16 and 24. When the items are evaluated collectively within their dimensions, the

weakest relationships were between items in the *Efficiency* dimension, while the strongest relationships were between the items and their dimensions in the *Professional Judgment* and *Taxes Paid* dimensions.

CHAPTER VI

SUMMARY AND RECOMMENDATIONS

In this final chapter, the original intentions of the study are reviewed in relationship to its findings. Then, comparisons are drawn between various demographic groups in relation to previously proposed theories on the distribution of public resources. Following this, a discussion of the application of the instrument is presented, followed by limitations of the study. Finally, suggestions for future research in the area of equity are provided.

The original intentions of this dissertation were to: 1) conceptualize a model of equity; 2) develop an instrument to measure residents' preferences for the allocation and distribution of park and recreation resources in their community; 3) use the scale to assess differences in preferences based on demographic variables previously hypothesized to effect allocation and the distribution of park and recreation resources.

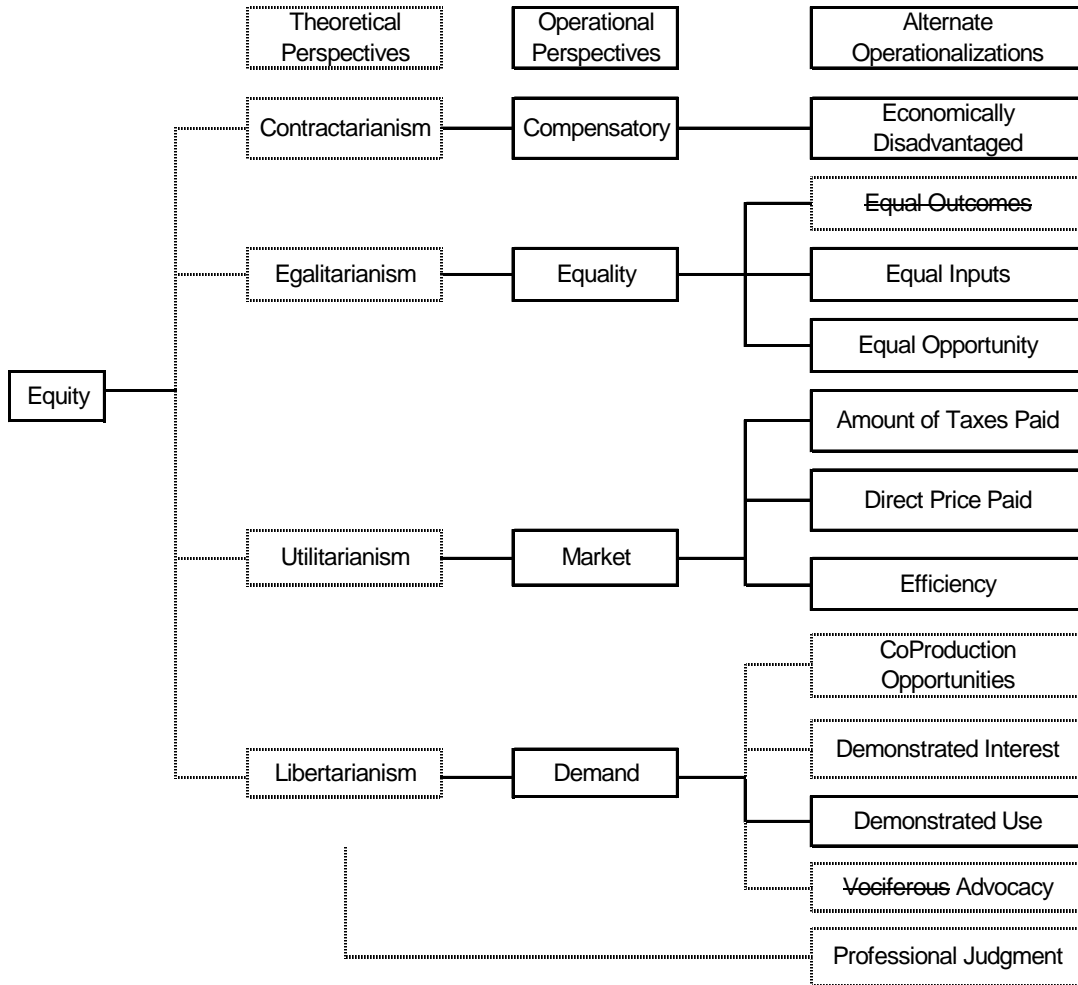
Conceptualizing Equity: Development of a Model

A model was created and used to guide development of a measurement scale. It was proposed that residents differ in their preferences for allocating of park and recreation resources so that a multi-dimensional construct of equity was needed to represent the potential array of preferences. The proposed model (Figure 12) was based upon a model originally developed by Wicks and Crompton (1988) but has been given a theoretical foundation and was synthesized from a more extensive literature, including work done in environmental equity and urban planning. The original model was also modified in this study by the development and application of an instrument capable of

confirming the model. Changes made to the model that have been tentatively accepted based on the results of this dissertation include changing *Vociferous Advocacy* to *Advocacy* and adding *Professional Judgment* and dropping *Equal Outcomes* as appropriate dimensions of equity. *Vociferous Advocacy* was altered to *Advocacy* to embrace the positive aspects of effectively organizing to produce governmental changes. *Professional Judgment*, a pseudo-model of equity was added to reflect the opinion that resources are or should be allocated based on the knowledge and expertise of park and recreation professionals. *Equal Outcomes* was dropped from the model after it was determined that *Equal Opportunity* would be a more appropriate measure. For instance, it would be unreasonable to expect that equal opportunity in terms of access to parks and recreation services would result in equal outcomes in terms of residents' fitness levels or levels of juvenile crime in different areas of a community, because of the numerous other factors which could influence these measures.

Changes to the original model which have not been tested were also proposed. Respondents did not perceive there to be interrelationships among the various operationalizations of *Demonstrated Use* and it was therefore reconceptualized to reflect equity based on (i) opinion surveys (*Demonstrated Interest*); (ii) usage statistics (*Demonstrated Use*) and (iii) coproduction (*Coproduction Opportunities*). Table 23 summarizes the three new dimensions, i.e. distinctive facets and Table 24 uses scenarios to illustrate the allocative implications of each of them. The proposed model requires further testing to verify whether these additional dimensions of equity are perceived to be legitimate.

Figure 12: Proposed Taxonomy of Political Philosophies and Their Associated Equity Models for Delivering Public Leisure Services



Note: Serrated lines indicate contributions of this study to the original model developed by Crompton & Wicks (1988).

Based on: Crompton, J. L. & Wicks, B. E. (1988). Implementing a preferred equity model for the delivery of leisure services in the US context. *Leisure Studies*, 7, 287-304.

TABLE 23
Potential Distinctive Facets of the Alternative Operationalizations of Equity (Revised)

Operationalization of Equity	Potential Distinctive Facets of the Operationalization
Demonstrated Interest	<ul style="list-style-type: none"> • Resources are provided for R&P services that are desired most by residents, as expressed in resident surveys. • R&P services are provided where they are most desired, as exemplified by the number of requests or complaints.
Demonstrated Use	<ul style="list-style-type: none"> • Resources are provided for R&P services that are most heavily used. • Residents demonstrate their desire for additional R&P services through their use of existing services.
Coproductio n Opportunities	<ul style="list-style-type: none"> • R&P services are provided where assistance with their production is provided by other municipal agencies, e.g. schools, police, etc... • R&P services are provided where assistance with their production is provided by other non-profit agencies, e.g. churches, youth organizations, etc... • R&P services are provided where residents agree to assist with providing the service or with maintenance.

TABLE 24
Allocation Scenarios Based on the Revised Operationalizations of Demonstrated Use

<p>Each of the three elements of community profile presented below have been developed to facilitate the illustration of one of the new or revised operationalizations of equity in Table 7, as it might be applied in the fictitious town of Equityville, population 40,000, which was described in Chapter II (Tables 2 and 6). As a reminder, Equityville voters, in a recent bond election, authorized \$10 million to be spent on new parks.</p>
<p><i>Allocation Scenario: Demonstrated Interest</i></p> <p>Allocations based on demonstrated interest would be made in response to residents’ expressed opinions of interest in new parkland, as determined by means of a survey or similar instrument. Twice as many residents in District 1 wanted additional parkland, as compared to Districts 2 and 3, while nobody in District 4 was interested in additional parkland. Therefore, District 1 would receive twice as much as money for parkland as Districts 2 and 3 while District 4 would receive none. The resulting distribution would be as follows: District 1 would receive \$5m, Districts 2 and 3 would receive \$2.5m each, and District 4 would receive none. In terms of acreage, the Districts would each receive 71.4 acres, 41.7 acres, 62.5 acres and 0 acres, respectively.</p>

TABLE 24 *Continued**Allocation Scenario: Demonstrated Use*

If allocation decisions are based on demonstrated use, parkland is developed in districts where parks are most heavily used. If parks in District 2 were the most heavily utilized, with 400 daily visits, followed by District 3 (300 daily visits) District 4 (200 daily visits) and District 1 (100 daily visits), the allocation of new parkland would follow a similar pattern. Based on daily user rates, allocations for parkland would be \$1m, \$4m, \$3m and \$2m, for Districts 1 through 4, respectively, resulting in 14.3 acres, 66.7 acres, 75 acres and 66.7 acres, respectively.

Allocation Scenario: Coproduction Opportunities

If allocation decisions are based on coproduction opportunities, parkland is developed in districts where other organizations have agreed to assist in contributing to its operational costs, for example by developing programs or maintaining the parkland, or contributing to its capital costs. If 40% of the parks in District 1 were shared with, and therefore maintained by, the school board, followed by 30%, 20% and 10% in District 2, District 3 and District 4 respectively, the allocation of new parkland would follow a similar pattern. Based on the levels of coproduction with the school board, allocations for parkland would be \$4m, \$3m, \$2m and \$1m, for Districts 1 through 4, respectively, resulting in 57.1 acres, 50 acres, 50 acres and 33.3 acres, respectively.

Measuring Equity: Development of an Instrument

The Crompton and Wick model has never been empirically tested. To test the revised model, it was necessary to develop a reliable and valid measurement instrument. Development of the instrument followed a method developed by Churchill which involved defining the construct to be measured; generating items to represent construct dimensions; a content validity check by expert judges; item reduction based on a pre-test; and collecting data with the revised scale to allow measurement of the scale's dimensionality, reliability and construct validity. The initial instrument that evolved from the pre-test procedures was comprised of thirty items representing nine dimensions. One item from the *Efficiency* dimension and the *Demonstrated Interest* dimension, consisting of three items, were dropped based on low coefficient alpha scores. In

addition, the high correlation between responses to the *Equal Inputs* and *Equal Opportunity* dimensions led to their collapse into a single *Equality* dimension. Three items were subsequently dropped from this new dimension for parsimony. The final scale consisted of twenty-three items operationalizing seven distinctive dimensions: Compensatory, Equality, Taxes Paid, Direct Price, Efficiency, Advocacy and Professional Judgment. Results from a confirmatory factor analysis demonstrated a good fitting model and coefficient alpha scores were used to determine the reliability of items. In addition, the scale was found to have convergent, discriminant and construct validity when compared to expected correlations with other measures.

Taken individually, the coefficient alpha scores, sub-model fit indices, R-square values and factor loadings identify particular weaknesses in the scale model. When reviewed holistically, valuable insight can be gained. The *Compensatory*, *Professional Judgment*, *Taxes Paid* and *Advocacy* dimensions seem fairly strong. However, further work is necessary to ensure that each dimension is represented by at least three items. For instance, the *Advocacy* and *Direct Price* dimensions require at least one more item each, preferably two. Similarly, the *Efficiency* dimension appears to be captured well by two of its observed variables but further revision is suggested in regards to Item 16. In addition, subtleties in potential alternative operationalizations of *Equality* and *Demonstrated Interest* need to be further explored.

The combined findings support the reliability, dimensionality and validity of the hypothesized model. The model was an acceptable fit and all paths were significant at the .05 level, suggesting that the proposed 23-item, seven-dimension scale, P&R-

EQUITY, effectively measures seven facets of residents' perceptions of equity in the allocation of park and recreation resources.

Implementation Insights

The purpose of this study was to develop an instrument capable of measuring residents' perceptions of equity in the allocation of park and recreation resources, which could be used by park and recreation agencies to guide their allocation decisions. As municipal employees, they are duty-bound to meet the needs and desires of the community. In order to allocate resources based on the priorities of their residents, park and recreation agencies need to identify which allocation methods are most preferred. The P&R-EQUITY scale can be used to identify preferences of the community, and to measure present perceptions of allocation patterns. The following section of this chapter compares resident preferences with perceptions of present allocation methods, especially as they relate to previously established theories of resource allocation. Subsequent sections provide a practical demonstration of the instrument's utility.

A Comparison of Residents' Preferences and Perceptions

The survey was distributed to a sample of residents in Bryan, Texas, to identify their preferences for allocation methods of recreation resources and their opinions regarding perceptions of present distribution patterns. The survey asked respondents to report their gender, ethnicity, length of residency and level of park use to assess possible demographic influences on perceptions and preferences. In addition, a surrogate measure of economic status was measured by the appraised values of respondents' homes obtained from the Bryan Tax Appraisal's office. Respondents reporting "Asian

American” and “Native American” were reassigned to the “Other” category for analysis due to their small sample sizes of 6 and 7, respectively. Dimension scores are the average scores of responses to the items comprising each of the seven operationalized dimensions (factors) in Sections C and E of the final instrument (Appendix H). The twenty-three items that constituted the final scale are listed by dimension in Table 25. In Section C, respondents were asked to indicate how they thought the city of Bryan SHOULD designate funding for park and recreation services. In Section E of the final instrument, respondents were asked to consider the same items in terms of how they thought Bryan PRESENTLY designated funding for park and recreation services.

TABLE 25
Remaining Model Items (23) Sorted by Dimension

Final Instrument Item #	Final Instrument Item Description
	Compensatory
7	provide more p&r services in neighborhoods whose residents have limited transportation alternatives.
11	provide more p&r services in neighborhoods with the highest crime rates.
20	provide more p&r services in neighborhoods with the most low-income residents, because those residents have less money to spend on alternatives.
24	use program fees collected from higher income residents to help subsidize low-income residents who want to participate.
	Equality
1	provide the same quality of p&r services in all neighborhoods of the city.
2	provide the same p&r services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all neighborhoods of the city.
12	provide equal amounts of services to all neighborhoods regardless of cost.
21	provide equal amounts of services to all neighborhoods regardless of the amount of property taxes paid.
27	provide equal amounts of services to all neighborhoods regardless of need.

TABLE 25 *Continued*

Final Instrument Item #	Final Instrument Item Description
	Taxes Paid
5	provide more P&R services in neighborhoods whose residents pay the most property taxes.
14	provide equipment and staffing for recreation programs in proportion to the amount of property taxes paid by neighborhoods.
15	provide higher quality p&r services to neighborhoods whose residents pay higher property taxes.
28	provide park maintenance resources in proportion to the amount of property taxes paid by neighborhoods.
	Direct Price
17	provide more p&r services in neighborhoods where user fees are likely to cover the cost of providing staff and equipment to run the program.
30	provide more p&r services in neighborhoods where they will be used primarily by residents who can afford to pay for them through user fees.
	Efficiency
10	provide more p&r services in neighborhoods where the cost to maintain them is lowest.
16	build new facilities where land is least expensive.
23	provide more p&r services in neighborhoods where the costs of delivering services are lowest.
	Advocacy
4	provide more p&r to those neighborhoods whose residents complain most to the city.
9	provide more p&r services to those neighborhoods whose residents are most persistent in making requests to the city.
	Professional Judgment
3	provide p&r services according to decisions made by p&r professionals because they will be more knowledgeable of the issues involved than taxpayers.
13	make decisions on where to add new p&r services based on the opinions of p&r professionals because they are aware of community interests.
19	provide p&r services based on the opinions of p&r professionals because they are most aware of community growth patterns.

Equity Dimension Preferences and Perceptions for Overall Respondents

An initial point for the comparison of residents' preferences and perceptions was whether or not differences existed among the proposed equity alternatives (dimensions):

Compensatory, Equality, Taxes Paid, Direct Price, Efficiency, Advocacy and Professional Judgment. The overall mean dimension scores for all respondents on the SHOULD and PRESENTLY scales are reported in Table 26 and Figure 13. The most preferred equity option for the total sample, with a mean score of 3.58, was *Equality*. The least preferred dimensions, those with the lowest responses on the SHOULD scale, were *Advocacy* (2.33) and *Taxes Paid* (2.42).

TABLE 26
Operationalized Dimension Means for Overall Respondents

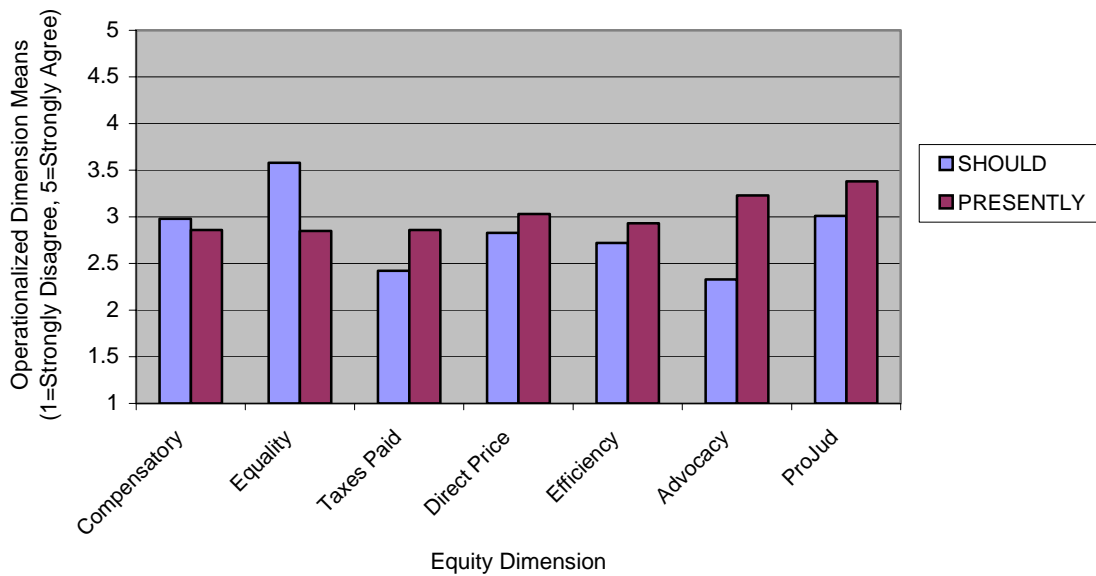
Dimension	SHOULD Mean	PRESENTLY Mean	The city of Bryan SHOULD...
Compensatory	2.98	2.86	designate funding so those neighborhoods that are economically disadvantaged receive most.
Equality (Combined Mean: Equal Inputs and Equal Opportunity)	3.58	2.85	Equal Inputs: provide equal funding to all neighborhoods, even when this results in neighborhoods receiving different numbers of facilities, programs, and staff. Equal Opportunity: provide an equal number of P&R facilities, programs and staff to all neighborhoods, regardless of differences in costs.
Taxes Paid	2.42	2.86	provide most funding to neighborhoods that pay the most taxes.
Direct Price	2.83	3.03	give priority to those services for which users are willing to pay a large share of the operating and maintenance costs.

TABLE 26 Continued

Dimension	SHOULD Mean	PRESENTLY Mean	The city of Bryan SHOULD...
Efficiency	2.72	2.93	designate funding so the greatest number of people will benefit.
Advocacy	2.33	3.23	designate funding to neighborhoods that are most vocal in making requests or voicing complaints.
Professional Development	3.01	3.38	let P&R professional staff determine how funding for P&R should be designated.

Note: 1 = Strongly Disagree, 5 = Strongly Agree

Figure 13: Equity Preferences for Overall Respondents



Paired samples t-tests were performed to determine if the preferences for each model of how recreation resources should be distributed were significantly different

from preferences for each of the other models. Responses for all of the SHOULD dimensions were found to be significantly different from one another in all but two cases. Preferences for *Compensatory* and *Professional Judgment* based allocations were found not to be significantly different as were preferences for *Taxes Paid* and *Advocacy* based decisions (Table 27). Perceptions of how resources were presently distributed according to each of the models were also compared with results indicating that residents were more likely to have perceptions of resource allocation strategies that were not significantly different than their preferences. Those models which were perceived not to be significantly different by residents included: *Compensatory*, *Equality*, *Taxes Paid*, and *Efficiency*, as well as *Direct Price* and *Advocacy* (Table 28).

TABLE 27
Mean Differences of Overall Respondents' Preferences

Dimension	Compensatory	Equality	Taxes Paid	Direct Price	Efficiency	Advocacy	Professional Judgment
Compensatory		.001*	.001*	.010*	.001*	.001*	.147
Equality	.001*		.001*	.001*	.001*	.001*	.001*
Taxes Paid	.001*	.001*		.001*	.001*	.054	.001*
Direct Price	.010*	.001*	.001*		.004*	.001*	.001*
Efficiency	.001*	.001*	.001*	.004*		.001*	.001*
Advocacy	.001*	.001*	.054	.001*	.001*		.001*
Professional Judgment	.147	.001*	.001*	.001*	.001*	.001*	

* Indicates significance at .05 or greater.

TABLE 28
Mean Differences of Overall Respondents' Perceptions

Dimension	Compensatory	Equality	Taxes Paid	Direct Price	Efficiency	Advocacy	Professional Judgment
Compensatory		.481	.964	.001*	.130	.001*	.001*
Equality	.481		.738	.001*	.066	.001*	.001*
Taxes Paid	.964	.738		.001*	.152	.001*	.001*
Direct Price	.001*	.001*	.001*		.002*	.106	.001*
Efficiency	.130	.066	.152	.002*		.001*	.001*
Advocacy	.001*	.001*	.001*	.106	.001*		.001*
Professional Judgment	.001*	.001*	.001*	.001*	.001*	.001*	

* Indicates significance at .05 or greater.

Equity Dimension Preferences and Perceptions Based on Gender

For both genders, *Equality* was the most preferred type of distribution while *Advocacy* and *Taxes Paid* were, respectively, the least preferred. Table 29 and Figure 14 show independent samples t-tests indicate significant differences ($p=.05$) between male and female respondents for two dimensions, *Compensatory* and *Equality*, on preferences for how resources SHOULD be allocated. Females favor equality and compensatory distributions more than males. In response to their opinions of how they thought resources were PRESENTLY allocated, both genders felt that allocations were most likely to be made based on *Professional Judgment* (Table 29 and Figure 15). Significant differences between males and females were found for the *Compensatory*, *Taxes Paid* and *Direct Price* dimensions. Females were least likely to agree that

allocations were made using a *Compensatory* basis, while males were least likely to agree that they were made according to the *Taxes Paid* criterion. Females were also more likely than males to agree that decisions were made based on the *Direct Price* operationalization. Previous research on equity outside of parks and recreation found gender differences related to equity supporting these findings (Scott et al., 2001; Tata & Bowes-Sperry, 1996), suggesting that women might have a greater sense of social justice than men which might explain the propensity toward equality distributions.

TABLE 29
Ordered Dimension Means for Equity Preferences and Perceptions Based on Gender

DIMENSION	PREFERENCES		PERCEPTIONS	
	Male	Female	Male	Female
Compensatory	2.89*	3.07*	2.93*	2.78*
Equality	3.41*	3.76*	2.86	2.83
Taxes Paid	2.42	2.42	2.74*	3.00*
Direct Price	2.90	2.77	2.96*	3.11*
Efficiency	2.71	2.74	2.88	2.98
Advocacy	2.31	2.36	3.10	3.08
Pro. Judgment	3.14	2.98	3.41	3.35

* Significantly different ($p=.05$).

Figure 14: *Equity Preferences Based on Gender*

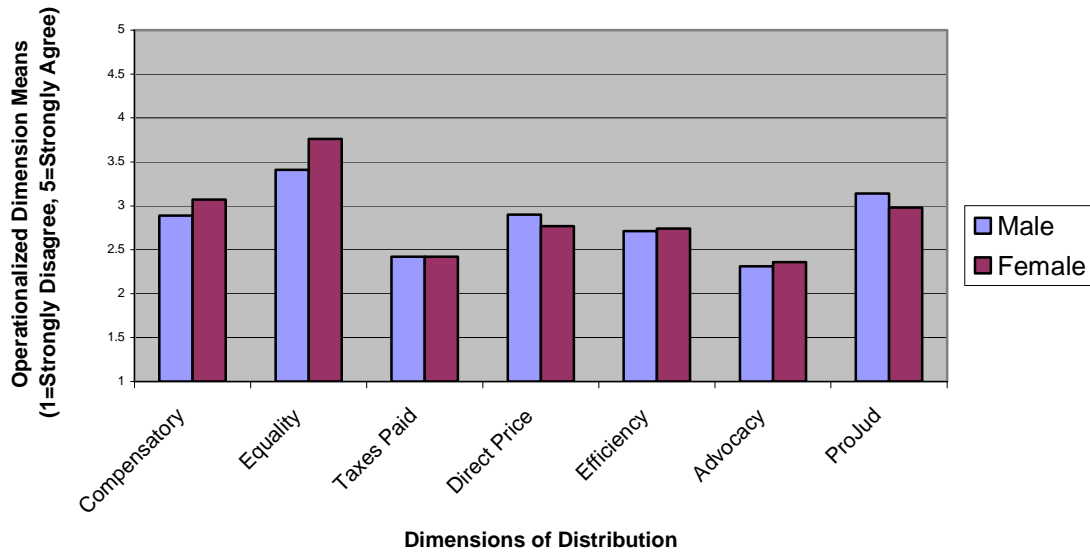
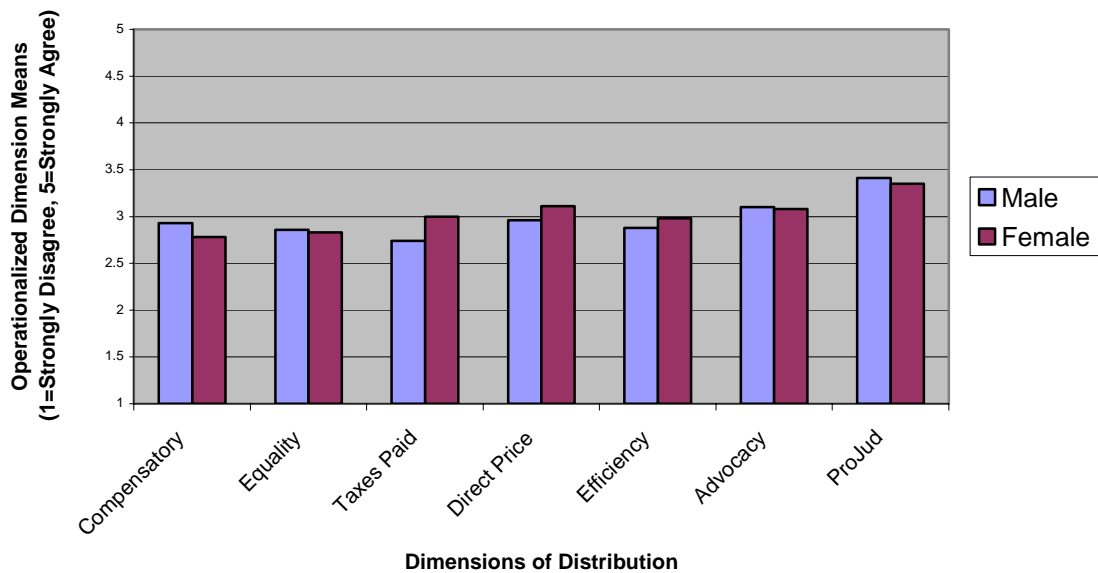


Figure 15: *Equity Perceptions Based on Gender*



Equity Dimension Preferences and Perceptions Based on Ethnicity

Using a repeated-measures ANOVA and LSD post hoc tests, significant differences were found among different ethnic groups' equity preferences (Table 30 and Figure 16.) *Equality* was the most preferred by all ethnic groups, especially African Americans, with all groups indicating a positive level of agreement (mean score above 3.0). Least preferred dimensions were *Taxes Paid* and *Advocacy*, with all but African American respondents rating *Advocacy* the lowest. Opinions about *Professional Judgment* were relatively neutral across ethnic groups, with mean scores ranging from 2.96 to 3.10. All ethnic groups, however, tended to disagree (mean score below 3.0) with the *Taxes Paid*, *Direct Price* and *Advocacy* approaches. *Efficiency* scores also tended to be negative, with only one group, the Hispanic/Latino respondents, indicating an above neutral level of agreement. Other respondents reported mean scores below a 3.0 (ranging from 2.96 to 2.33) for all equity options besides the *Equality* option (mean score of 3.74),

Caucasians were less likely than all other ethnic groups to agree with *Compensatory*, *Efficiency* and *Advocacy*. However, they were much more likely to have significantly different response rates for each of the various dimensions of equity, suggesting stronger opinions of agreement or disagreement among Caucasian respondents. The relative order of preferences for Caucasian respondents matched the Other respondents, but did not match the order of preferences by African American or Hispanic/Latino respondents.

TABLE 30
Ordered Dimension Means for Different Ethnic Groups' Equity Preferences

Dimension	African American	Caucasian	Hispanic/Latino	Other	Overall
Compensatory	3.34	2.84	3.15	2.86	2.97
Equality	4.08	3.40	3.64	3.74	3.57
Taxes Paid	2.35	2.38	2.55	2.53	2.44
Direct Price	2.72	2.82	2.99	2.81	2.86
Efficiency	2.86	2.60	3.06	2.68	2.75
Advocacy	2.72	2.16	2.54	2.33	2.35
Pro. Judgment	3.01	3.10	3.00	2.96	3.07

* Note: 1 = Strongly Disagree, 5 = Strongly Agree; Respondents reporting “Asian American” and “Native American” were combined with the “Other” category for analysis due to small sample sizes of 6, 7 and 21, respectively.

Figure 16: Preferences for Various Equity Dimensions According to Ethnic Group

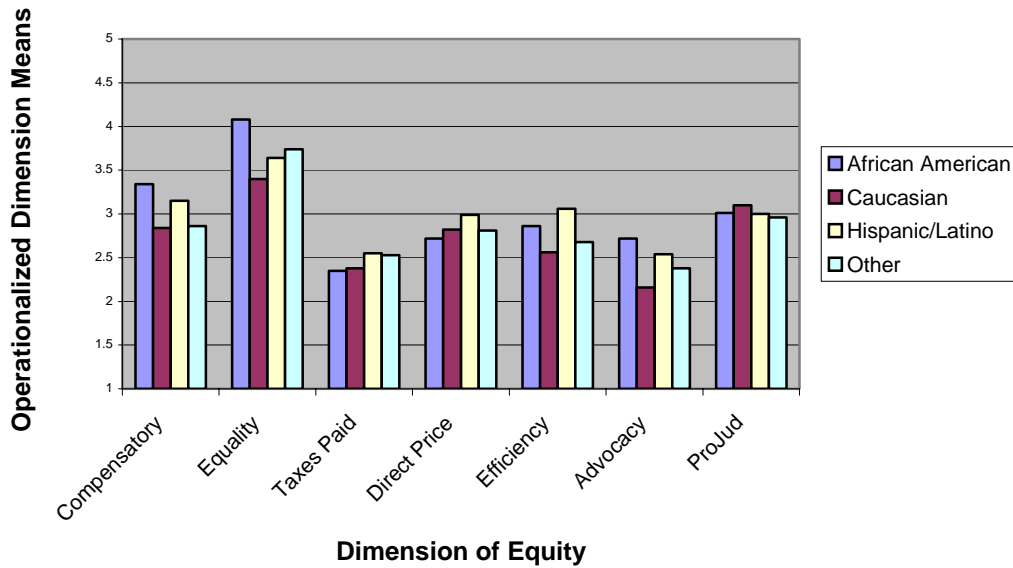
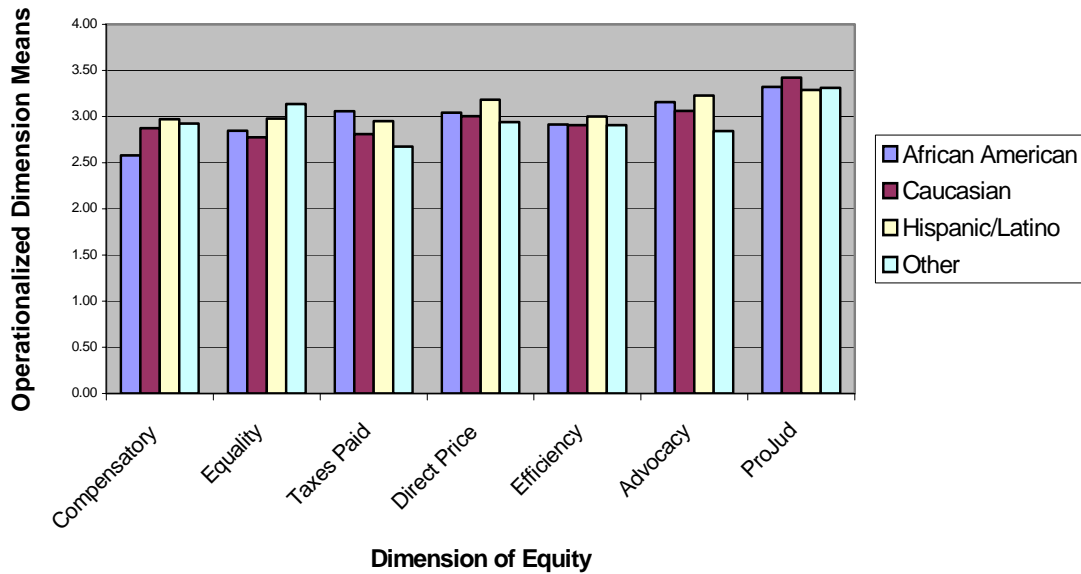


TABLE 31
Ordered Dimension Means for Different Ethnic Groups' Equity Perceptions

Dimension	African American	Caucasian	Hispanic/Latino	Other	Overall
Compensatory	2.58	2.89	2.95	2.93	2.83
Equality	2.85	2.77	2.95	3.16	2.91
Taxes Paid	3.06	2.82	2.94	2.68	2.90
Direct Price	3.04	2.99	3.15	2.93	3.06
Efficiency	2.91	2.89	2.97	2.86	2.91
Advocacy	3.16	3.08	3.21	2.85	3.10
Pro. Judgment	3.32	3.41	3.24	3.32	3.34

* Note: 1 = Strongly Disagree, 5 = Strongly Agree; Respondents reporting “Asian American” and “Native American” were combined with the “Other” category for analysis due to small sample sizes of 6, 7 and 21, respectively.

Figure 17: Opinions of Present Park & Recreation Resource Distribution in Bryan, TX According to Ethnic Group



One theory of distribution is Lineberry's (1977) Underclass Hypothesis that suggests the allocation of municipal resources might favor residents of a particular race, income or political power. According to this hypothesis, those with more influence will receive more resources, while minority and low-income residents would receive fewer resources. Previous research on the hypothesis has been inconsistent but most studies failed to indicate such biases. Although data in this study do not allow for the Underclass Hypothesis to be directly tested, results suggested that Bryan residents did not perceive the underclass hypothesis to be a key factor in resource distribution. Specifically, residents did not indicate that they believed resources were more likely to be allocated according to the *Taxes Paid* criterion than the *Compensatory* approach (Table 31 and Figure 17). A paired samples t-test revealed that responses to these questions were similar, each with a mean response (2.86) below neutral, suggesting that residents did not agree that park and recreation resources were distributed using either of these methods. Thus, results of the study failed to support the Underclass Hypothesis.

Preferences Based on Income Level

Correlations were run to assess the relationship of equity preferences and perceptions with income level, as measured by the surrogate measure of the appraised value of a respondent's home. As expected, chi-square tests indicated that ethnicity and appraised home value were associated. Results from the correlation coefficients indicated that respondents with lower income levels were more likely to prefer *Compensatory*, *Equality*, and *Advocacy* approaches (Table 32). A probable explanation for these findings is that residents with lower income are more likely to benefit from

Compensatory and Equality approaches. Results from the perception measures showed that respondents with lower levels of income were more likely to agree that resources were distributed using the *Taxes Paid* and *Direct Price* approaches. At the time of this study, most of the parkland development in Bryan, was occurring in new neighborhoods in conjunction with the development of new school facilities. The neighborhoods in which most low income people resided tended to be fully developed, leaving little opportunity for additional park development. While renovations were being made in many of the older parks, some residents from a predominantly low-income, African American community were upset that one very large park in their community had not yet been improved.

TABLE 32
Correlation Coefficients for Preferences and Perceptions of Equity with Income Level

Dimension	Income Level with	
	Preferences	Perceptions
Compensatory	-.171*	.074
Equality	-.169*	-.025
Taxes Paid	.015	-.164*
Direct Price	.018	-.140*
Efficiency	-.067	-.088
Advocacy	-.191*	.047
Professional Judgment	.048	.058

* Significant at the .05 level.

Equity Preferences and Perceptions Based on Length of Residency and Level of Park Use

No differences were found based on length of residency in Bryan or the level of use in preferences for equity operationalizations or in perceptions of Bryan's use of equity operationalizations in the allocation of park and recreation resources.

Preferences Based on Socioeconomic Status

In order to determine the combined effects of the demographic variables on the preferences and perceptions of the seven operationalizations of equity, separate Multiple Classification Analyses (MCA) were run on each of the seven operationalizations of equity. MCA is an additive form of ANOVA that examines the interrelationships between several predictor variables and a dependent variable (Andrews, Morgan, Sonquist, & Klem, 1973). It provides information on how each demographic variable relates to the dependent variable, both before and after adjusting for the effects of the other demographic variables (Andrews et al., 1973). MCA is specifically designed to handle correlated predictors and non-linear relationships, "Its chief advantage over dummy variable regression is a more convenient input arrangement and understandable output that focuses on sets of predictors... and on the extent and direction of the adjustments made for intercorrelations among the sets of predictors" (Andrews et al., 1973, p. 1).

MCA shows the effect of predictors using unadjusted and adjusted deviations. Unadjusted deviations in MCA indicate the effect of the predictor, while adjusted deviations indicate the effect of the predictor after adjusting for the effect of other predictors (Andrews et al., 1973). The ability of the predictors to explain variation in the

dependent variable is measured by eta, an unadjusted correlation ratio, and by beta, the equivalent of a standardized regression coefficient (Petrick, Backman, & Bixler, 1999).

Four of the overall ANOVAs investigating each of the seven SHOULD operationalizations (Compensatory, Equality, Efficiency and Advocacy) and four of the overall ANOVAs investigating each of the seven PRESENTLY operationalizations (Compensatory, Taxes Paid, Direct Price and Advocacy) were found to be significant ($p=.05$), explaining between 3 and 13 percent of the variance in the models (R^2 adjusted) (Table 33).

TABLE 33
Overall ANOVA Results Investigating Each Equity Operationalization

Operationalization	Main DF	Total DF	F	<i>p</i> value	Adjusted Model R^2
SHOULD					
Compensatory	15	448	4.004	.001*	.100
Equality	15	447	5.274	.001*	.134
Taxes Paid	15	451	.737	.747	n/a
Direct Price	15	457	1.290	.204	n/a
Efficiency	15	455	2.402	.002*	.053
Advocacy	15	460	4.248	.001*	.103
Professional Judgment	15	457	1.406	.140	n/a
PRESENTLY					
Compensatory	15	445	1.941	.018*	.040
Equality	15	447	1.354	.167	n/a
Taxes Paid	15	448	3.516	.001*	.087
Direct Price	15	452	1.750	.040*	.033
Efficiency	15	453	1.264	.221	n/a
Advocacy	15	454	1.716	.045*	.033
Professional Judgment	15	450	.929	.532	n/a

* Significant at the .05 level.

R^2 unadjusted is the actual proportion of variance explained by the demographic variables in the data cases actually used in the analysis (Andrews et al., 1973). R^2 adjusted is an estimate of how much variance the same predictors would explain if applied to a different, but comparable, set of data, such as the population from which the sample was drawn (Andrews et al., 1973). The following discussion pertains only to those ANOVAs found to be significant. Tables 37-44 show the deviation from the mean of each operationalization for each category of the significant demographic variables and the deviation from the mean adjusted for multivariate effects.

TABLE 34
Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Preferences for Compensatory Based Equity

SHOULD Compensatory					
Demographic Variables	N	Unadjusted ¹ Deviation	Adjusted ² Deviation	Eta	Beta
Ethnicity				.236	.174
African American	69	.35504	.25434		
Caucasian	280	-.12194	-.08006		
Hispanic/Latino	79	.16819	.12198		
Other	21	-.17343	-.22716		
Level of Income³				.248	.179
Low	109	.21473	.14421		
Low-Medium	110	.17441	.13729		
Medium-High	111	-.11294	-.08220		
High	119	-.25256	-.18233		
Total Model R^2	.122				
Adjusted Model R^2	.100				
Grand Mean	2.97				
¹ deviation from the grand mean					
² adjusted deviation from the grand mean					
³ Income was operationalized as the appraised value of respondent's home.					

TABLE 35
*Multiple Classification Analysis Summary Statistics for the Significant Effects of
 Selected Demographic Variables on Residents' Preferences for Equality Based Equity*

		SHOULD Equality			
Demographic Variables	N	Unadjusted ¹ Deviation	Adjusted ² Deviation	Eta	Beta
Gender				.218	.152
Male	233	-.17029	-.11844		
Female	215	.18455	.12835		
Ethnicity				.301	.213
African American	69	.53093	.39828		
Caucasian	280	-.15598	-.09441		
Hispanic/Latino	77	.08324	-.01660		
Other	22	.02869	.01060		
Level of Income³				.254	.159
Low	111	.21264	.11975		
Low-Medium	107	.17959	.12052		
Medium-High	114	-.07593	-.03681		
High	116	-.29450	-.18958		
Total Model R²					.155
Adjusted Model R²					.134
Grand Mean					3.55
¹ deviation from the grand mean					
² adjusted deviation from the grand mean					
³ Income was operationalized as the appraised value of respondent's home.					

TABLE 36
*Multiple Classification Analysis Summary Statistics for the Significant Effects of
 Selected Demographic Variables on Residents' Preferences for Efficiency Based Equity*

SHOULD Efficiency					
Demographic Variables	N	Unadjusted ¹ Deviation	Adjusted ² Deviation	Eta	Beta
Ethnicity				.251	.241
African American	70	.17250	.16258		
Caucasian	286	-.11950	-.11465		
Hispanic/Latino	77	.32386	.31276		
Other	23	-.12327	-.11614		
Total Model R²	.076				
Adjusted Model R²	.053				
Grand Mean	2.73				
¹ deviation from the grand mean					
² adjusted deviation from the grand mean					
³ Income was operationalized as the appraised value of respondent's home.					

TABLE 37
*Multiple Classification Analysis Summary Statistics for the Significant Effects of
 Selected Demographic Variables on Residents' Preferences for Advocacy Based Equity*

SHOULD Advocacy					
Demographic Variables	N	Unadjusted ¹ Deviation	Adjusted ² Deviation	Eta	Beta
Ethnicity				.270	.201
African American	68	.44499	.35533		
Caucasian	292	-.16168	-.11450		
Hispanic/Latino	79	.20662	.12146		
Other	22	.02854	-.01467		
Level of Income³				.257	.195
Low	109	.21516	.15543		
Low-Medium	110	.21945	.16094		
Medium-High	120	-.09153	-.04279		
High	122	-.30007	-.24189		
Total Model R²	.125				
Adjusted Model R²	.103				
Grand Mean	2.31				
¹ deviation from the grand mean					
² adjusted deviation from the grand mean					
³ Income was operationalized as the appraised value of respondent's home.					

TABLE 38
*Multiple Classification Analysis Summary Statistics for the Significant Effects of
 Selected Demographic Variables on Residents' Perceptions of Compensatory Based
 Equity in Bryan, TX*

PRESENTLY Compensatory					
Demographic Variables	N	Unadjusted ¹ Deviation	Adjusted ² Deviation	Eta	Beta
Ethnicity				.165	.151
African American	66	-.29520	-.24544		
Caucasian	281	.03410	.00870		
Hispanic/Latino	76	.11509	.15290		
Other	23	.05016	.09274		
Level of Income³				.134	.114
Low	110	.03207	.05326		
Low-Medium	111	-.16733	-.13878		
Medium-High	110	.01844	-.00832		
High	115	.11320	.09097		
Total Model R²	.063				
Adjusted Model R²	.040				
Grand Mean	2.85				
¹ deviation from the grand mean					
² adjusted deviation from the grand mean					
³ Income was operationalized as the appraised value of respondent's home.					

TABLE 39
*Multiple Classification Analysis Summary Statistics for the Significant Effects of
 Selected Demographic Variables on Residents' Perceptions of Taxes Paid Based Equity
 in Bryan, TX*

PRESENTLY Taxes Paid					
Demographic Variables	N	Unadjusted ¹ Deviation	Adjusted ² Deviation	Eta	Beta
Gender				.155	.103
Male	230	-.12382	-.08222		
Female	219	.13004	.08635		
Level of Income³				.229	.197
Low	109	.10591	.08963		
Low-Medium	111	.13806	.11440		
Medium-High	112	.08897	.08314		
High	117	-.31482	-.27162		
Park Use				.205	.176
Never	61	-.08510	-.08023		
< 1 time/month	171	-.13893	-.12191		
1-4 times/month	126	.17603	.16572		
5-8 times/month	51	.23835	.18298		
9-12 times/month	23	-.29447	-.22390		
13 + times/month	17	.08149	.03985		
Total Model R²	.109				
Adjusted Model R²	.087				
Grand Mean	2.86				
¹ deviation from the grand mean					
² adjusted deviation from the grand mean					
³ Income was operationalized as the appraised value of respondent's home.					

TABLE 40
Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Perceptions of Direct Price Based Equity in Bryan, TX

PRESENTLY Direct Price					
Demographic Variables	N	Unadjusted ¹ Deviation	Adjusted ² Deviation	Eta	Beta
Level of Income³				.186	.183
Low	112	.15569	.17664		
Low-Medium	112	-.00503	-.00982		
Medium-High	113	.08307	.05287		
High	116	-.22639	-.21257		
Total Model R²	.057				
Adjusted Model R²	.033				
Grand Mean	3.05				
¹ deviation from the grand mean					
² adjusted deviation from the grand mean					
³ Income was operationalized as the appraised value of respondent's home.					

TABLE 41
Multiple Classification Analysis Summary Statistics for the Significant Effects of Selected Demographic Variables on Residents' Perceptions of Advocacy Based Equity in Bryan, TX

PRESENTLY Advocacy					
Demographic Variables	N	Unadjusted ¹ Deviation	Adjusted ² Deviation	Eta	Beta
Level of Income³				.101	.145
Low	112	-.08139	-.11248		
Low-Medium	113	-.05480	-.08989		
Medium-High	111	-.00936	-.00336		
High	119	.13736	.19436		
Total Model R²	.055				
Adjusted Model R²	.033				
Grand Mean	3.08				
¹ deviation from the grand mean					
² adjusted deviation from the grand mean					
³ Income was operationalized as the appraised value of respondent's home.					

The MCA findings revealed in Tables 37-44 show that, generally speaking, ethnicity and level of income were related while gender, years of residency and park use were not related to the preferences for, and perceptions of, the equity approaches for allocating park and recreation resources in Bryan, Texas. Ethnicity was found to significantly ($p=.05$) influence preferences for the *Compensatory*, *Equality*, *Efficiency*, and *Advocacy* models and perceptions of the *Compensatory* model. In contrast, Wicks and Crompton's (1986) research on residents' preferences for various equity dimensions did not indicate a significant predictive ability of race for any of the equity dimensions tested.

Hispanic/Latino and African American residents were likely to agree that resources should be allocated based on *Compensatory*, *Advocacy* and *Efficiency* models, while Caucasians and Others were likely to disagree with the allocation of resources using these models. Hispanic/Latino residents were most likely to agree with *Efficiency* based allocations while African Americans were most likely to agree with *Compensatory* and *Advocacy* based allocations. The only significant finding for the effect of ethnicity on the perception of how resources are presently allocated was on the *Compensatory* model. African Americans were likely to disagree that the present allocation of resources was based on *Compensatory* factors, while Caucasians, Hispanic/Latinos and Others were likely to agree with *Compensatory* factors influencing the present allocation of resources.

The main effects of income level were found to be significant ($p=.05$) in preferences for the *Compensatory*, *Equality* and *Advocacy* models and perceptions of

Bryan's use of the *Taxes Paid*, *Direct Price* and *Advocacy* models. This suggested the higher the level of income of residents, the less likely they were to prefer the *Compensatory*, *Equality* and *Advocacy* models of equity in the allocation of park and recreation resources and the more likely they were to agree that these resources are allocated in Bryan, TX according to the *Advocacy* model of equity. Conversely, residents with the lowest level of income were most likely to perceive that Bryan's resources were allocated based on *Taxes Paid* or *Direct Price* models. Both the lowest and highest levels of income were more likely to agree that Bryan's resources were allocated based on the *Compensatory* model than the two medium income levels.

Gender was only found to be significant in preference for the *Equality* model and perception of resource allocation according to the *Taxes Paid* model. Females were more likely to prefer Equality based allocations and to perceive that present resources were allocated using the *Taxes Paid* method. The main effects of years of residency were never found to be significant and level of park use was found to be significant only in the perceptions that resources are allocated based on the *Taxes Paid* model. Average park users, those residents who use the park between 2 and 8 times per month, were more likely to agree that present resources were allocated using the *Taxes Paid* method than residents who used the park less than once per month or greater than 9 times per month. These findings suggest that years of residency and park use are not typically related to the preferences for, or perceptions of, resource allocation. In addition, they suggest that (i) gender has only a minimal effect on these preferences and perceptions;

(ii) ethnicity is more likely to influence perceptions than preferences; and (iii) income level is likely to influence both.

Application of the Instrument's Results

In times of fiscal constraints, public officials must make decisions regarding the allocation of scarce resources that will positively affect some residents while negatively affecting others. As elected and appointed officials, government leaders and employees are charged with representing the wishes of their constituents in the allocation of these resources. The scale developed in this study is intended to help them do so by identifying both the equity preferences of residents in their community, and their perceptions of the present allocation of resources in the community. A comparison of these two opinions using Importance-Performance analysis could then be used by government leaders and employees to make the most appropriate allocation decisions based on community input.

Establishing Equity Initiatives Based on Importance-Performance Analysis

Importance-performance analysis (IPA) is a type of multi-dimensional scaling that allows the performance of a product, service or idea to be compared with its importance among an identified group of respondents. The ease with which IPA can be interpreted and applied makes it a valuable tool for elected officials and park and recreation practitioners. By using IPA on results from the P&R-EQUITY Scale, a community can identify the importance of each dimension of equity or residents' equity preferences, with perceptions of how community resources are allocated according to each equity dimension (performance). The information can be plotted on a preference-

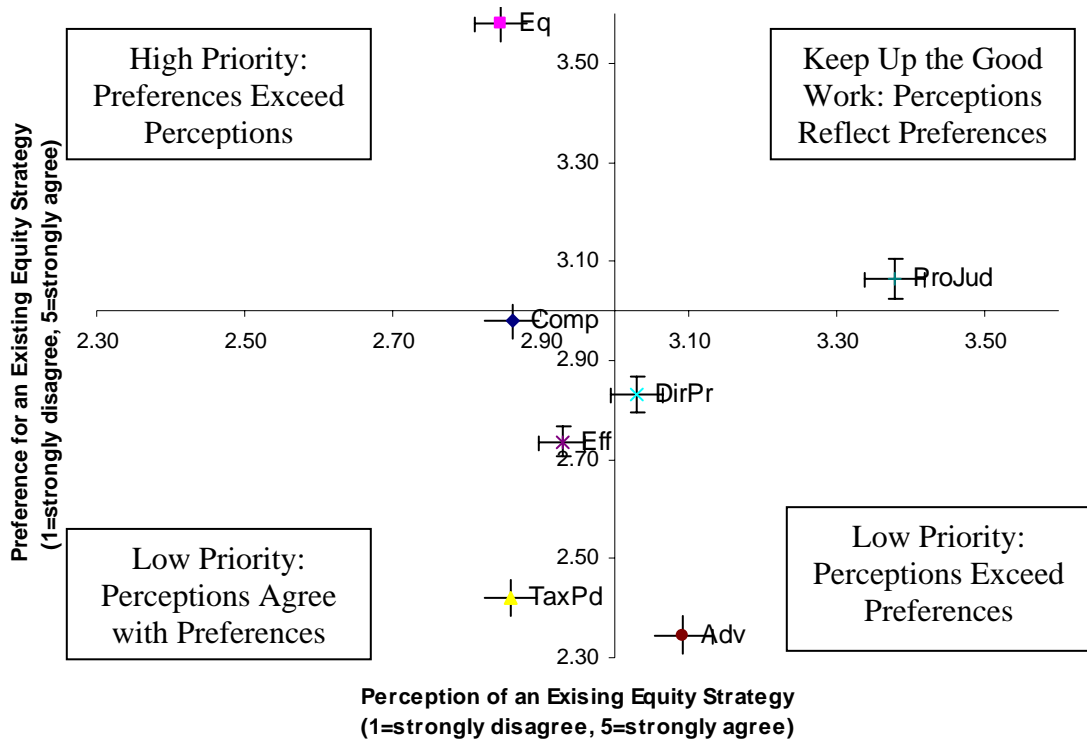
perception grid, similar to an importance-performance grid, to identify potential reallocation and repositioning strategies.

Repositioning involves changing residents' perceptions of how resources are allocated in their community. This could be accomplished by either changing the actual distribution of resources or altering residents' beliefs about how community resources are allocated. Results from the IPA can be used in either case: to guide future allocation decisions or to identify needed promotional efforts. If a community were to disagree with a particular form of equity, it would be unnecessary to allocate resources based on that form of equity. If the results indicate that people's beliefs of how resources are distributed are different than how they are actually distributed, promotional efforts would be needed to emphasize the allocation methods employed by the community. A community may also use the results to explain why particular allocation decisions in the community are being made.

Two options are available for determining the placement of the grid axes. The axes could either intersect at the midpoint of the scale (3 on a 5-point Likert scale) or at the mean for all seven equity performance models (2.84) and the mean for all seven equity perception models (3.02). The use of midpoints was chosen because the means were relatively close to the midpoints and it provided a better illustration of residents' levels of agreement with each model (scores above a 3 indicated agreement while scores below a 3 indicated disagreement). As recommended by Tarrant and Smith (2002), the means and the 95% confidence intervals for each of the models' performance and perception scores were plotted on the performance-perception grid. Figure 18 portrays

the data reported on allocation preferences and perceptions by residents in Bryan, Texas. The maximum and minimum values for the grid axes were adjusted to reflect the comparative placement of the equity models. Confidence intervals, depicted by a “crosspoint” on the mean, illustrate the variability around the mean and help to provide a clearer picture of where the model actually fits on the grid.

Figure 18: Equity Preference-Perception Grid



An equity model with an above the mean score on both the preference and perception skills, such as *Professional Judgment*, represents a model where resources based are being allocated based on a model residents support. The placement of

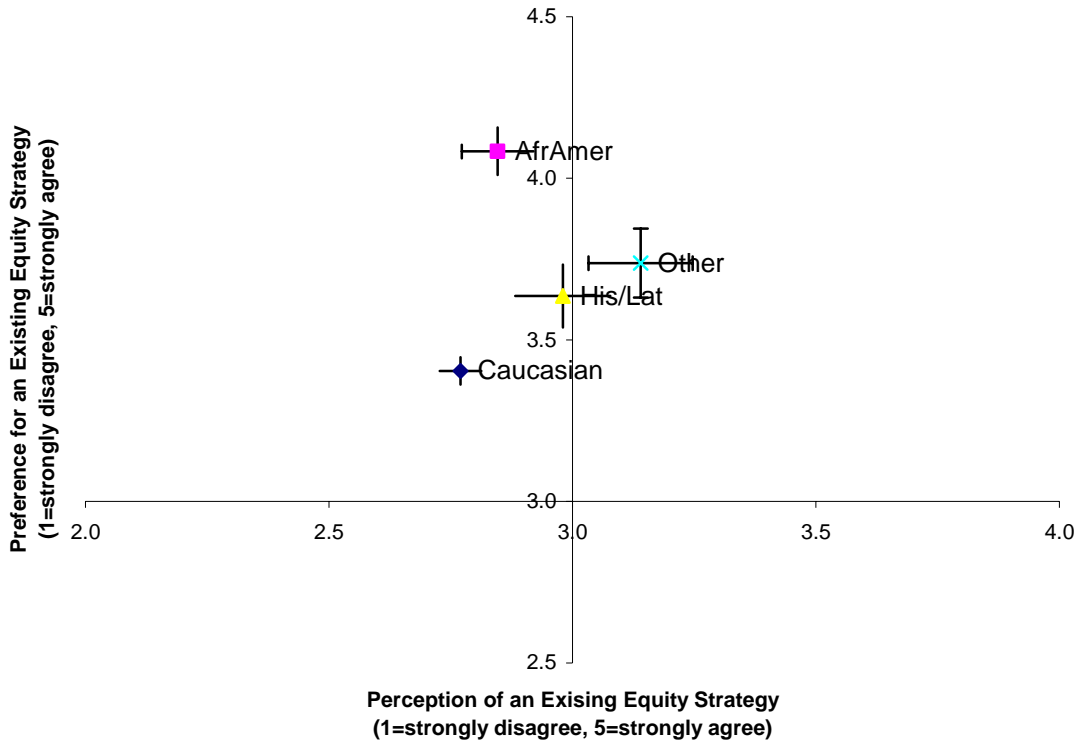
Equality, with an above the mean score on preference and a below the mean score on perception, suggests that additional efforts should be directed toward increasing the perception that resources are allocated based on *Equality*, either through changes in actual allocation patterns or through marketing efforts designed to improve the perception of *Equality* based allocations. Residents have low preferences for *Efficiency*, *Taxes Paid*, *Compensatory Direct Price* and *Advocacy* but preferences for allocating resources based on *Efficiency*, *Taxes Paid* and *Compensatory* are also low so allocating additional resources to enhance these perceptions is not recommended. Efforts spent to improve actual or images of allocation methods according to these methods would be wasted. Although residents have more positive perceptions about allocations based on *Direct Price* and *Advocacy* than *Efficiency*, *Taxes Paid* and *Compensatory*, residents have a low preference for *Direct Price* and *Advocacy*. Thus, current allocations based on *Direct Price* and *Advocacy* might be given a lower priority.

An Application of Importance-Performance Analysis

A benefit of using importance-performance analyses is its ease of interpretation. Placing scores on an IPA grid can be a valuable tool for demonstrating residents' opinions. In particular, IPA grids are capable of readily reflecting differences in opinions of residents based on demographics, such as ethnicity or income, as well as according to the stakeholder group to which they belong, for instance elected officials, street level bureaucrats or community residents. See Figure 19 for an example of an IPA grid reflecting differences in residents opinions about the Equality dimension based on ethnicity. The preference and perception scores for each ethnic group can be spatially

located at a single point on the grid. This provides insight into potential marketing implications by identifying which ethnic groups might be most affected by a particular allocation method. For example, if a community's actual distribution of resources reflected *Equality*, the community would be better meeting the preferences of African Americans than other ethnicities. The perception that resources are distributed in this manner needs to be addressed with all ethnic groups. However, more attention might be made to improving the perceptions of Caucasian residents because they currently have the lowest agreement with this perception or African American residents, who are slightly more likely to agree with this perception but much more likely to prefer its application.

Figure 19: Preference-Perception Grid for the Equality Dimension, Based on Ethnicity



Contribution to Existing Knowledge

This study examined equity in the context of the allocation of park and recreation resources within a community. The contributions made by this study include: extending the original taxonomy of equity models proposed by Crompton and Wicks (1988); development of a theoretical framework for their original model; providing a current synthesis of equity based literature; advancing the Equity Implementation Model (Wicks & Crompton, 1989) by developing an instrument capable of measuring residents' perceptions and preferences of park and recreation resource allocation in their

community; empirically confirming the legitimacy of alternate dimensions of equity through Structural Equation Modeling; applying information gained from using the instrument to determine the usefulness of selected variables in predicting equity preferences; and comparing data on equity preferences with that of present perceptions to illustrate the utility of the instrument in guiding resource allocation decisions.

Several of the original operationalizations of equity were found to be legitimate (*Compensatory, Taxes Paid, Direct Price, Efficiency and Advocacy*). An additional operationalization, *Professional Judgment* was included and also found to be legitimate while one of the original dimensions suggested by Crompton and Wicks, *Equal Outcomes*, was determined not to be. *Equal Inputs* and *Equal Opportunity* could not be operationalized to reflect distinctively different concepts of equity. Further efforts at operationalization are needed in this area, since they do appear to be conceptually different. For instance, if two neighborhoods each spent \$500,000 on trails and greenways, variable construction costs and existing infrastructure could result in different levels of opportunity due to differences in trail length or proximity of trails to residents' homes.

This instrument was the first of its kind to be empirically tested for dimensionality, reliability and validity. While the final instrument from this study needs further development, particularly in the areas of equity relating to *Demonstrated Interest, Equal Inputs* and *Equal Opportunity*, and, to a lesser extent, the areas relating to *Direct Price* and *Efficiency*, it was found to be reliable and valid and therefore appropriate for measuring residents' equity perceptions and preferences.

To the researcher's knowledge, this has been the only data collected on residents' perceptions and preferences for equity in the last twenty years. A review of the literature revealed that evidence that systematic equity disparities exist is mixed. Future research is likely to benefit from emerging technology, such as improved statistical software and Geographical Information Systems.

Results indicated that residents' equity perceptions and preferences were likely to be influenced by their ethnicity and socioeconomic status, while they were not likely to be influenced by their gender, years of residence in the community or the frequency with which they used municipal park and recreation services. Differences in perceptions of equity based on the ethnicity or socioeconomic status of respondents in Bryan, Texas, suggested support for Lineberry's Underclass Hypothesis. However, differences in perception do not necessarily indicate actual differences in the allocation of services. Additional research regarding actual allocation patterns is therefore recommended. Should no differences actually exist, efforts should be made to reconcile the disparities between perceptions and reality. For instance, the department could focus on promotion designed to psychologically reposition residents' perceptions about how resources are presently allocated.

It is the first equity instrument to be developed for application by elected officials or government employees, such as those from parks and recreation. By providing them a tool capable of measuring residents' equity perceptions and preferences and the knowledge to interpret the results through Importance-Performance Analysis, they can

be armed with the information necessary to make better decisions regarding the allocation of resources in their communities.

Limitations of the Study

While research methods were thorough, there were a few limitations. First, the study looked at park and recreation services collectively. In a previous study on equity, Wicks (1986) concluded that one equity model could not be applied across all types of recreation and park services. Additional research is therefore recommended to determine how generalizable the scale is when related to specific services. The study is also unable to consider city-wide allocation decisions which may effect the distribution of park and recreation resources. For example, a neighborhood may receive fewer park and recreation services because it receives more police services (Wicks, 1986). Second, the pretest instrument was administered to undergraduate students rather than residents due to fiscal and temporal constraints. As noted earlier, however, there are benefits to using a homogenous sample. In addition, using undergraduates for pretests is commonplace and recent studies have found that, in the case of advertising attitudes and beliefs, for example perceptions of students and consumers are not necessarily different (Drusavala, Mehta, Andrews, & Lysonski, 1997). Third, the study was limited to a specific community. Future research is necessary to replicate the study in other communities, particularly ones of different sizes in different geographical regions.

Fourth, in the construction of the final instrument, the dimension description mean for *Efficiency* was based on the description, “The city of Bryan should designate funding so the greatest number of people will benefit.” Because the term benefit was not

defined, people may have had different opinions as to its definition. Future use of the instrument should include providing a clearer definition of efficiency. In addition, the actual instrument was not translated into Spanish which may have contributed to an under-representation of Hispanics in the sample. Finally, the analysis of the survey involved the use of appraised home value to represent income or economic viability, rather than a direct measure of household income.

Suggestions for Future Research

The development of sustainable communities has long been a challenge to planners. Unfortunately, while the term sustainability has become commonly used, its definition has remained somewhat elusive. Although difficult to define, the notion that equity is one of the components of sustainability is pervasive throughout both the planning and tourism literatures (Ammons, 1996; Beatley, 1984; Beatley & Brower, 1993; Collin & Beatley, 1995; Daly & Cobb, 1989; Krumholz, 1999). The discussion of equity and the empirical investigation presented in this dissertation is the beginning of a long-range plan of research on equity and its place in the development of a sustainable community.

The review of equity literature revealed that while significant work has been done in the area of equity, little work has been done in the last fifteen to twenty years and the conclusions drawn from this literature indicate the presence of several gaps in knowledge on the subject. The intent of the proposed plan of research is to narrow these gaps in knowledge.

Additional research into the equity concept is suggested based on several observations. First, critical reviewers of previous research in the area of equity frequently cited a lack of empirical investigations and the narrow scope of focus for the studies, which typically examined one service area rather than a range of areas within a community, as limitations to their findings. Second, empirical research on equity in the allocation of park and recreation services has been almost non-existent over the last fifteen to twenty years. Perhaps allocation and distribution patterns have changed significantly since the earlier studies were made. Third, recent advances in technology allow for different areas to be more easily compared. Fourth, little, if any, progress has been made in the application of equity standards when allocating municipal park and recreation services.

Although this study makes a significant contribution to the equity literature, additional research is necessary. The research agenda uses as a framework Wicks and Crompton's (1989) Equity Implementation Model, which consists of a five-phase process for integrating equity into public policy (Figure 1). To review, the first stage of this model, the normative distribution phase, seeks to determine the prevailing equity preferences of community members. Thus, the first stage of research was development of an instrument capable of assessing stakeholders' perceptions of equity. This needs verification and refining through further testing. First, work is needed to evaluate the legitimacy of those operationalizations of equity not yet validated: *Equal Inputs*, *Equal Opportunity*, *Demonstrated Use*, *Demonstrated Input* and *Coproduction Opportunities*.

Second, additional items are needed to represent the *Efficiency, Direct Price and Advocacy* operationalizations.

Once an instrument incorporating a full set of legitimate equity dimensions has been developed which is found to be valid and reliable, data should be gathered from all stakeholders. In any community, the perspective of each of the three primary sets of actors in the public sector decision-making process, elected officials, administrators and residents, needs to be identified to reconcile any discrepancies. In addition, the potential influence of community action groups to influence the political process mandates that their views also be considered. Of particular interest would be the identification of similarities and differences among segments based on race, socioeconomic level, and level of political involvement, as well as among the three stakeholder groups and community action groups. In addition, groups of stakeholders, as well as their community aggregates, should be compared in terms of community wealth, location, size and governance. Research in this phase would also involve development of a process capable of converting the equity preferences of stakeholders into measurable levels of community commitment for specific services. An established measurement instrument would "...enable communities to evaluate their distributional preferences and see whether or not they are in line with broader community goals and with notions of fairness" (Talen, 1998, p. 23).

The second phase of research relates to the actual distribution phase of the Equity Implementation Model, which is concerned with documentation of distribution patterns. While several such studies have been reported over the last forty years, the conclusions

drawn by Koehler and Wrightson (1987) warrant a reinvestigation of such patterns, or lack of patterns. According to Koehler and Wrightson, most of the previous research on the distribution patterns of municipal services should be reevaluated because researchers used inadequate statistics and included business tracts in their analysis. Future research should use multiple regression statistics, which are now more readily accessible due to advances in computer technology, and exclude business tracts, which have been shown to skew the results (Koehler & Wrightson, 1987). It will be aided by the increasing availability of GIS. A key to this research will be the selection of appropriate service measures and a suitable unit of analysis, both of which should be determined by community stakeholders based on preferences determined in phase one. This phase of research will also address measurement challenges raised during the empirical review of literature including quantification in terms of money, standardized cost comparisons and the incorporation of qualitative components.

Phase three of the Equity Implementation Model involves synthesizing information obtained from the first two phases so that equity objectives can be set and prioritized based on the extent to which existing distribution patterns coincide with the equity preferences of stakeholders. Research for this phase involves the identification of differences between equity preferences and actual distribution patterns, and the determination of whether such differences identified are real or perceived. In the case of real differences, communities would choose priorities and objectives aimed at reducing the differences by either attempting to modify stakeholders' preferences or to make changes to current distribution efforts. If the differences are more perceived than real,

communities' efforts would more than likely involve promotional communications aimed at educating stakeholders rather than actual efforts to modify distribution patterns. Research in this stage includes the development of potential service criteria capable of resolving specific inadequacies. For example, the allocation of money to develop parkland received from Community Development Block Grants.

The fourth and fifth phases of the Equity Implementation Model involve the evaluation of implemented policy and the subsequent modification of policy when current methods are found to be inadequate. Together, these phases imply the necessity for longitudinal research in each of the above prescribed areas. This longitudinal research should include assessing stability of stakeholders' equity preferences, actual service distribution patterns and the ability of various solutions to minimizing the differences between preferences and actual patterns. Ultimately, research would be undertaken to relate each of these equity measures with other measures of a sustainable community, such as environment and economy.

In conclusion, research on equity regarding decisions for public goods, such as park and recreation services, deserve to be made by the residents whom they impact. The bureaucrats who bear the burden of making final allocation decisions need input on how to make equitable decisions. The research undertaken in this dissertation has produced a valid and reliable, multi-dimensional instrument capable of assessing these equity preferences. It is, however, rather tentative and additional research is now needed to further validate the study and incorporate it into a line of research following the above Equity Implementation Model. Longitudinal studies would be particularly useful to

track changes in residents' perceptions of importance and performance as efforts are made to address current discrepancies, especially in relation to funding support by the community and the relationship between equity and the provision of a sustainable community.

REFERENCES

- Abney, G., & Lauth, T. P. (1985). Interest group influence in city policy-making: The view of administrators. *Western Politics Quarterly*, 36, 146-161.
- Allison, P. D. (1999). *Multiple regression: A primer*. Thousand Oaks, CA: Pine Forge Press.
- Ammons, D. N. (1996). *Municipal benchmarks: Assessing local performance and establishing community standards*. Thousand Oaks, CA: Sage Publications.
- Anagnoson, J. T. (1980). Politics in the distribution of federal grants: The case of the economic development administration. In B. Rundquist (Ed.), *Political Benefits: Empirical Studies of American Public Programs* (pp. 61-91). Lexington, MA: D. C. Heath.
- Andrews, F. M., Morgan, J. N., Sonquist, J. A., & Klem, L. (1973). *Multiple classification analysis* (2nd ed.). Ann Arbor, MI: University of Michigan.
- Antunes, G. E., & Mladenka, K. R. (1976). The politics of local services and service distribution. In L. H. Masotti & R. L. Lineberry (Eds.), *The new urban politics* (pp. 140-165). Cambridge, MA: Ballinger.
- Antunes, G. E., & Plumlee, J. P. (1977). The distribution of urban public service: Ethnicity, socioeconomic status and bureaucracy as determinants of the quality of neighborhood streets. *Urban Affairs Quarterly*, 12(3), 313-331.
- Ap, J., & Crompton, J. L. (1998). Developing and testing a tourism impact scale. *Journal of Travel Research*, 37(November), 120-130.
- Association, N. R. a. P. (1974). *Open Space in Recreation in America's Inner-cities*. Washington, D.C.: National Technical Information Service, U.S. Department of Commerce.
- Baker vs. City of Kissimmee, Florida, 645 F. Supp. 571 (1986).
- Baldwin v. Fish and Game Commission of Montana, US 371 1843 (1978).
- Beal v. Lindsay, 468 F. 2d 287 (1972).
- Beatley, T. (1984). Applying moral principles to growth management. *Journal of the American Planning Association*, 50(4), 459-469.
- Beatley, T., & Brower, D. J. (1993). Sustainability comes to Main Street. *Planning, May*, 16-19.

- Berne, R. (1994a). Educational input and outcome inequities in New York State. In R. Berne & L. O. Picus (Eds.), *Outcome equity in education* (pp. 1-23). Thousand Oaks, CA: Corwin Press.
- Berne, R. (1994b). Summary and conclusions. In R. Berne & L. O. Picus (Eds.), *Outcome equity in education* (pp. 247-254). Thousand Oaks, CA: Corwin Press.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: John Wiley & Sons.
- Bolotin, F. N., & Cingranelli, D. L. (1983). Equity and urban policy: The underclass hypothesis revisited. *Journal of Politics*, 45(Issue 1), 209.
- Boots, A. J., Dawson, G., Silverman, W., & Hatry, H. (1972). *Inequality in local government services: A case study of neighborhood roads*. Washington, DC: Urban Institute.
- Boyle, J., & Jacobs, D. (1982). The intracity distribution of services: A multivariate analysis. *The American Political Science Review*, 76, 371-379.
- Brudney, J. L., & Morgan, D. R. (1984). *Local government productivity: Efficiency vs. equity*. Washington, DC: American Political Science Administration.
- Burner v. Washington, CA Civil No. 242-71 (1971).
- Byrne, B. M. (1994). *Structural equation modeling with EQS and EQS/Windows*. Thousand Oaks, CA: SAGE Publications.
- Byrne, B. M. (1998). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications and programming*. Mahwah, NJ: Erlbaum.
- Calder, B. J., Philips, L. W., & Tybout, A. M. (1982). The concept of external validity. *Journal of Consumer Research*, 9(3), 240-244.
- Chan, K. S., Godby, R., Mestelman, S., & Muller, R. A. (1997). Equity theory and the voluntary provision of public goods. *Journal of Economic Behavior & Organization*, 32(3), 349-364.
- Chou, C. P., & Bentler, P. M. (1995). Estimates and tests in structural equation modeling. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues and applications* (pp. 37-55). Thousand Oaks, CA: SAGE Publications.
- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16, 64-73.

- Churchill, G. A. (1995). *Marketing research: Methodological foundations* (6th ed.). Fort Worth: The Dryden Press.
- Cingranelli, D. L. (1981). Race, politics and elites: Testing alternative models of municipal service distribution. *American Journal of Political Science*, 25(4), 664-692.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Collin, R. W., & Beatley, T. (1995). Environmental racism: A challenge to community development. *Journal of Black Studies*, 25(Issue 3), 354.
- Comrey, A. L., & Lee, H. B. (1992). *A First course in factor analysis* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Social Psychology*, 78(1), 98-104.
- Cranz, G. (1982). *The politics of park design*. Cambridge, MA: The MIT Press.
- Croker, W. L. (1991). *Coping strategies, cognitive distortions and depressive symptomatology in high school adolescents*. Unpublished Dissertation, University of Toronto, Toronto, Canada.
- Crompton, J. L. (1999). *Financing and acquiring park and recreation resources*. Champaign, IL: Human Kinetics.
- Crompton, J. L., & Lamb, C. W., Jr. (1983). The importance of the equity concept in the allocation of public services. *Journal of Macromarketing*, 3(1), 28-39.
- Crompton, J. L., & Lamb, C. W., Jr. (1986). *Marketing government and social services*. New York: John Wiley & Sons.
- Crompton, J. L., & Lue, C. C. (1992). Patterns of equity preferences among Californians for allocating park and recreation resources. *Leisure Sciences*, 14, 227-246.
- Crompton, J. L., & McGregor, B. P. (1994). Trends in the financing and staffing of local government park and recreation services 1964/65-1990/91. *Journal of Park and Recreation Administration*, 12(3), 19-37.
- Crompton, J. L., & Tian-Cole, S. (1999). What response rate can be expected from questionnaire surveys that address park and recreation issues? *Journal of Park and Recreation Administration*, 17(1), 60-72.

- Crompton, J. L., & Wicks, B. E. (1988). Implementing a preferred equity model for the delivery of leisure services in the U.S. context. *Leisure Sciences*, 7, 287-403.
- Cronin, J. J., & Taylor, J. R. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, 56, 55-68.
- Cvetkovich, G., & Earle, T. C. (1994). The construction of justice: A case study of public participation in land management. *Journal of Social Issues*, 50(3), 161-178.
- Daly, H. E., & Cobb, J. B., Jr. (1989). *For the common good: Redirecting the economy toward community, the environment and a sustainable future*. Boston: Beacon Press.
- Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method* (2nd ed.). New York: John Wiley & Sons.
- Dommel, P., Nathan, R., Liebschutz, S., & Wrightson, M. T. (1978). *Decentralizing community development*. Washington, DC: Government Printing Office.
- Driver, B. L. (2002). Benefits of leisure and managing to provide them. *Encyclopedia of Leisure*.
- Drusavala, S., Mehta, S. C., Andrews, J. C., & Lysonski, S. (1997). Advertising beliefs and attitudes: Are students and general consumers indeed different? *Journal of Asian Business*, 13(1), 71-84.
- Epstein, M., Nordness, P., Duchnowski, A., Schrepf, S., Benner, G., & Nelson, J. (1993). Assessing the wraparound process during family planning meetings. *Journal of Behavioral Health Services & Research*, 30(3), 352-363.
- Fainstein, S. S. (2000). New directions in planning theory. *Urban Affairs Review*, 35(4), 451.
- Farnham, P. G. (1980). Communications: A further comment on the distribution of urban recreation services. *Journal of Leisure Research*, 12(1), 81-84.
- Farnham, P. G. (1981). Measuring the change in urban recreation service distribution: The case of Oakland, California, 1960-1974. *Journal of Leisure Research*, 13(4), 353-364.
- Fisk, D. M., & Lancer, C. A. (1974). *Equality of distribution of recreation services: A case study of Washington, DC* (712-13-1). Washington, DC: The Urban Institute.

- Fitzgerald, M. R., & Durant, R. F. (1980). Citizen evaluations and urban management: Service delivery in an era of protest. *Public Administration Review*, 40(6), 585-594.
- Gaertner, W., Jungeilges, J., & Neck, R. (2001). Cross-cultural equity evaluations: A questionnaire-experimental approach. *European Economic Review*, 45(4-6), 953-963.
- Godbey, G., & Dunn, D. R. (1976). A critique of "Public urban recreation: An investigation of spatial relationships" by Lisle S. Mitchell and Paul E. Lovingood, Jr. *Journal of Leisure Research*, 8(1), 6-20.
- Gold, S. D. (1974). The distribution of urban government services in theory and practice: The case of recreation in Detroit. *Public Finance Quarterly*, 2(1), 107-131.
- Gordon, E. W., & Bonilla-Bowman, C. (1994). Equity and social justice in educational achievement. In R. Berne & L. O. Picus (Eds.), *Outcome equity in education* (pp. 24-44). Thousand Oaks, CA: Corwin Press.
- Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- Hamilton, J. T. (1995). Testing for environmental racism: Prejudice, profits, political power? *Journal of Policy Analysis Manage*, 14(1), 107-132.
- Hawkins v. Town of Shaw, 437 F. 2d 1286 (1971).
- Henderson, K. A. (1991). *Dimensions of choice: A qualitative approach to recreation, parks, and leisure research*. State College, PA: Venture Publishing, Inc.
- Hoyle, R. H. (1995). *Structural Equation Modeling: Concepts, Issues and Applications*. Thousand Oaks, CA: SAGE Publications.
- Hu, L.-T., & Bentler, P. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), *Structural equation modeling* (pp. 76-99). Thousand Oaks, CA: SAGE Publications.
- Hu, L.-T., & Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.
- Jones, B. D. (1981). Party and bureaucracy: The influence of intermediary groups on urban public service delivery. *American Political Science Review*, 75, 688-700.
- Jones, B. D., & Kaufman, C. (1974). The distribution of urban public services: A preliminary model. *Administration and Society*, 6(3), 337-360.

- Jones, S. I. (1993). *Open space and environmental equity: Designing of a truly democratic city*. Unpublished Thesis, University of California, Berkeley, Berkeley.
- Kaczynski, A. (2003). *A multi-dimensional scale for repositioning public park and recreation services*. Unpublished Master's Thesis, Texas A&M University, College Station, TX.
- Kauff, J., Olsen, R., & Fraker, T. (2002). *Nonrespondents and nonresponse bias: Evidence from a survey of former welfare recipients*. Washington, DC: Mathematica Policy Research, Inc.
- Kenny, D. A. (1979). *Correlation and causality*. New York: John Wiley & Sons.
- King, M. L., Jr. (1986). A testament of hope. In J. M. Washington (Ed.), *A Testament of Hope: The Essential Writings and Speeches of Martin Luther King, Jr.* (pp. 313-328). San Francisco: Harper Collins.
- Koehler, D. H., & Wrightson, M. T. (1987). Inequality in the delivery of urban services: A reconsideration of the Chicago Parks. *The Journal of Politics*, 49, 80-99.
- Konow, J. (2001). Fair and square: The four sides of distributive justice. *Journal of Economic Behavior & Organization*, 46(Issue 2), 137.
- Krumholz, N. (1999). Equitable approaches to local economic development. *Policy Studies Journal*, 27(Issue 1), 83.
- Lake, R. (1993). Rethinking NIMBY. *Journal of the American Planning Association*, 59(1), 87-93.
- Laswell, H. O. (1958). *Politics: Who gets what, when, how*. Cleveland, OH: World Publishing.
- Lee, T. H., & Crompton, J. L. (1992). Measuring novelty seeking in tourism. *Annals of Tourism Research*, 19(4), 732-751.
- Levy, J. E. (1994). A review of public policy studies on the use of outcomes. In R. Berne & L. O. Picus (Eds.), *Outcome Equity in Education* (pp. 45-70). Thousand Oaks, CA: Corwin Press.
- Levy, J. E., Meltsner, A., & Wildavsky, A. (1974). *Urban outcomes*. Berkeley: University of California Press.
- Lineberry, R. L. (1974). Mandating urban equality: The distribution of municipal public services. *Texas Law Review*, 53(1), 26-59.

- Lineberry, R. L. (1977). *Equality and urban policy: The distribution of municipal public services*. Beverly Hills, CA: Sage Publications.
- Lineberry, R. L. (1985). Politicians and the distribution of public policies. *Policy Studies Review, 4*, 407-411.
- Lineberry, R. L., & Welch, R. E., Jr. (1974). Who gets what: Measuring the distribution of urban public services. *Social Science Quarterly, 54*, 700-712.
- Lippincott, & Williams. (2002). The Pediatric Anxiety Rating Scale (PARS): Development and psychometric properties; the research units of Pediatric Psychopharmacology Anxiety study group. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(9), 1061-1070.
- Liu, F. (2001). *Environmental justice analysis: Theories, methods and practice*. Boca Raton: Lewis Publishers.
- Lovingood, P. E., & Mitchell, L. S. (1978). Response to a critique of "Public urban recreation: An investigation of spatial relationships". *Journal of Leisure Research, 10*(1), 68-72.
- Lovrich, N. (1974). Differing priorities in an urban electorate: Service preferences among Anglo, Black and Mexican-American voters. *Social Science Quarterly, 55*(December 1974), 704-717.
- Lucy, W. H., & Mladenka, K. R. (1980). *Equity and urban service distribution module 1*. Washington, DC: U.S. Department of Housing and Urban Development, National Training and Development Service.
- Mandel, D. (1996). *In/equity in neighborhood parks: Definition and discovery*. Unpublished Thesis, University of Washington.
- McKay, S. L. (1994). *A Review of the effectiveness of recreation prevention and intervention efforts with at-risk and juvenile delinquent populations*. Unpublished Master's Thesis, Texas A&M University, College Station, TX.
- Mertes, J. D., & Hall, J. R. (1995). *Park, recreation, open space and greenway guidelines*. Arlington, VA: National Recreation and Park Association.
- Mitchell, L. S., & Lovingood, P. E. (1976). Public urban recreation: An investigation of spatial relationships. *Journal of Leisure Research, 8*(1), 6-20.
- Mladenka, K. R. (1975). *The distribution of urban public services*. Unpublished Dissertation, Rice University, Houston, TX.

- Mladenka, K. R. (1980). The urban bureaucracy and the Chicago political machine: Who gets what and the limits of political control. *The American Political Science Review*, 74, 991-998.
- Mladenka, K. R. (1985, April). *The myth of the machine and the decline of racial politics: Distribution in Chicago*. Paper presented at the Paper presented at the annual meeting of the American Political Science Association, New Orleans.
- Mladenka, K. R., & Hill, K. Q. (1977). The distribution of benefits in an urban environment: Parks and libraries in Houston. *Urban Affairs Quarterly*, 13(1), 73-94.
- Mo, C., Howard, D. R., & Havitz, M. E. (1993). Testing an international tourist role typology. *Annals of Tourism Research*, 20, 319-355.
- Muthen, B. O. (1989). Dichotomous factor analysis of symptom data. *Sociological Methods & Research*, 18, 19-65.
- Muthen, B. O. (1993). Goodness of fit with categorical and other non-normal variables. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 205-243). Newbury Park, CA: Sage.
- Muthen, B. O., & Kaplan. (1992). A comparison of some methodologies for the factor analysis of non-normal Likert variables. *British Journal of Mathematical and Statistical Psychology*, 45, 19-30.
- Nardulli, P. F., & Stonecash, J. M. (1981). *Politics, professionalism, and urban services: The police*. Cambridge, MA: Oelgeschlager, Gunn & Hain.
- National Advisory Commission on Civil Disorders. (1968). *Report*. New York: E. P. Dutton & Co., Inc.
- National Recreation and Park Association. (1974). *Open space in recreation in America's inner-cities*. Washington, DC: National Technical Information Service, U.S. Department of Commerce.
- Nicholls, S. (2001). Measuring the accessibility and equity of public parks: A case study using GIS. *Managing Leisure*, 6, 201-209.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw Hill.
- Orend, B. (2001). Walzer's general theory of justice. *Social Theory & Practice*, 27(Issue 2), 207.

- Parasuraman, A., Zeithaml, V., & Berry, L. (1988). SERVQUAL: A multi-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(Spring), 12-40.
- Pellow, D. N. (2000). Environmental inequality formation. *American Behavioral Scientist*, 43(4), 581-601.
- Perry, N. (2002). *Parks could sell names: - 'No sacred cows' in quest to fund county facilities* [Eastside Journal]. Retrieved April 10, 2002, from the World Wide Web: <http://www.eastsidejournal.com/sited/story/html/88332>
- Petrick, J. F. (2002). Development of a multi-dimensional scale for measuring the perceived value of a service. *Journal of Leisure Research*, 34(2), 119-134.
- Petrick, J. F., Backman, S. J., & Bixler, R. D. (1999). An investigation of selected factors' impact on golfer satisfaction and perceived value. *Journal of Park and Recreation Administration*, 17(1), 41-59.
- Rawls, J. (1971). *A theory of justice*. Cambridge, MA: Belknap.
- Ray, B. (1980). Congressional promotion of district interests. In B. Rundquist (Ed.), *Political benefits*. Lexington, MA: D.C. Heath.
- Rutstrom, E. E., & Williams, M. B. (2000). Entitlements and fairness: An experimental study of distributive preferences. *Journal of Economic Behavior & Organization*, 43(1), 75-89.
- Scott, J. T., Matland, R. E., Michelbach, P. A., & Bornstein, B. H. (2001). Just deserts: An experimental study of distributive justice norms. *American Journal of Political Science*, 45(4), 749.
- Seabert, D., Pigg, R., Jr., Weiler, R., Behar-Horenstein, L., Miller, M., & Varnes, J. (2002). The influence of preservice instruction in health education methods on the health content taught by elementary teachers in Indiana. *Journal of School Health*, 72(10), 422-429.
- Seif vs. Chester Residents Concerned for Quality Living, 132 F 3d 925 (1997).
- Serrano v. Priest, 5 Ca. 3d 584 (1971).
- Shindruk, C. (1993). *Planning and equity: an approach to reducing distributional inequities for community planners*. Unpublished Thesis, University of Manitoba, Ottawa, Canada.
- Steger, M. A. (1984). Group influence versus decision-making rules: An analysis of local CDBG allocational decisions. *Urban Affairs Quarterly*, 19, 373-394.

- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston: Allyn and Bacon.
- Talen, E. (1997). The social equity of urban service distribution: An exploration of park access in Pueblo, Colorado, and Macon, Georgia. *Urban Geography*, 18(6), 521-541.
- Talen, E. (1998). Visualizing fairness: Equity maps for planners. *Journal of the American Planning Association*, 64(1), 22-38.
- Talen, E., & Anselin, L. (1998). Accessing spatial equity: An evaluation of measures of accessibility to public playgrounds. *Environment & Planning A*, 30, 595-613.
- Tarrant, M. A., & Smith, E. K. (2002). The use of a modified importance-performance framework to examine visitor satisfaction with attributes of outdoor recreation settings. *Managing Leisure*, 7, 68-82.
- Tata, J., & Bowes-Sperry, L. (1996). Emphasis on distributive, procedural, and interactional justice: Differential perceptions of men. *Psychological Reports*, 79(Issue 3), 1327.
- Theobald, W. (1984). A history of recreation resource planning: The origins of space standards. *Leisure Studies*, 3(2), 189-200.
- Thomas, J. C. (1982). Citizen-initiated contacts with government agencies: A test of three theories. *American Journal of Political Science*, 26(3), 504-522.
- Thomas, J. C. (1986). The personal side of street-level bureaucracy. *Urban Affairs Quarterly*, 22(1), 84-100.
- Thompson, B. (2000). Ten commandments of structural equation modeling. In L. Grimm & P. Yarnold (Eds.), *Reading and understanding more multivariate statistics* (pp. 261-283). Washington, DC: American Psychological Association.
- Thurow, L. C. (1980). *The zero-sum society*. New York: Penguin Books.
- Tinsley, H. O., & Tinsley, D. (1987). Uses of factor analysis in counseling psychology research. *Journal of Counseling Psychology*, 34, 414-424.
- Toulmin, L. M. (1988). Equity as a decision rule in determining the distribution of urban public services. *Urban Affairs Quarterly*, 23(3), 389-413.
- US v. Chicago Parks Department, No. 82 C 7308 USDC I11.Ed (1983).
- Van Duk, E., & Wilke, H. (1993). Differential interests, equity and public good provision. *Journal of Experimental Social Psychology*, 29, 1-16.

- Vestal, J. (1997). *Development of the scale of resilience*. Unpublished Dissertation, Texas Woman's University.
- Viegas, J. M. (2001). Making urban road pricing acceptable and effective: Searching for quality and equity in urban mobility. *Transport Policy*, 8(4), 289-294.
- Webster's 2 new Riverside University dictionary*. (1994). Boston: Riverside Publishing Company.
- Wicks, B. E. (1986). *An empirical investigation of equitable distribution models of publicly provided recreation and park services in Austin, Texas*. Texas A&M University, College Station.
- Wicks, B. E., & Backman, K. F. (1994). Measuring equity preferences: A longitudinal analysis. *Journal of Leisure Research*, 26(4), 386-401.
- Wicks, B. E., & Crompton, J. L. (1986). Citizen and administrator perspectives of equity in the delivery of park services. *Leisure Sciences*, 8(4), 341-365.
- Wicks, B. E., & Crompton, J. L. (1989). Allocating services for parks and recreation: A model for implementing equity concepts in Austin, Texas. *Journal of Urban Affairs*, 11(2), 169-188.
- Wicks, B. E., & Crompton, J. L. (1990). Predicting the equity preferences of park and recreation department employees and residents of Austin, Texas. *Journal of Leisure Research*, 22(1), 18-35.
- Wilkinson, P. F. (1985). The golden fleece: the search for standards. *Leisure Studies*, 4(2), 189-203.
- Woo vs. Alioto, Civil No. 52 100 (1969).
- Young, H. P. (1994). *Equity in theory and practice*. Princeton, NJ: Princeton University Press.
- Yu, C. Y. (2002). *Evaluating cutoff criteria of model fit indices for latent variable models with binary and continuous outcomes*. Unpublished Doctoral Dissertation, University of California, Los Angeles.
- Zimmerman, R. (1994). Issues of classification in environmental equity: How we manage is how we measure. *Fordham Urban Law Journal*, XXI(3), 633-669.

APPENDIX A**GUIDELINE QUESTIONS FOR QUALITATIVE INTERVIEWS**

Guideline Questions for the Interviews:

- Do you use parks? What about recreation programs? What about your family or friends, do they use parks or any recreation programs? Are there programs that you would like to use but that aren't offered?
- What do you know about the parks and recreation opportunities in your community?
- How do you feel about the parks and recreation your community provides?
- What benefits do you and your family receive from the parks and recreation opportunities in your community? Who benefits the most from different p&r opportunities? What benefits do they receive? Can you think of anyone else who benefits? What benefits might they receive?
- Are there parts of the community that don't use the parks and recreation opportunities provided by the city? What do they do for recreation opportunities?
- How are parks distributed in your community? What do you feel about that? How do you think they should be distributed in your community?
- How should the community decide where to build new p&r facilities or offer new programs? In every case? Which cases? What are your reactions to building them:
 - Where requests from residents are the greatest?
 - Where social pressures (density of population, number of youth, low income, lack of transportation) are the highest?
 - Where existing public amenities are the fewest?
 - Where similar facilities or programs are not provided by the private sector?
 - Where residents can least afford to pay for alternative substitutes?
 - Where user fees pay for the service? How much of the service should they pay for?
- Do you have an understanding of how parks are paid for in your community? How do you think they should be paid for?
- How do you feel about paying as you go? Should you pay a fee to use a pool? Are there certain reasons you should pay for things and certain reasons you shouldn't pay for them? On what should the fees be based? Who do you think benefits the most when things are paid for with fees?
- Do you think property taxes should be used to pay for p&r opportunities?
- Who do you think benefits the most when things are paid for through taxation?
- Should neighborhoods have equal park and recreation resources:
 - the same park and recreation opportunities?
 - the same amount of money to be spent however they wish on park and recreation amenities?
- Are there certain basic amenities that each area of town should have before specialized facilities are built?

- Should P&R facilities and programs provided in low-income and high-income areas of town be different?
- Should every facility receive the same amount of maintenance?
- Is it better to build one large facility or to build several small facilities?
- Are there situations where part of the fees collected from one p&r opportunity might be used to pay for another p&r opportunity?
- Should the amount of requests for a p&r opportunity play a role in whether or not it is offered?
- Should the availability of opportunities provided in the private sector, where you have to pay for them, influence whether or not a program is offered?

Questions to solicit further detail:

- What do you think about that?
- How does that make you feel?
- What would your friends think about that?
- Do you think the rest of the community would agree with you? Who would? Who wouldn't?
- In all cases? Does it depend on: Type of Facility (parks, gyms, open space, pools); Type of Program (sports programs, after-school care, senior programs); Type of User: Youth vs. Adults vs. Seniors; Income Level of User: Low, Medium, High

APPENDIX B
RESULTS OF INITIAL CONTENT VALIDITY CHECK WITH EXPERT
JUDGES

June 26, 2003

To: **Dr. Randy Burtz** **Dr. Joseph O’Leary** **Dr. David Scott**
 Ms. Kindal Hunt **Dr. James Petrick** **Dr. Scott Shafer**
 Mr. Michael Hunt **Dr. Michael Schuett** **Dr. Peter Witt**
From: **Stephanie T. West**
CC: **Dr. John Crompton**
Subject: **Assistance with content validity check of the Perceptions of Equity In
 Park and Recreation Resource Allocation Scale**

You are one of nine judges who have been selected to assist with a content validity check of the scale for assessing perceptions of equity in the allocation of public park and recreation services. When administered to residents or elected officials, the scale will assist public park and recreation agencies in identifying which method of resource allocation these stakeholders prefer. The agency can then use these preferences to determine a strategy for allocating resources for park and recreation services.

To assist with this content validity check, please perform the following tasks (feel free to use an additional sheet of paper for tasks 3-5, if necessary):

- 1) In the first column of the item sheets (“Relevance”), please rate each item according to the following:
 - 1 – *Clearly relevant* to the equitable (fair) allocation of public park and rec services
 - 2 - *Somewhat relevant* to the equitable (fair) allocation of public park and rec services
 - 3 - *Not relevant* to the equitable (fair) allocation of public park and rec services

- 2) At the top of each page of items, nine operationalizations of equity are listed. It has been suggested that each of these operationalizations may be an appropriate basis for the allocation of resources for park and recreation services. A list of potential distinctive facets for each of the nine operationalizations is provided in an attached table (see pgs. 2-3). In the second column of the item sheets (“Dimension”), please assign each item that was rated in column one, “Relevance,” as *clearly relevant* or *somewhat relevant* into one (and only one) of the nine operationalizations of equity. If an item does not fit into any dimension, please indicate this by leaving the dimension column blank for that item (and see #3 below).

- 3) Review those items rated as *clearly relevant* or *somewhat relevant* in column one, “Relevance,” but which do not fit into one of the nine specified dimensions. If possible, suggest additional dimension(s) of public park and recreation repositioning into which these items might fit.

- 4) Edit and improve the items for clarity, readability and/or content. Feel free to make legible amendments directly on the list of items.
- 5) Answer the questions following the list of items.

If you have any questions, please feel free to contact me in person or via email (swest@rpts.tamu.edu). I would appreciate your completing this content validity check before July 2, 2003. Please place your completed responses in my Francis Hall mailbox. Thank you for your participation and assistance with this study.

A brief description of each of the nine alternative operationalizations of equity:

- *Compensatory*: The allocation of resources according to need (income, population density, number of children per household, juvenile delinquency rates, etc...)
- *Equal Outcomes*: The allocation of resources necessary to ensure an equal provision of services.
- *Equal Inputs*: The allocation of equal resources.
- *Equal Opportunity*: The allocation of resources to ensure an equal opportunity for all potential users.
- *Taxes Paid*: The allocation of resources according to level of input, or in this case, taxes paid.
- *Direct Price*: The allocation of resources according to level of input, or in this case, the direct price paid.
- *Efficiency*: The allocation of resources so as to provide the greatest good for the greatest number of people.
- *Demonstrated Use*: The allocation of resources according to levels of use.
- *Vociferous Advocacy*: The allocation of resources according to where they are most desired, as exemplified by number of requests and/or complaints.

Potential Distinctive Facets of the Nine Alternative Operationalizations of Equity

Operationalization of Equity	Potential Distinctive Facets of the Operationalization
Compensatory	<ul style="list-style-type: none"> • Low-income residents have a greater need for public recreation and park (R&P) resources due to their reduced ability to pay for alternative options in the private sector. • Communities have a responsibility to improve the situation of the economically disadvantaged. • R&P improves the quality of life of those in greatest need. • R&P redistributes resources in an effort to improve the opportunities of those in greater need. • R&P fosters a closer sense of community by eroding class and wealth barriers.
Equal Outcomes	<ul style="list-style-type: none"> • R&P provides benefits to non-participants, as well as to participants. • New resources for R&P services should go to areas of a community that currently have fewest such services. • Each area of a community should have equal parks and recreation amenities regardless of variations in their cost of production.

Equal Inputs	<ul style="list-style-type: none"> • Equal amounts of resources (factors of production) should be provided to each area of a community. • Staff should commit an equal amount of time and effort to each area of the community.
Equal Opportunity	<ul style="list-style-type: none"> • Allocate equal amounts of services to all areas of the community regardless of costs, need or the amount of taxes paid.
Taxes Paid	<ul style="list-style-type: none"> • Those residents contributing the most taxes receive the most services. • Staff should commit most time and effort to areas of the community that pay the most taxes.
Direct Price	<ul style="list-style-type: none"> • R&P services are allocated in proportion to user fees collected. • Prevents the subsidization of underutilized R&P services. • Charging realistic prices provides residents with the option of not paying through the tax system for services they do not want or do not use.
Efficiency	<ul style="list-style-type: none"> • R&P delivery decisions are based on providing the greatest good for the greatest number of people. • R&P services are offered at sites where the costs of delivering services are lowest. • Decisions on whether to provide one large facility or several smaller facilities throughout a community are based primarily on which option is less expensive. • Allocation decisions are based on maximizing the input to output ratio.
Demonstrated Use	<ul style="list-style-type: none"> • Resources are provided for R&P services that are most heavily used. • Residents demonstrate their desire for additional R&P services through their use of existing services. • Resources for new R&P services are allocated to the areas of a community that use existing services most.
Vociferous Advocacy	<ul style="list-style-type: none"> • R&P services are provided where they are most desired, as exemplified by number of requests and/or complaints. • Resources should go to areas of the community where residents are most vocal about requesting R&P services.

Perceptions of Equity In Park and Recreation Resource Allocation Scale 248

Relevance (1-3)

Dimensions (1-9)

1 = Clearly relevant 1 = Compensatory 4 = Equal Opportunity 7 = Efficiency
 2 = Somewhat relevant 2 = Equal Outcomes 5 = Taxes Paid 8 = Demonstrated Use
 3 = Not relevant 3 = Equal Inputs 6 = Direct Price 9 = Vociferous Advocacy

#	Item	Relevance (1-3)
1	Provide p&r services in all areas of town, but provide nicer p&r services in areas of town where residents are willing to pay additional taxes for them.	A
2	Residents that pay higher taxes deserve more p&r services.	A
3	Make sure all residents live within walking distance of a neighborhood park.	NR
4	Provide equal amounts of services to all areas of the community regardless of need.	A
5	Conduct surveys to determine what residents most want and provide those services in those areas.	VA
6	Provide fewer p&r services in wealthy areas of town because they are more likely to use private facilities.	A
7	Provide park maintenance in proportion to the amount of taxes paid - so the more a neighborhood pays in taxes, the nicer the parks in that neighborhood will be.	A
8	Low income residents have a greater need for public p&r services due to their reduced ability to pay for alternative options in the private sector.	A
9	Residents that pay higher taxes deserve more p&r services.	D (2)
10	Make sure all parks and facilities are maintained at the same level, even if extra resources are needed in some areas due to heavy use.	A
11	Provide parks in all areas of town, but provide larger parks in areas of town where residents pay the most taxes.	A
12	Provide the same quality of p&r services in all areas of the city.	A
13	Residents with different income levels deserve the same quality p&r services.	A
14	Provide equal amounts of services to all areas of the community regardless of cost.	A
15	Provide the same basic park and recreation amenities in each area, but place one distinctive facility in each area (eg. one area would receive a skatepark, another a small waterpark, and another a golf course, etc...).	A
16	Spend the same amount of money on p&r services and facilities in each area of town but let the parks department decide which p&r services should be provided in that area.	A

A – Accepted by judges (at least 7 out of 8) as *clearly* or *somewhat relevant*.

NR – Deemed not relevant by more than one judge; subsequently dropped from further use.

D – Identified as a duplicate item (number of item duplicated is indicated in parentheses).

VA – Deemed not relevant by more than one judge but identified by a majority of judges as representing the Vociferous Advocacy dimension; not dropped due to subsequent restructuring of dimension and interest in including Advocacy items in final instrument. Refer to text for further information.

Perceptions of Equity In Park and Recreation Resource Allocation Scale 249

Relevance (1-3)

Dimensions (1-9)

1 = Clearly relevant 1 = Compensatory 4 = Equal Opportunity 7 = Efficiency
 2 = Somewhat relevant 2 = Equal Outcomes 5 = Taxes Paid 8 = Demonstrated Use
 3 = Not relevant 3 = Equal Inputs 6 = Direct Price 9 = Vociferous Advocacy

#	Item	Relevance (1-3)
17	Residents that pay higher taxes deserve higher quality p&r services.	A
18	Provide equal amounts of services to all areas of the community regardless of the amount of taxes paid.	A
19	Provide equipment and staffing for recreation programs in proportion to the amount of taxes paid.	A
20	Provide p&r services in all areas of town but provide nicer p&r services in areas of town where residents pay the most taxes - so the more a neighborhood pays in taxes, the nicer the services they receive will be.	A
21	Provide p&r services in areas where the cost of development is lowest.	A
22	Spend the same amount of money in each area but place one distinctive facility in each area (eg. one area would receive a skatepark, another a pool, another a golf course, etc...).	A
23	Provide parks in all areas of town, but provide more parks in areas of town where residents pay the most taxes.	A
24	Provide recreation services in all areas of town but provide a greater variety of recreation services in areas of town where residents pay the most taxes.	A
25	Provide the same p&r services to residents with different income levels.	A
26	Residents that pay higher taxes deserve higher quality p&r services.	D (17)
27	Spend the same amount of money on p&r services and facilities in each area of town but let the residents in each area decide which p&r services should be provided in that area.	A
28	Maintain all p&r facilities at the same level, even if extra resources are needed in some areas due to vandalism or negative behaviors in those areas.	A
29	Provide the same p&r services (eg. Size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all areas of the city.	A
30	Residents that pay higher taxes deserve more p&r services as long as all residents, regardless of income level, receive the same quality of services.	A
31	Communities have a responsibility to improve the situation of lower-income residents.	A
32	Residents that pay higher taxes deserve more p&r services as long as all	D (29)

A – Accepted by judges (at least 7 out of 8) as *clearly* or *somewhat relevant*.

NR – Deemed not relevant by more than one judge; subsequently dropped from further use.

D – Identified as a duplicate item (number of item duplicated is indicated in parentheses).

VA – Deemed not relevant by more than one judge but identified by a majority of judges as representing the Vociferous Advocacy dimension; not dropped due to subsequent restructuring of dimension and interest in including Advocacy items in final instrument. Refer to text for further information.

Perceptions of Equity In Park and Recreation Resource Allocation Scale 250

Relevance (1-3)

Dimensions (1-9)

1 = Clearly relevant 1 = Compensatory 4 = Equal Opportunity 7 = Efficiency
 2 = Somewhat relevant 2 = Equal Outcomes 5 = Taxes Paid 8 = Demonstrated Use
 3 = Not relevant 3 = Equal Inputs 6 = Direct Price 9 = Vociferous Advocacy

#	Item	Relevance (1-3)
	residents, regardless of income level, receive the same quality of services.	
33	User fees collected should be used to help subsidize low-income residents who want to participate.	A
34	Spend the same amount of money on p&r services and facilities in each area of town but let the residents in each area decide what they want there.	D (27)

	The parks and recreation (p&r) department should provide more parks and recreation services in areas of town:	Relevance (1-3)
35	with the greatest amount of young children	A
36	where city council members want to place the services	NR
37	where the costs of delivering services are lowest	A
38	where citizens make most complaints to the p&r department	A
39	with the smallest yards	NR
40	where residents are willing to pay additional taxes for them	A
41	where residents don't have access to transportation	A
42	where similar services are not provided by the private sector	A
43	where residents pay the most taxes - so the more a neighborhood pays in taxes, the more services they will receive	A
44	where citizens are most persistent in making requests to the p&r department	VA
45	where all able-bodied parents/guardians in each home are more likely to work full-time	NR
46	with the most people living in each home (greatest density)	A
47	where current facilities are used by the most people	A
48	where nearby residents receive the most benefits	A
49	where citizens make most complaints to city council	VA
50	where land is cheapest	A
51	where citizen action groups are most persistent in making requests to city council	NR

A – Accepted by judges (at least 7 out of 8) as *clearly* or *somewhat relevant*.

NR – Deemed not relevant by more than one judge; subsequently dropped from further use.

D – Identified as a duplicate item (number of item duplicated is indicated in parentheses).

VA – Deemed not relevant by more than one judge but identified by a majority of judges as representing the Vociferous Advocacy dimension; not dropped due to subsequent restructuring of dimension and interest in including Advocacy items in final instrument. Refer to text for further information.

Perceptions of Equity In Park and Recreation Resource Allocation Scale 251

Relevance (1-3)

Dimensions (1-9)

1 = Clearly relevant 1 = Compensatory 4 = Equal Opportunity 7 = Efficiency
 2 = Somewhat relevant 2 = Equal Outcomes 5 = Taxes Paid 8 = Demonstrated Use
 3 = Not relevant 3 = Equal Inputs 6 = Direct Price 9 = Vociferous Advocacy

	The parks and recreation (p&r) department should provide more parks and recreation services in areas of town:	Relevance (1-3)
52	where citizens agree to assist with building or maintenance efforts	A
53	where current facilities are most heavily used	A
54	which experience the most problems with juvenile delinquents	A
55	where growth is predicted (where new homes are going to be built)	A
56	where land is currently owned by the city	NR
57	where the cost to build them is lowest	NR
58	with the most low-income residents, because those residents have less money to spend on alternatives	A
59	where other public services are best maintained by area residents, for example, schools	NR
60	where most people vote	NR
61	with the highest crime rates	A
62	where similar services are not provided by other public or not-for-profit organizations	A
63	where other agencies (eg. schools, non-profit organizations) can use them also	NR
64	where supervision costs is lowest	NR
65	where other agencies (eg. schools, non-profit organizations) can use them AND help pay to operate them (eg. utilities, staffing, maintenance)	A
66	where they will be closest to the people who use them the most	NR
67	with the most families	NR
68	where citizens are most persistent in making requests to city council	NR
69	where citizen action groups are most persistent in making requests to the p&r department	NR
70	that have the fewest p&r services	A
71	where they will benefit the most residents	A
72	where they will be used primarily by wealthy residents yet paid for through local taxes	NR
73	where Parks and Rec employees want to place the services	NR

A – Accepted by judges (at least 7 out of 8) as *clearly* or *somewhat relevant*.

NR – Deemed not relevant by more than one judge; subsequently dropped from further use.

D – Identified as a duplicate item (number of item duplicated is indicated in parentheses).

VA – Deemed not relevant by more than one judge but identified by a majority of judges as representing the Vociferous Advocacy dimension; not dropped due to subsequent restructuring of dimension and interest in including Advocacy items in final instrument. Refer to text for further information.

Perceptions of Equity In Park and Recreation Resource Allocation Scale 252

Relevance (1-3)

Dimensions (1-9)

1 = Clearly relevant 1 = Compensatory 4 = Equal Opportunity 7 = Efficiency
 2 = Somewhat relevant 2 = Equal Outcomes 5 = Taxes Paid 8 = Demonstrated Use
 3 = Not relevant 3 = Equal Inputs 6 = Direct Price 9 = Vociferous Advocacy

	The parks and recreation (p&r) department should provide more parks and recreation services in areas of town:	Relevance (1-3)
74	where user fees can cover the cost of providing staff and equipment to run the program	A
75	where users receive the most benefits	A
76	where revenues from user fees exceed the costs of providing staff to run the program, so low-income residents can participate free of charge	A
77	where the cost to maintain them is lowest	A
78	where there will be the least negative effects from traffic, noise, etc... on residents	NR
79	where they are most desired according to needs assessment surveys	A
80	where waiting lists are longest	NR
81	where they would be most visible	NR
82	where other agencies (eg. schools, non-profit organizations) can use them AND help pay to build them	A
83	with the most low-income residents	A
84	where user fees can cover all costs of providing the program	A
85	where they will be used primarily by low-income residents yet paid for through local property taxes	A
86	where they will provide benefits to all residents (not just users), for ex. clean air from park trees, revenue brought into town by tourists	A
87	where they will be used primarily by residents who can afford to pay for them through user fees	A

Please respond to the following requests. Feel free to use additional paper, if necessary.

1. Please indicate any additional operationalizations of equity that might apply to the study.
2. Please indicate any items that you believe may be objectionable to respondents.
3. Please provide any suggestions (along with a corresponding dimension) for additional items that you feel would improve the content validity of the scale.
4. Please indicate any other suggestions that you feel might contribute to improving the study.

A – Accepted by judges (at least 7 out of 8) as *clearly* or *somewhat relevant*.

NR – Deemed not relevant by more than one judge; subsequently dropped from further use.

D – Identified as a duplicate item (number of item duplicated is indicated in parentheses).

VA – Deemed not relevant by more than one judge but identified by a majority of judges as representing the Vociferous Advocacy dimension; not dropped due to subsequent restructuring of dimension and interest in including Advocacy items in final instrument. Refer to text for further information.

APPENDIX C

RESULTS OF SUBSEQUENT CONTENT VALIDITY CHECKS WITH EXPERT

JUDGES

July 22, 2003

**To: Dr. Ken Backman Dr. Sarah Nichols Dr. Scott Shafer
 Dr. Randy Burtz Dr. Joseph O’Leary Dr. Bruce Wicks
 Dr. Mark Havitz Dr. James Petrick Dr. Peter Witt
 Ms. Kindal Hunt Dr. Michael Schuett
 Mr. Michael Hunt Dr. David Scott**

From: Stephanie T. West

CC: Dr. John Crompton

**Subject: Further assistance with content validity check of the Perceptions of
 Equity In Park and Recreation Resource Allocation Scale**

Thank you for your recent assistance with a content validity check of the scale for assessing perceptions of equity in the allocation of public park and recreation services. Upon examining the data collected from all of the expert judges, there was substantial agreement on the usefulness and placement of many items, but questions about others. A few modifications have been identified which suggest that it would be useful to call on you again for your input. Explanations for each of the modifications are as follows:

1. Although each of the items for the “Equal Inputs,” “Equal Opportunity,” and “Equal Outcomes” dimensions were determined by the expert judges to be relevant, the lack of agreement on the placement and applicability of fourteen of the fifteen items chosen to represent these dimensions suggests that the dimensions had overlap. As a result, the “Equal Opportunity” dimension is being dropped and the operationalizations for the remaining two dimensions adjusted.
2. Upon the recommendation of one of the expert judges, a “Professional Judgment” dimension was added and items to reflect this dimension have been developed.
3. The dimension, “Demonstrated Use,” was retitled “Demonstrated Interest” in order to capture demand in terms of both participation levels and interest levels, as reflected in needs assessments.
4. All items, with the exception of those reflecting “Vociferous Advocacy” determined by more than one expert judge to be “not relevant” have been dropped from the list of items. The items reflecting “Vociferous Advocacy” have been included because, although I believe that the expert judges are correct in identifying that these items do not represent equity in a direct sense, political decisions, such as the allocation of municipal resources, are very often believed to be based on “Vociferous Advocacy.” As an alternative judgment from which political decisions may be based, it is important to include it among the choices presented to residents. Should the residents also decide that it is not an appropriate means upon which to base allocation decisions, we will be in a position to better represent resident’s preferences for more equitable means of resource allocations.
5. Minor corrections in grammar and word choice, reflecting input from the expert judges, have also been made.

Please drop off your completed survey in my Francis Hall mailbox before Monday, July 28th. Thank you for your help!

Your assistance is now needed to undertake the following steps:

- 1) Please rate each of the items according to one of the dimensions listed at the top of each page. It is important that you identify a dimension for each item. If you are unsure of an item's dimension, please make your best guess.
- 2) Once again, you may offer suggestions to improve the items for clarity, readability and/or content. Feel free to make legible amendments directly on the list of items.

If you have any questions, please feel free to contact me in person or via email (swest@rpts.tamu.edu). I would appreciate your completing this content validity check before **July 28, 2003**. Please place your completed responses in my Francis Hall mailbox. Thank you for your participation and assistance with this study.

Please drop off your completed survey in my Francis Hall mailbox before Monday, July 28th. Thank you for your help!

Potential Distinctive Facets of the Dimensions (Alternative Operationalizations) of Equity

A Brief Description of the Dimension	Potential Distinctive Facets of the Operationalization
<p>1 – Compensatory: The allocation of resources according to need (income, population density, children/household, juvenile delinquency rates, etc...)</p>	<ul style="list-style-type: none"> • Low-income residents have a greater need for public recreation and park (R&P) resources due to their reduced ability to pay for alternative options in the private sector. • Communities have a responsibility to improve the situation of the economically disadvantaged. • R&P improves the quality of life of those in greatest need. • R&P redistributes resources in an effort to improve the opportunities of those in greater need. • R&P fosters a closer sense of community by eroding class and wealth barriers.
<p>2 - Equal Outcomes: The allocation of resources necessary to ensure an equal provision of services.</p>	<ul style="list-style-type: none"> • R&P provides benefits to non-participants, as well as to participants. • New resources for R&P services should go to areas of a community that currently have fewest such services. • Each area of a community should have equal parks and recreation amenities regardless of variations in their cost of production. • Equal amounts of services are provided to all areas of the community regardless of costs, need or the amount of taxes paid.
<p>3 - Equal Inputs: The allocation of equal resources.</p>	<ul style="list-style-type: none"> • Equal amounts of resources (factors of production) should be provided to each area of a community. • An equal allocation of resources to each area within a community may or may not result in differences in terms of R&P services that can be provided. • Staff should commit an equal amount of time and effort to each area of the community.
<p>5 - Taxes Paid: The allocation of resources according to level of input, or in this case, taxes paid.</p>	<ul style="list-style-type: none"> • Those residents contributing the most taxes receive the most services. • Staff should commit most time and effort to areas of the community that pay the most taxes.
<p>6 - Direct Price: The allocation of resources according to level of input, or in this case, the direct price paid.</p>	<ul style="list-style-type: none"> • R&P services are allocated in proportion to user fees collected. • Prevents the subsidization of underutilized R&P services. • Charging realistic prices provides residents with the option of not paying through the tax system for services they do not want or do not use.

<p>7 – Efficiency: The allocation of resources so as to provide the greatest good for the greatest number of people.</p>	<ul style="list-style-type: none"> • R&P delivery decisions are based on providing the greatest good for the greatest number of people. • R&P services are offered at sites where the costs of delivering services are lowest. • Decisions on whether to provide one large facility or several smaller facilities throughout a community are based primarily on which option is less expensive. • Allocation decisions are based on maximizing the input to output ratio.
<p>8 - Demonstrated Interest: The allocation of resources according to levels of use or interest.</p>	<ul style="list-style-type: none"> • Resources are provided for R&P services that are the most heavily used. • Resources are provided for R&P services that are the most desired by residents. • Residents demonstrate their desire for additional R&P services through their use of existing services. • Resources for new R&P services are allocated to the areas of a community that use existing services most.
<p>9 - Vociferous Advocacy: The allocation of resources according to where they are most desired, as exemplified by number of requests and/or complaints.</p>	<ul style="list-style-type: none"> • R&P services are provided where they are most desired, as exemplified by number of requests and/or complaints. • Resources should go to areas of the community where residents are most vocal about requesting R&P services.
<p>10 - Professional Judgment: The allocation of resources according to the professional opinion of full-time R&P staff.</p>	<ul style="list-style-type: none"> • R&P services are provided based on the professional judgment of full-time R&P staff.

Perceptions of Equity In Park and Recreation Resource Allocation Scale

Dimensions (1-10; Dimension 4, Equal Opportunity, has been dropped)

1 = Compensatory	5 = Taxes Paid	8 = Demonstrated Interest
2 = Equal Outcomes	6 = Direct Price	9 = Vociferous Advocacy
3 = Equal Inputs	7 = Efficiency	10=Professional Judgment

#	Item	Dimension
1	Provide the same quality of p&r services in all areas of the city.	2
2	Provide the same p&r services (eg. Size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all areas of the city.	3
3	Provide more p&r services in areas of town where they will benefit the most residents.(3)	7
4	Provide more p&r services in areas of town where other agencies (eg. schools, non-profit organizations) that use them can help pay to build them.	DM
5	P&R professionals are in a better position to make decisions on where to add new p&r services than taxpayers.(4)*	10
6	Provide more p&r services in areas of town where residents pay the most property taxes - so higher income neighborhoods would receive more p&r services.	5
7	Provide more p&r services in areas of town where they will provide benefits to all residents (not just users), for example, clean air from park trees, revenue brought into town by tourists.(6)	2
8	Provide parks in all areas of town, but provide more parks in areas of town where residents pay the most property taxes.	5
9	Provide more p&r services in areas of town where citizens make most complaints to city council.	9
10	Provide more p&r services in areas of town where revenues from user fees exceed the costs of providing staff to run the program, so low-income residents can participate free of charge.	DM
11	Provide more p&r services in areas of town where current facilities are used by the most people.	8
12	Provide more p&r services in areas of town where residents don't have access to transportation.(10)	1
13	Provide more p&r services in areas of town where users receive the most benefits.	DM
14	Communities have a responsibility to improve the situation of lower-income residents.	1-DJ
15	Provide parks in all areas of town, but provide larger parks in areas of town where residents pay the most property taxes.	5-DJ

The Dimension number indicates that dimension to which at least a majority of the judges assigned that item. * Items added to the initial content validity check, Appendix B, to reflect Dimension 10.

D – Indicates that item was dropped from further analyses because a majority of the judges did not agree to which dimension the item reflected.

1-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Compensatory items to be more manageable and more consistent with the number of items in each of the other dimensions.

5-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Taxes Paid items to be more manageable and more consistent with the number of items in each of the other dimensions. Although dropped from analysis, they were included in the pre-test because the surveys had gone to print before it was realized that they needed to be removed.

() – A number in parentheses following an item indicates that the item was reworded prior to its inclusion in the pre-test instrument. The corresponding item number in Appendix D reflects these changes.

Perceptions of Equity In Park and Recreation Resource Allocation Scale

Dimensions (1-10; Dimension 4, Equal Opportunity, has been dropped)

1 = Compensatory	5 = Taxes Paid	8 = Demonstrated Interest
2 = Equal Outcomes	6 = Direct Price	9 = Vociferous Advocacy
3 = Equal Inputs	7 = Efficiency	10=Professional Judgment

#	Item	Dimension
16	Make sure all parks and facilities are maintained at the same level, even if extra resources are needed in some areas due to heavy use.	2
17	Provide more p&r services in areas of town where citizen action groups are most persistent in making requests to city council.	9
18	Provide more p&r services in areas of town where the cost to maintain them is lowest.	7
19	Provide more p&r services in areas of town with the highest crime rates.	1
20	The location of new p&r services should left to P&R professionals who have the information necessary to make such decisions.(16)*	10
21	Provide equal amounts of services to all areas of the community regardless of cost.	2
22	Low-income residents have a greater need for public p&r services due to their reduced ability to pay for alternative options in the private sector.	1-DJ
23	Provide more p&r services in areas of town where nearby residents receive the most benefits.	7
24	P&R professionals should make the decisions on where to add new p&r services because they are aware of community interests.(19)*	10
25	Provide equipment and staffing for recreation programs in proportion to the amount of property taxes paid.	5
26	Provide recreation services in all areas of town but provide a greater variety of recreation services in areas of town where residents pay the most property taxes.	5-DJ
27	Residents that pay higher property taxes deserve higher quality p&r services.	5
28	Provide more p&r services in areas of town where citizens are most persistent in making requests to city council.	9
29	Provide more p&r services in areas of town where land is least expensive.	7
30	Provide more p&r services in areas of town where user fees can cover the cost of providing staff and equipment to run the program.	6
31	Residents that pay higher property taxes deserve more p&r services.	5
32	Provide more p&r services in areas of town where citizens agree to assist with building or maintenance efforts.	8

The Dimension number indicates that dimension to which at least a majority of the judges assigned that item. * Items added to the initial content validity check, Appendix B, to reflect Dimension 10.

D – Indicates that item was dropped from further analyses because a majority of the judges did not agree to which dimension the item reflected.

1-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Compensatory items to be more manageable and more consistent with the number of items in each of the other dimensions.

5-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Taxes Paid items to be more manageable and more consistent with the number of items in each of the other dimensions. Although dropped from analysis, they were included in the pre-test because the surveys had gone to print before it was realized that they needed to be removed.

() – A number in parentheses following an item indicates that the item was reworded prior to its inclusion in the pre-test instrument. The corresponding item number in Appendix D reflects these changes.

Perceptions of Equity In Park and Recreation Resource Allocation Scale

Dimensions (1-10; Dimension 4, Equal Opportunity, has been dropped)

1 = Compensatory	5 = Taxes Paid	8 = Demonstrated Interest
2 = Equal Outcomes	6 = Direct Price	9 = Vociferous Advocacy
3 = Equal Inputs	7 = Efficiency	10=Professional Judgment

#	Item	Dimension
33	Spend the same amount of money on p&r in each area of town but let the parks department decide which p&r services should be provided in that area.	10
34	Provide fewer p&r services in areas of town with higher-income residents because they are more likely to use private facilities.	1-DJ
35	Provide more p&r services in areas of town where citizen action groups are most persistent in making requests to the p&r department.	9
36	Decisions on where to add new p&r services should be made by P&R professionals who are aware of community growth patterns.(30)*	10
37	Provide more p&r services in areas of town with the most low-income residents, because those residents have less money to spend on alternatives.	1
38	Provide equal amounts of services to all areas of the community regardless of the amount of property taxes paid.	2
39	Spend the same amount of money on p&r services and facilities in each area of town but let the residents in each area decide which p&r services should be provided there.	DM
40	Once all areas of town receive the same quality of p&r services, areas that pay higher property taxes deserve more p&r services.	5-DJ
41	Provide more p&r services in areas of town which experience the most problems with juvenile delinquents.	1-DJ
42	Provide more p&r services in areas of town where current facilities are most heavily used.	8
43	Residents with different income levels deserve the same quality p&r services.	DM
44	Provide more p&r services in areas of town where user fees can cover all costs of providing the program.	6
45	Provide more p&r services in areas of town where the most low-income residents live.	1
46	Spend the same amount of money in each area of town to provide one distinctive facility in each area (eg. one area would receive a skatepark, another a pool, another a golf course, etc...).	3
47	Provide the same p&r services to residents with different income levels.	DM

The Dimension number indicates that dimension to which at least a majority of the judges assigned that item. * Items added to the initial content validity check, Appendix B, to reflect Dimension 10.

D – Indicates that item was dropped from further analyses because a majority of the judges did not agree to which dimension the item reflected.

1-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Compensatory items to be more manageable and more consistent with the number of items in each of the other dimensions.

5-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Taxes Paid items to be more manageable and more consistent with the number of items in each of the other dimensions. Although dropped from analysis, they were included in the pre-test because the surveys had gone to print before it was realized that they needed to be removed.

() – A number in parentheses following an item indicates that the item was reworded prior to its inclusion in the pre-test instrument. The corresponding item number in Appendix D reflects these changes.

Perceptions of Equity In Park and Recreation Resource Allocation Scale

Dimensions (1-10; Dimension 4, Equal Opportunity, has been dropped)

1 = Compensatory	5 = Taxes Paid	8 = Demonstrated Interest
2 = Equal Outcomes	6 = Direct Price	9 = Vociferous Advocacy
3 = Equal Inputs	7 = Efficiency	10=Professional Judgment

#	Item	Dimension
48	Provide more p&r services in areas of town where citizens are most persistent in making requests to the p&r department.	9
49	Provide more p&r services in areas of town where the costs of delivering services are lowest.	7
50	User fees collected should be used to help subsidize low-income residents who want to participate.	1
51	Provide more p&r services in areas of town where other agencies (eg. schools, non-profit organizations) that use them can help pay to operate them (eg. utilities, staffing, maintenance).	7
52	Provide more p&r services in areas of town with the greatest amount of young children.	1-DJ
53	Maintain all p&r facilities at the same level, even if extra resources are needed in some areas due to vandalism in those areas.	2
54	Provide more p&r services, that are paid for with revenues from local property taxes, in areas of town where they will be used primarily by low-income residents.	1-DJ
55	Decisions as to where to add new p&r services should be left to full-time p&r staff because they are more likely to be in touch with national trends.(43)*	10
56	Provide equal amounts of services to all areas of the community regardless of need.	3
57	Provide p&r services in all areas of town but provide nicer p&r services in areas of town where residents pay the most property taxes - so the more a neighborhood pays in property taxes, the nicer the services they receive will be.	5-DJ
58	Provide park maintenance in proportion to the amount of property taxes paid - so the more a neighborhood pays in property taxes, the nicer the parks in that neighborhood will be.	5
59	Provide the same basic p&r amenities in each area of town, but provide one distinctive facility in each area (eg. one area would receive a skatepark, another a small water park, and another a golf course, etc...).	3
60	Provide more p&r services in areas of town where they are most desired according to needs assessment surveys.	8

The Dimension number indicates that dimension to which at least a majority of the judges assigned that item. * Items added to the initial content validity check, Appendix B, to reflect Dimension 10.

D – Indicates that item was dropped from further analyses because a majority of the judges did not agree to which dimension the item reflected.

1-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Compensatory items to be more manageable and more consistent with the number of items in each of the other dimensions.

5-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Taxes Paid items to be more manageable and more consistent with the number of items in each of the other dimensions. Although dropped from analysis, they were included in the pre-test because the surveys had gone to print before it was realized that they needed to be removed.

() – A number in parentheses following an item indicates that the item was reworded prior to its inclusion in the pre-test instrument. The corresponding item number in Appendix D reflects these changes.

Perceptions of Equity In Park and Recreation Resource Allocation Scale

Dimensions (1-10; Dimension 4, Equal Opportunity, has been dropped)

1 = Compensatory	5 = Taxes Paid	8 = Demonstrated Interest
2 = Equal Outcomes	6 = Direct Price	9 = Vociferous Advocacy
3 = Equal Inputs	7 = Efficiency	10=Professional Judgment

#	Item	Dimension
61	Provide more p&r services in areas of town where citizens make most complaints to the p&r department.	9
62	Provide more p&r services in areas of town where growth is predicted (where new homes are going to be built).	DM
63	Provide more p&r services in areas of town where similar services are not provided by other public or not-for-profit organizations.	DM
64	Provide more p&r services in areas of town where residents are willing to pay additional property taxes for them.	5
65	Provide p&r services in all areas of town, but provide nicer p&r services in areas of town where residents are willing to pay additional property taxes for them.	5-DJ
66	Provide more p&r services in areas of town where similar services are not provided by the private sector.	1
67	Provide more p&r services in areas of town where they will be used primarily by residents who can afford to pay for them through user fees.	6
68	Provide more p&r services in areas of town that have the fewest existing p&r services.	DM

The Dimension number indicates that dimension to which at least a majority of the judges assigned that item. * Items added to the initial content validity check, Appendix B, to reflect Dimension 10.

D – Indicates that item was dropped from further analyses because a majority of the judges did not agree to which dimension the item reflected.

1-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Compensatory items to be more manageable and more consistent with the number of items in each of the other dimensions.

5-DJ – Indicates that item was dropped from further analyses by Expert Judges so as to reduce the number of Taxes Paid items to be more manageable and more consistent with the number of items in each of the other dimensions. Although dropped from analysis, they were included in the pre-test because the surveys had gone to print before it was realized that they needed to be removed.

() – A number in parentheses following an item indicates that the item was reworded prior to its inclusion in the pre-test instrument. The corresponding item number in Appendix D reflects these changes.

APPENDIX D
PRE-TEST INSTRUMENT

INSTRUCTIONS: There are a number of approaches which cities can use to allocate resources for the distribution of park and recreation services. Below you will find a series of statements. We would appreciate your reactions to each of them. Please respond to each of the statements by selecting the letter that shows how much you agree or disagree with the statement. *Thank you!*

	The city of Bryan should...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	provide the same quality of p&r services in all areas of the city.	1	2	3	4	5
2.	provide the same p&r services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all areas of the city.	1	2	3	4	5
3.	provide more p&r services in areas of town where they will benefit the greatest number of residents.	1	2	3	4	5
4.	provide p&r services according to decisions made by p&r professionals because they will be more knowledgeable on the issues involved than taxpayers.	1	2	3	4	5
5.	provide more p&r services where residents make most complaints to the p&r department.	1	2	3	4	5
6.	provide more p&r services in areas of town where they will benefit all residents (not just users), for example, clean air from park trees, revenue brought into town by tourists.	1	2	3	4	5
7.	provide parks in all areas of town, but provide more parks in areas of town where residents pay the most property taxes.	1	2	3	4	5
8.	provide more p&r services where citizens make the most complaints to city council.	1	2	3	4	5
9.	provide more p&r services in areas of town where current facilities are used by the most people.	1	2	3	4	5
10.	provide more p&r services in areas of town where residents have limited transportation alternatives.	1	2	3	4	5
11.	provide parks in all areas of town, but provide larger parks in areas of town where residents pay the most property taxes.	1	2	3	4	5
12.	make sure all parks and facilities are maintained at the same level, even if extra resources are needed in some areas due to heavy use.	1	2	3	4	5
13.	provide more p&r services where citizen action groups are most persistent in making requests to city council.	1	2	3	4	5
14.	provide more p&r services in areas of town where the cost to maintain them is lowest.	1	2	3	4	5

	The city of Bryan should...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15.	provide more p&r services in areas of town with the highest crime rates.	1	2	3	4	5
16.	provide p&r services according to decisions made by p&r professionals because they have the information needed to make the correct decisions.	1	2	3	4	5
17.	provide equal amounts of services to all areas of the community regardless of cost.	1	2	3	4	5
18.	provide more p&r services in areas of town where nearby residents receive the most benefits.	1	2	3	4	5
19.	make decisions on where to add new p&r services according to the opinions of p&r professionals because they are aware of community interests.	1	2	3	4	5
20.	provide equipment and staffing for recreation programs in proportion to the amount of property taxes paid.	1	2	3	4	5
21.	provide recreation services in all areas of town but provide a greater variety of recreation services in areas of town where residents pay the most property taxes.	1	2	3	4	5
22.	provide higher quality p&r services where residents pay higher property taxes.	1	2	3	4	5
23.	provide more p&r services where citizens are most persistent in making requests to city council.	1	2	3	4	5
24.	provide more p&r services in areas of town where land is least expensive.	1	2	3	4	5
25.	provide more p&r services in areas of town where user fees can cover the cost of providing staff and equipment to run the program .	1	2	3	4	5
26.	residents that pay higher property taxes deserve more p&r services.	1	2	3	4	5
27.	provide more p&r services in areas of town where citizens agree to assist with building or maintenance efforts.	1	2	3	4	5
28.	spend the same amount of money on p&r in each area of town but let the parks department decide which p&r services should be provided in that area.	1	2	3	4	5
29.	provide more p&r services where citizen action groups are most persistent in making requests to the p&r department.	1	2	3	4	5
30.	provide p&r services according to the opinions of p&r professionals because they are aware of community growth patterns.	1	2	3	4	5

	The city of Bryan should...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
31.	provide more p&r services in areas of town with the most low-income residents, because those residents have less money to spend on alternatives.	1	2	3	4	5
32.	provide equal amounts of services to all areas of the community regardless of the amount of property taxes paid.	1	2	3	4	5
33.	provide residents that pay higher property taxes with more p&r services as long as all residents receive the same <i>quality</i> of services.	1	2	3	4	5
34.	provide more p&r services in areas of town where current facilities are most heavily used.	1	2	3	4	5
35.	provide more p&r services in areas of town where user fees can cover all costs of providing the program.	1	2	3	4	5
36.	provide more p&r services in areas of town where most low-income residents live.	1	2	3	4	5
37.	spend the same amount of money in each area of town to provide one distinctive facility in each area (e.g. one area would receive a skatepark, another a pool, another a golf course, etc...).	1	2	3	4	5
38.	provide more p&r services where citizens are most persistent in making requests to the p&r department.	1	2	3	4	5
39.	provide more p&r services in areas of town where the costs of delivering services are lowest.	1	2	3	4	5
40.	use program fees collected from higher income residents to help subsidize low-income residents who want to participate.	1	2	3	4	5
41.	provide more p&r services in areas of town where other agencies (e.g. schools, non-profit organizations) who use them can help pay to operate them (e.g. utilities, staffing, maintenance).	1	2	3	4	5
42.	maintain all p&r facilities at the same level, even if extra resources are needed in some areas due to vandalism in those areas.	1	2	3	4	5
43.	distribute p&r services according to the opinions of p&r professionals because they are more likely to be in touch with national trends than taxpayers.	1	2	3	4	5
44.	provide equal amounts of services to all areas of the community regardless of need.	1	2	3	4	5

	The city of Bryan should...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
45.	provide p&r services in all areas of town but provide nicer p&r services in areas of town where residents pay the most property taxes - so the more a neighborhood pays in property taxes, the nicer the services they receive will be.	1	2	3	4	5
46.	provide park maintenance in proportion to the amount of property taxes paid - so the more a neighborhood pays in property taxes, the nicer the parks in that neighborhood will be.	1	2	3	4	5
47.	provide the same basic p&r amenities in each area of town, but provide one distinctive facility in each area (e.g. one area would receive a skatepark, another a small water park, and another a golf course, etc...).	1	2	3	4	5
48.	provide more p&r services in areas of town where they are most desired according to needs assessment surveys.	1	2	3	4	5
49.	provide more p&r services to reflect the level of input by residents in each area.*	1	2	3	4	5
50.	provide more p&r services in areas of town where residents are willing to pay additional property taxes for them.	1	2	3	4	5
51.	provide p&r services in all areas of town, but provide nicer p&r services in areas of town where residents are willing to pay additional property taxes for them.	1	2	3	4	5
52.	provide more p&r services in areas of town where similar services are not provided by the private sector.	1	2	3	4	5
53.	provide more p&r services in areas of town where they will be used primarily by residents who can afford to pay for them through user fees.	1	2	3	4	5
54.	Provide p&r services to reflect the level of input by organized resident groups.*	1	2	3	4	5
55.	provide more p&r services in areas of town where residents pay the most property taxes - so higher income neighborhoods would receive more p&r services.	1	2	3	4	5

You have completed the scale. Thank you for your participation!

* indicates a new item included in the pretest instrument upon the suggestion of one or more judges and agreed upon by the researcher.

APPENDIX E**SUMMARY OF MODIFICATIONS MADE TO PRE-TEST ITEMS**

Pre-Test Item #	Pre-Test Item	Final Item #	Final Item – changes are in bold (or reason item was dropped)	Dim.
1	provide the same quality of p&r services in all areas of the city.	1	provide the same quality of p&r services in all neighborhoods of the city.	2
2	provide the same p&r services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all areas of the city.	2	provide the same p&r services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all neighborhoods of the city.	3
3	provide more p&r services in areas of town where they will benefit the greatest number of residents.	D	Item was dropped to improve the dimension's coefficient alpha score.	7
4	provide p&r services according to decisions made by p&r professionals because they will be more knowledgeable on the issues involved than taxpayers.	3	provide p&r services according to decisions made by p&r professionals because they will be more knowledgeable of the issues involved than taxpayers.	10
5	provide more p&r services where residents make most complaints to the p&r department.	4	provide more p&r to those neighborhoods whose residents complain most to the city.	9
6	provide more p&r services in areas of town where they will benefit all residents (not just users), for example, clean air from park trees, revenue brought into town by tourists.	D	Item was dropped to improve the dimension's coefficient alpha score.	2
7	provide parks in all areas of town, but provide more parks in areas of town where residents pay the most property taxes.	5	provide more P&R services in neighborhoods whose residents pay the most property taxes.	5
8	provide more p&r services where citizens make the most complaints to city council.	D	Pre-test items 5 and 8 were collapsed into a single item, Final Item 4.	9
9	provide more p&r services in areas of town where current facilities are used by the most people.	6	provide more p&r services in neighborhoods where existing facilities are most heavily used.	8
10	provide more p&r services in areas of town where residents have limited transportation alternatives.	7	provide more p&r services in neighborhoods whose residents have limited transportation alternatives.	1
11	provide parks in all areas of town, but provide larger parks in areas of town where residents pay the most property taxes.	D	Item was dropped by expert judges, prior to pre-test analysis, to reduce the number of Taxes Paid items.	5
12	make sure all parks and facilities are maintained at the same level, even if extra resources are needed in some areas due to heavy use.	8	maintain all parks and facilities at the same level, even if more funding is needed for those areas most heavily used.	2

Pre-Test Item #	Pre-Test Item	Final Item #	Final Item – changes are in bold (or reason item was dropped)	Dim.
13	provide more p&r services where citizen action groups are most persistent in making requests to city council.	9	provide more p&r services to those neighborhoods whose residents are most persistent in making requests to the city.	9
14	provide more p&r services in areas of town where the cost to maintain them is lowest.	10	provide more p&r services in neighborhoods where the cost to maintain them is lowest.	7
15	provide more p&r services in areas of town with the highest crime rates.	11	provide more p&r services in neighborhoods with the highest crime rates.	1
16	provide p&r services according to decisions made by p&r professionals because they have the information needed to make the correct decisions.	D	Item was dropped by researcher due to its similarity with Final Item 13.	10
17	provide equal amounts of services to all areas of the community regardless of cost.	12	provide equal amounts of services to all neighborhoods regardless of cost.	2
18	provide more p&r services in areas of town where nearby residents receive the most benefits.	D	Item was dropped to improve the dimension's coefficient alpha score.	7
19	make decisions on where to add new p&r services according to the opinions of p&r professionals because they are aware of community interests.	13	make decisions on where to add new p&r services based on the opinions of p&r professionals because they are aware of community interests.	10
20	provide equipment and staffing for recreation programs in proportion to the amount of property taxes paid.	14	provide equipment and staffing for recreation programs in proportion to the amount of property taxes paid by neighborhoods.	5
21	provide recreation services in all areas of town but provide a greater variety of recreation services in areas of town where residents pay the most property taxes.	D	Item was dropped by expert judges, prior to pre-test analysis, to reduce the number of <i>Taxes Paid</i> items.	5
22	provide higher quality p&r services where residents pay higher property taxes.	15	provide higher quality p&r services to neighborhoods whose residents pay higher property taxes.	5
23	provide more p&r services where citizens are most persistent in making requests to city council.	D	Pre-test items 13, 23, 29 and 38 were collapsed into a single item, Final Item 9.	9
24	provide more p&r services in areas of town where land is least expensive.	16	build new facilities where land is least expensive.	7
25	provide more p&r services in areas of town where user fees can cover the cost of providing staff and equipment to run the program.	17	provide more p&r services in neighborhoods where user fees are likely to cover the cost of providing staff and equipment to run the program.	6

Pre-Test Item #	Pre-Test Item	Final Item #	Final Item – changes are in bold (or reason item was dropped)	Dim.
26	residents that pay higher property taxes deserve more p&r services.	D	Item was dropped by researcher due to its similarity to Final Item 5.	5
27	provide more p&r services in areas of town where citizens agree to assist with building or maintenance efforts.	18	provide more p&r services in neighborhoods where citizens agree to assist with facility building or maintenance efforts.	8
28	spend the same amount of money on p&r in each area of town but let the parks department decide which p&r services should be provided in that area.	D	Item was dropped to improve the dimension's coefficient alpha score.	10
29	provide more p&r services where citizen action groups are most persistent in making requests to the p&r department.	D	Pre-test items 13, 23, 29 and 38 were collapsed into a single item, Final Item 9.	9
30	provide p&r services according to the opinions of p&r professionals because they are aware of community growth patterns.	19	provide p&r services based on the opinions of p&r professionals because they are most aware of community growth patterns.	10
31	provide more p&r services in areas of town with the most low-income residents, because those residents have less money to spend on alternatives.	20	provide more p&r services in neighborhoods with the most low-income residents, because those residents have less money to spend on alternatives.	1
32	provide equal amounts of services to all areas of the community regardless of the amount of property taxes paid.	21	provide equal amounts of services to all neighborhoods regardless of the amount of property taxes paid.	3
33	provide residents that pay higher property taxes with more p&r services as long as all residents receive the same <i>quality</i> of services.	D	Item was dropped by expert judges, prior to pre-test analysis, to reduce the number of <i>Taxes Paid</i> items.	5
34	provide more p&r services in areas of town where current facilities are most heavily used.	D	Item was dropped by researcher due to its similarity to Final Item 6.	8
35	provide more p&r services in areas of town where user fees can cover all costs of providing the program.	D	Item was dropped by researcher due to its similarity to Final Item 30.	6
36	provide more p&r services in areas of town where most low-income residents live.	D	Item was dropped by researcher due to its similarity to Final Item 20.	1
37	spend the same amount of money in each area of town to provide one distinctive facility in each area (e.g. one area would receive a skatepark, another a pool, another a golf course, etc...).	22	spend the same amount of money in each area of town to provide one distinctive facility in each neighborhood (e.g. one area would receive a skatepark, another a pool, another a golf course, etc...).	3

Pre-Test Item #	Pre-Test Item	Final Item #	Final Item – changes are in bold (or reason item was dropped)	Dim.
38	provide more p&r services where citizens are most persistent in making requests to the p&r department.	D	Pre-test items 13, 23, 29 and 38 were collapsed into a single item, Final Item 9.	9
39	provide more p&r services in areas of town where the costs of delivering services are lowest.	23	provide more p&r services in neighborhoods where the costs of delivering services are lowest.	7
40	use program fees collected from higher income residents to help subsidize low-income residents who want to participate.	24	use program fees collected from higher income residents to help subsidize low-income residents who want to participate.	1
41	provide more p&r services in areas of town where other agencies (e.g. schools, non-profit organizations) who use them can help pay to operate them (e.g. utilities, staffing, maintenance).	25	provide more p&r services in neighborhoods where other agencies (e.g. schools, non-profit organizations) who use them can help pay to operate them (e.g. utilities, staffing, maintenance).	7
42	maintain all p&r facilities at the same level, even if extra resources are needed in some areas due to vandalism in those areas.	26	maintain all p&r facilities at the same level, even if more funding is needed in some neighborhoods due to more vandalism in those neighborhoods .	2
43	distribute p&r services according to the opinions of p&r professionals because they are more likely to be in touch with national trends than taxpayers.	D	Item was dropped by researcher due to its similarity to Final Item 13.	10
44	provide equal amounts of services to all areas of the community regardless of need.	27	provide equal amounts of services to all neighborhoods regardless of need.	3
45	provide p&r services in all areas of town but provide nicer p&r services in areas of town where residents pay the most property taxes - so the more a neighborhood pays in property taxes, the nicer the services they receive will be.	D	Item was dropped by expert judges, prior to pre-test analysis, to reduce the number of <i>Taxes Paid</i> items.	5
46	provide park maintenance in proportion to the amount of property taxes paid - so the more a neighborhood pays in property taxes, the nicer the parks in that neighborhood will be.	28	provide park maintenance resources in proportion to the amount of property taxes paid by neighborhoods .	5
47	provide the same basic p&r amenities in each area of town, but provide one distinctive facility in each area (e.g. one area would receive a skatepark, another a small water park, and another a golf course, etc...).	D	Item was dropped by researcher due to its similarity to Final Item 22.	3

Pre-Test Item #	Pre-Test Item	Final Item #	Final Item – changes are in bold (or reason item was dropped)	Dim.
48	provide more p&r services in areas of town where they are most desired according to needs assessment surveys.	29	provide more p&r services in neighborhoods where they are most desired according to resident surveys.	8
49	provide more p&r services to reflect the level of input by residents in each area.	D	Item was dropped to improve the dimension's coefficient alpha score.	9
50	provide more p&r services in areas of town where residents are willing to pay additional property taxes for them.	D	Item was dropped to improve the dimension's coefficient alpha score.	5
51	provide p&r services in all areas of town, but provide nicer p&r services in areas of town where residents are willing to pay additional property taxes for them.	D	Item was dropped by expert judges, prior to pre-test analysis, to reduce the number of <i>Taxes Paid</i> items.	5
52	provide more p&r services in areas of town where similar services are not provided by the private sector.	D	Item was dropped to improve the dimension's coefficient alpha score.	1
53	provide more p&r services in areas of town where they will be used primarily by residents who can afford to pay for them through user fees.	30	provide more p&r services in neighborhoods where they will be used primarily by residents who can afford to pay for them through user fees.	6
54	provide p&r services to reflect the level of input by organized resident groups.	D	Item was dropped to improve the dimension's coefficient alpha score.	9
55	provide more p&r services in areas of town where residents pay the most property taxes - so higher income neighborhoods would receive more p&r services.	D	Item was dropped by researcher due to its similarity to Final Item 5.	5

APPENDIX F**A SUMMARY OF PRE-TEST ITEMS COMBINED TO CREATE A SINGLE****ITEM IN THE FINAL INSTRUMENT**

Final Item #	Final Item	Pre-test Items
4	provide more p&r to those neighborhoods whose residents complain most to the city.	<ul style="list-style-type: none"> • provide more p&r services where residents make most complaints to the p&r department.(5) • provide more p&r services where citizens make the most complaints to city council.(8)
9	provide more p&r services to those neighborhoods whose residents are most persistent in making requests to the city.	<ul style="list-style-type: none"> • provide more p&r services where citizen action groups are most persistent in making requests to city council. (13) • provide more p&r services where citizens are most persistent in making requests to city council.(23) • provide more p&r services where citizen action groups are most persistent in making requests to the p&r department.(29) • provide more p&r services where citizens are most persistent in making requests to the p&r department.(38)

APPENDIX G

A SUMMARY OF PRE-TEST ITEMS DROPPED FOR THEIR SIMILARITY TO

EXISTING ITEMS

Final Item #	Final Item	Dropped Pre-test Items (Pre-Test Item #)
5	provide more P&R services in neighborhoods whose residents pay the most property taxes.	<ul style="list-style-type: none"> • residents that pay higher property taxes deserve more p&r services.(26) • provide more p&r services in areas of town where residents pay the most property taxes - so higher income neighborhoods would receive more p&r services.(55)
6	provide more p&r services in neighborhoods where existing facilities are most heavily used.	<ul style="list-style-type: none"> • provide more p&r services in areas of town where current facilities are most heavily used.(34)
13	make decisions on where to add new p&r services based on the opinions of p&r professionals because they are aware of community interests.	<ul style="list-style-type: none"> • provide p&r services according to decisions made by p&r professionals because they have the information needed to make the correct decisions.(16) • distribute p&r services according to the opinions of p&r professionals because they are more likely to be in touch with national trends than taxpayers.(43)
20	provide more p&r services in neighborhoods with the most low-income residents, because those residents have less money to spend on alternatives.	<ul style="list-style-type: none"> • provide more p&r services in areas of town with the most low-income residents, because those residents have less money to spend on alternatives.(31) • provide more p&r services in areas of town where most low-income residents live.(36)
22	spend the same amount of money in each area of town to provide one distinctive facility in each neighborhood (e.g. one area would receive a skatepark, another a pool, another a golf course, etc...).	<ul style="list-style-type: none"> • provide the same basic p&r amenities in each area of town, but provide one distinctive facility in each area (e.g. one area would receive a skatepark, another a small water park, and another a golf course, etc...).(47)
30	provide more p&r services in neighborhoods where they will be used primarily by residents who can afford to pay for them through user fees.	<ul style="list-style-type: none"> • provide more p&r services in areas of town where user fees can cover all costs of providing the program.(35)

APPENDIX H
FINAL INSTRUMENT

City of
BRYAN

**Parks and Recreation
Survey**

2003

Section A:

In this first section, we are interested in how you think the city of Bryan **SHOULD** designate funding for park and recreation (P&R) services. Please respond to each of the statements below by selecting the number that shows how much you agree or disagree with the statement regarding how the city of Bryan **should** designate P&R funding.

Please note that P&R stands for Park and Recreation.

	The city of Bryan SHOULD...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	designate funding so those neighborhoods that are economically disadvantaged receive most.	1	2	3	4	5
2.	provide an equal number of P&R facilities, programs and staff to all neighborhoods, regardless of differences in costs.	1	2	3	4	5
3.	provide most funding to neighborhoods that pay the most taxes.	1	2	3	4	5
4.	give priority to those services for which users are willing to pay a large share of the operating and maintenance costs.	1	2	3	4	5
5.	designate funding so the greatest number of people will benefit.	1	2	3	4	5
6.	provide most resources to those facilities and programs that are most heavily used.	1	2	3	4	5
7.	provide equal funding to all neighborhoods, even when this results in neighborhoods receiving different numbers of facilities, programs, and staff.	1	2	3	4	5
8.	designate funding to neighborhoods that are most vocal in making requests or voicing complaints.	1	2	3	4	5
9.	let P&R professional staff determine how funding for P&R should be designated.	1	2	3	4	5

Section B

In this next section, we are interested in how you think the city of Bryan **PRESENTLY** designates funding for its park and recreation services. Please respond to each of the statements below by selecting the number that shows how much you agree or disagree with the statement regarding how the city of Bryan presently designates P&R funding.

Please note that P&R stands for Park and Recreation.

	The city of Bryan PRESENTLY...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	designates funding so those neighborhoods that are economically disadvantaged receive most.	1	2	3	4	5
2.	provides an equal number of P&R facilities, programs and staff to all neighborhoods, regardless of differences in costs.	1	2	3	4	5
3.	provides most funding to neighborhoods that pay the most taxes.	1	2	3	4	5
4.	gives priority to those services for which users are willing to pay a large share of the operating and maintenance costs.	1	2	3	4	5
5.	designates funding so the greatest number of people will benefit.	1	2	3	4	5
6.	provides most resources to those facilities and programs that are most heavily used.	1	2	3	4	5
7.	provides equal funding to all neighborhoods, even when this results in neighborhoods receiving different numbers of facilities, programs, and staff.	1	2	3	4	5
8.	designates funding to neighborhoods that are most vocal in making requests or voicing complaints.	1	2	3	4	5
9.	lets P&R professional staff determine how funding for P&R should be designated.	1	2	3	4	5

Section C

In this next section, we are interested in learning more details about your perceptions of how the city of Bryan **SHOULD** designate funding for its park and recreation services. Please respond to each of the statements below by selecting the number that shows how much you agree or disagree with the statement regarding how the city of Bryan **SHOULD** designate P&R funding.

Please note that P&R stands for Park and Recreation.

	The city of Bryan SHOULD...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	provide the same quality of P&R services in all neighborhoods of the city.	1	2	3	4	5
2.	provide the same P&R services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all neighborhoods of the city.	1	2	3	4	5
3.	provide P&R services according to decisions made by P&R professionals because they will be more knowledgeable of the issues involved than taxpayers.	1	2	3	4	5
4.	provide more P&R to those neighborhoods whose residents complain most to the city.	1	2	3	4	5
5.	provide more P&R services in neighborhoods whose residents pay the most property taxes.	1	2	3	4	5
6.	provide more P&R services in neighborhoods where existing facilities are most heavily used.	1	2	3	4	5
7.	provide more P&R services in neighborhoods whose residents have limited transportation options.	1	2	3	4	5
8.	maintain all parks and facilities at the same level, even if more funding is needed for those areas most heavily used.	1	2	3	4	5
9.	provide more P&R services to those neighborhoods whose residents are most persistent in making requests to the city.	1	2	3	4	5
10.	provide more P&R services in neighborhoods where the cost to maintain them is lowest.	1	2	3	4	5
11.	provide more P&R services in neighborhoods with the highest crime rates.	1	2	3	4	5
12.	provide equal amounts of services to all neighborhoods regardless of cost.	1	2	3	4	5
13.	make decisions on where to add new P&R services based on the opinions of P&R professionals because they are most aware of community interests.	1	2	3	4	5
14.	provide equipment and staffing for recreation programs in proportion to the amount of property taxes paid by neighborhoods.	1	2	3	4	5

	The city of Bryan SHOULD...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15.	provide higher quality P&R services to neighborhoods whose residents pay most property taxes.	1	2	3	4	5
16.	build new facilities where land is least expensive.	1	2	3	4	5
17.	provide more P&R services in neighborhoods where user fees are likely to cover the cost of providing staff and equipment to run the program .	1	2	3	4	5
18.	provide more P&R services in neighborhoods where citizens agree to assist with facility building or maintenance efforts.	1	2	3	4	5
19.	provide P&R services based on the opinions of P&R professionals because they are most aware of community growth patterns.	1	2	3	4	5
20.	provide more P&R services in neighborhoods with the most low-income residents, because those residents have less money to spend on alternatives.	1	2	3	4	5
21.	provide equal amounts of services to neighborhoods regardless of the amount of property taxes paid.	1	2	3	4	5
22.	spend the same amount of money in each area of town to provide one distinctive facility in each neighborhood (e.g. one neighborhood would receive a skatepark, another a pool, another a golf course, etc...).	1	2	3	4	5
23.	provide more P&R services in neighborhoods where the costs of delivering services are lowest.	1	2	3	4	5
24.	use program fees collected from higher income residents to help subsidize low-income residents who want to participate.	1	2	3	4	5
25.	provide more P&R services in neighborhoods where other agencies (e.g. schools, non-profit organizations) who use them can help pay to operate them (e.g. utilities, staffing, maintenance).	1	2	3	4	5
26.	maintain all P&R facilities at the same level, even if more funding is needed in some neighborhoods due to more vandalism in those neighborhoods.	1	2	3	4	5
27.	provide equal amounts of services to all neighborhoods regardless of need.	1	2	3	4	5
28.	designate park maintenance resources in proportion to the amount of property taxes paid by neighborhoods.	1	2	3	4	5
29.	provide more P&R services in neighborhoods where they are most desired according to resident surveys.	1	2	3	4	5
30.	provide more P&R services in neighborhoods where they will be used primarily by residents who can afford to pay for them through user fees.	1	2	3	4	5

Section D

We are collecting the following information in order to better understand the characteristics of our study participants. All of the information will be kept confidential and will only be reported at the group level.

1. What is your gender?

Male

Female

2. What is your ethnicity (Please select only one)?

African-American

Hispanic/Latino

Asian/Asian-American

Native American

Caucasian

Other: _____

3. How many years have you lived in Bryan? _____ years

4. Which of the following best describes how often you use park and recreation services in Bryan?

Never

5 - 8 times per month

Less than once a month

9 - 12 times per month

1 - 4 times per month

13 or more times per month

Section E

In this final section, we are interested in learning more details about how you think the city of Bryan **presently** designates funding for park and recreation services. Please respond to each of the statements below by selecting the number that shows how much you agree or disagree with the statement regarding how the city of Bryan **presently** designates P&R funding.

Please note that P&R stands for Park and Recreation.

	The city of Bryan PRESENTLY...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	provides the same quality of P&R services in all neighborhoods of the city	1	2	3	4	5
2.	provides the same P&R services (e.g. size of park or gym, number of things to do there - playgrounds, ball fields, pools) in all neighborhoods of the city.	1	2	3	4	5
3.	provides P&R services according to decisions made by P&R professionals because they are more knowledgeable of the issues involved than taxpayers.	1	2	3	4	5
4.	provides more P&R to those neighborhoods whose residents complain most to the city.	1	2	3	4	5
5.	provides more P&R services in neighborhoods whose residents pay the most property taxes.	1	2	3	4	5

	The city of Bryan PRESENTLY...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6.	provides more P&R services in neighborhoods where existing facilities are most heavily used.	1	2	3	4	5
7.	provides more P&R services in neighborhoods whose residents have limited transportation options.	1	2	3	4	5
8.	maintains all parks and facilities at the same level, even if more funding is needed in those areas most heavily used.	1	2	3	4	5
9.	provides more P&R services to those neighborhoods whose residents are most persistent in making requests to the city.	1	2	3	4	5
10.	provides more P&R services in neighborhoods where the cost to maintain them is lowest.	1	2	3	4	5
11.	provides more P&R services in neighborhoods with the highest crime rates.	1	2	3	4	5
12.	provides equal amounts of services to all neighborhoods regardless of cost.	1	2	3	4	5
13.	makes decisions on where to add new P&R services based on the opinions of P&R professionals because they are most aware of community interests.	1	2	3	4	5
14.	provides equipment and staffing for recreation programs in proportion to the amount of property taxes paid by neighborhoods.	1	2	3	4	5
15.	provides higher quality P&R services to neighborhoods whose residents pay most property taxes.	1	2	3	4	5
16.	builds new facilities where land is least expensive.	1	2	3	4	5
17.	provides more P&R services in neighborhoods where user fees are likely to cover the cost of providing staff and equipment to run the program .	1	2	3	4	5
18.	provides more P&R services in neighborhoods where citizens agree to assist with facility building or maintenance efforts.	1	2	3	4	5
19.	provides P&R services based on the opinions of P&R professionals because they are most aware of community growth patterns.	1	2	3	4	5
20.	provides more P&R services in neighborhoods with the most low-income residents, because those residents have less money to spend on alternatives.	1	2	3	4	5
21.	provides equal amounts of services to neighborhoods regardless of the amount of property taxes paid.	1	2	3	4	5
22.	spends the same amount of money in each area of town to provide one distinctive facility in each neighborhood (e.g. one neighborhood would receive a skatepark, another a pool, another a golf course, etc...).	1	2	3	4	5

	The city of Bryan PRESENTLY...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
23.	provides more P&R services in neighborhoods where the costs of delivering services are lowest.	1	2	3	4	5
24.	uses program fees collected from higher income residents to help subsidize low-income residents who want to participate.	1	2	3	4	5
25.	provides more P&R services in neighborhoods where other agencies (e.g. schools, non-profit organizations) who use them can help pay to operate them (e.g. utilities, staffing, maintenance).	1	2	3	4	5
26.	maintains all P&R facilities at the same level, even if more funding is needed in some neighborhoods due to more vandalism in those neighborhoods.	1	2	3	4	5
27.	provides equal amounts of services to all neighborhoods regardless of need.	1	2	3	4	5
28.	designates park maintenance resources in proportion to the amount of property taxes paid by neighborhoods.	1	2	3	4	5
29.	provides more P&R services in neighborhoods where they are most desired according to resident surveys.	1	2	3	4	5
30.	provides more P&R services in neighborhoods where they will be used primarily by residents who can afford to pay for them through user fees.	1	2	3	4	5

Would you like to receive a summary of the results of this survey? Yes No

Do you have any other comments about Bryan Parks and Recreation? _____

Thank you for completing this questionnaire. Your participation is greatly appreciated!

Please return the questionnaire in the enclosed postage-paid envelope today to the following address (pre-printed on the envelope):

**Department of Recreation, Park & Tourism Sciences
 Texas A&M University
 2261 TAMU
 College Station, TX 77843-2261**

APPENDIX I

1st MAILING COVER LETTER

October 1, 2003

Dear «Fname» «LName»:

The City of Bryan Parks and Recreation Department strives to be responsive to the needs and desires of residents when prioritizing investments in facilities, services and programs. The enclosed questionnaire is designed to help us identify those priorities. Because the data being collected with the questionnaire reflects the valuable opinions of Bryan residents, the questionnaire has also received the support and backing of the Bryan African American History Museum, LULAC and the Hispanic Forum.

The questionnaire lists a number of concerns, which it has been suggested a city government could address. We want to know how important you consider each of these concerns to be. In addition, we want to learn how you perceive the Parks and Recreation Department currently contributes to addressing those concerns.

You are one of a relatively small number of people who have been selected by a scientific sampling procedure to receive this questionnaire. For the results to be a valid representation of the views of city residents, it is very important that the questionnaire is completed and returned by those who receive it. The survey should be filled out by someone in your home who is 18 years of age or older. Please be assured that the responses of all respondents will be kept confidential and will be grouped together so you will not be personally identified in any way in the results.

The questionnaire will take approximately 20 minutes to complete. A reply-paid envelope addressed to the Department of Recreation, Park and Tourism Sciences is enclosed for your convenience. The results are being analyzed for us by Dr. John Crompton in that department at Texas A&M. There will be no costs to the City of Bryan for having the data collected or analyzed.

If you would like a summary of the results, please check the box at the end of the questionnaire and we will send it to you in approximately three to six months, when the study is completed. If you have any questions about the study, feel free to contact Dr. Crompton at (979) 845-5320.

Thank you for your assistance with this project.

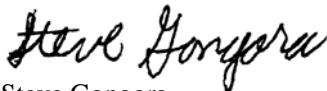
Sincerely,



David Schmitz
Director, Bryan Parks and Recreation



Mell Pruitt
Founder & Chair, Bryan African American
History Museum



Steve Gongora
Member, LULAC
Member, Hispanic Forum

APPENDIX J
FOLLOW-UP POSTCARD

October 4, 2003

Last week a questionnaire was mailed to you seeking your opinions about the designation of funding for park and recreation services in the City of Bryan. You are one of a small number of people who were randomly chosen to receive the questionnaire. For the results to be a valid representation of the views of city residents, it is very important that you complete and return it.

If you have already completed and returned the questionnaire, please accept our sincere thanks. If not, please do so today. We appreciate your help because it is only by asking people like you for your opinions that we can understand and respond to the needs and desires of Bryan residents.

If you did not receive a questionnaire, or if it was misplaced, please call (979) 845-5320. Dr. John Crompton at Texas A&M University who is assisting us with this project will be happy to get another one in the mail to you today. Thank you again for your assistance.

A handwritten signature in black ink, appearing to read "David Schmitz". The signature is fluid and cursive, with a large, stylized initial "D".

David Schmitz
Director, Bryan Parks and Recreation

APPENDIX K

2nd MAILING COVER LETTER

October 15, 2003

Dear «Fname» «LName»:

About two weeks ago, a questionnaire was sent to you inquiring about the importance that you place on a variety of community issues. We were also interested in your perceptions of the Bryan Parks and Recreation Department's contributions to each of these issues. Once all of the questionnaires are returned, we think that the results will be very useful in improving our service to Bryan residents.

We are writing again because of the importance that your questionnaire has for helping to get accurate results. You are one of a relatively small number of people who have been selected by a scientific sampling procedure to receive this questionnaire. In order for the results to be representative of the views of city residents, it is very important that the questionnaire is completed and returned by those who receive it.

A questionnaire identification number is printed on the front of each questionnaire so that we can check your name off of the mailing list when it is returned. Please be assured that all responses to the questionnaire will be grouped together and that, at no time, will your answers ever be identified with you.

The questionnaire will take approximately 20 minutes to complete. A reply-paid envelope addressed to the Department of Recreation, Park and Tourism Sciences is enclosed for your convenience. The results are being analyzed for us by Dr. John Crompton in that department at Texas A&M. Again, we remind you that the City of Bryan is not responsible for the costs of data collection or analysis.

We hope that you will fill out and return the questionnaire soon. If you have already done so, please accept our sincere thanks. If you have any questions about the study, please feel free to contact Dr. Crompton at (979) 845-5320.

Thank you again for your assistance with this project.

Sincerely,



David Schmitz
Director, Bryan Parks and Recreation



Mell Pruitt
Founder & Chair, Bryan African American
History Museum



Steve Gongora
Member, LULAC
Member, Hispanic Forum

APPENDIX L

3rd MAILING COVER LETTER

December 1, 2003

Dear Past or Previous Bryan Board Member:

As someone with experience in the City of Bryan's government, you probably realize that the Bryan Parks and Recreation Department strives to be responsive to the needs and desires of residents when prioritizing investments in facilities, services and programs. The enclosed questionnaire is designed to help us identify those priorities. Because the data being collected with the questionnaire reflects the valuable opinions of Bryan residents, the questionnaire has also received the support and backing of the Bryan African American History Museum, LULAC and the Hispanic Forum.

The questionnaire lists a number of concerns, which it has been suggested a city government could address. We want to know how important you consider each of these concerns to be. In addition, we want to learn how you perceive the Parks and Recreation Department currently contributes to addressing those concerns.

You are one of a relatively small number of people who have been selected by a scientific sampling procedure to receive this questionnaire. For the results to be a valid representation of the views of city residents, it is very important that the questionnaire is completed and returned by those who receive it. Please be assured that the responses of all respondents will be kept confidential and will be grouped together so you will not be personally identified in any way in the results.

The questionnaire will take approximately 20 minutes to complete. A reply-paid envelope addressed to the Department of Recreation, Park and Tourism Sciences is enclosed for your convenience. The results are being analyzed for us by Dr. John Crompton in that department at Texas A&M. There will be no costs to the City of Bryan for having the data collected or analyzed.

If you would like a summary of the results, please check the box at the end of the questionnaire and we will send it to you in approximately three to six months, when the study is completed. If you have any questions about the study, feel free to contact Dr. Crompton at (979) 845-5320.

Thank you for your assistance with this project.

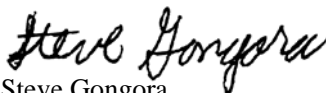
Sincerely,



David Schmitz
Director, Bryan Parks and Recreation



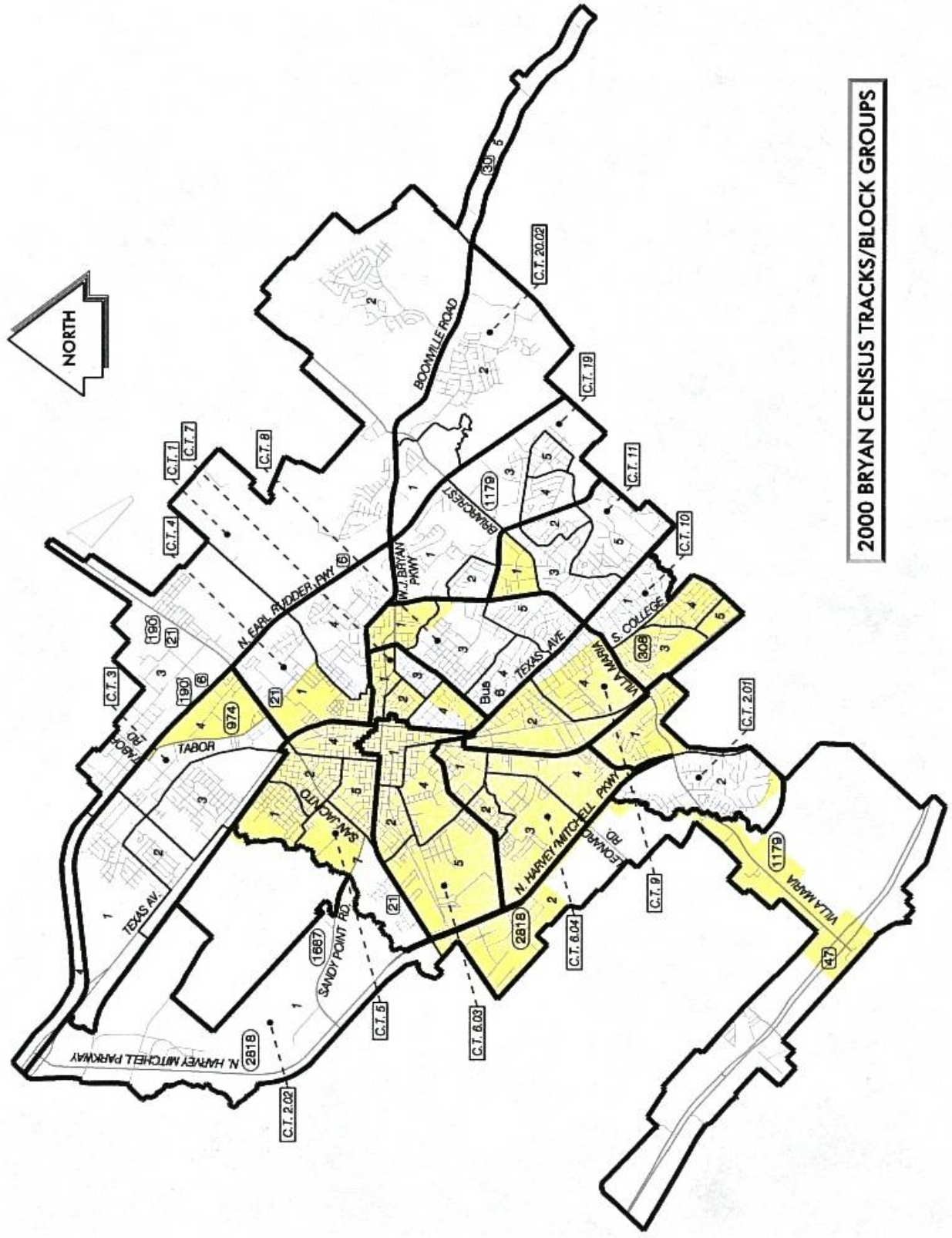
Mell Pruitt
Founder & Chair, Bryan African American
History Museum



Steve Gongora
Member, LULAC
Member, Hispanic Forum

APPENDIX M

ON-SITE DATA COLLECTION MAP: 2000 BRYAN CENSUS TRACTS/BLOCK GROUPS



2000 BRYAN CENSUS TRACTS/BLOCK GROUPS

APPENDIX N

COVER LETTERS AND POSTCARDS USED FOR DATA COLLECTION OF ELECTED AND

APPOINTED OFFICIALS

December 1, 2003

Dear Past or Previous Bryan Board Member:

As someone with experience in the City of Bryan's government, you probably realize that the Bryan Parks and Recreation Department strives to be responsive to the needs and desires of residents when prioritizing investments in facilities, services and programs. The enclosed questionnaire is designed to help us identify those priorities. Because the data being collected with the questionnaire reflects the valuable opinions of Bryan residents, the questionnaire has also received the support and backing of the Bryan African American History Museum, LULAC and the Hispanic Forum.

The questionnaire lists a number of concerns, which it has been suggested a city government could address. We want to know how important you consider each of these concerns to be. In addition, we want to learn how you perceive the Parks and Recreation Department currently contributes to addressing those concerns.


You are one of a relatively small number of people who have been selected by a scientific sampling procedure to receive this questionnaire. For the results to be a valid representation of the views of city residents, it is very important that the questionnaire is completed and returned by those who receive it. Please be assured that the responses of all respondents will be kept confidential and will be grouped together so you will not be personally identified in any way in the results.

The questionnaire will take approximately 20 minutes to complete. A reply-paid envelope addressed to the Department of Recreation, Park and Tourism Sciences is enclosed for your convenience. The results are being analyzed for us by Dr. John Crompton in that department at Texas A&M. There will be no costs to the City of Bryan for having the data collected or analyzed.

If you would like a summary of the results, please check the box at the end of the questionnaire and we will send it to you in approximately three to six months, when the study is completed. If you have any questions about the study, feel free to contact Dr. Crompton at (979) 845-5320.

Thank you for your assistance with this project.

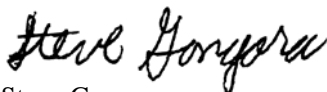
Sincerely,



David Schmitz
Director, Bryan Parks and Recreation



Mell Pruitt
Founder & Chair, Bryan African American
History Museum



Steve Gongora
Member, LULAC
Member, Hispanic Forum

December 7, 2003

Last week a questionnaire was mailed to you seeking your opinions about the designation of funding for park and recreation services in the City of Bryan. You are one of a small number of people chosen to receive the questionnaire. For the results to be a valid representation of the views of city government officials, it is very important that you complete and return it.

If you have already completed and returned the questionnaire, please accept our sincere thanks. If not, please do so today. We appreciate your help because it is only by asking people like you for your opinions that we can understand and respond to the needs and desires of Bryan residents.

If you did not receive a questionnaire, or if it was misplaced, please call (979) 845-5320. Dr. John Crompton at Texas A&M University who is assisting us with this project will be happy to get another one in the mail to you today. Thank you again for your assistance.

A handwritten signature in black ink, appearing to read "David Schmitz". The signature is fluid and cursive, with a large initial "D" and "S".

David Schmitz
Director, Bryan Parks and Recreation

December 15, 2003

Dear Bryan Board Member:

About two weeks ago, a questionnaire was sent to you inquiring about the importance that you place on a variety of community issues. We were also interested in your perceptions of the Bryan Parks and Recreation Department's contributions to each of these issues. Once all of the questionnaires are returned, we think that the results will be very useful in improving our service to Bryan residents.

We are writing again because of the importance that your questionnaire has for helping to get accurate results. You are one of a relatively small number of people who have been selected to receive this questionnaire. In order for the results to be representative of the views of city officials, it is very important that the questionnaire is completed and returned by those who receive it.

A questionnaire identification number is printed on the front of each questionnaire so that we can check your name off of the mailing list when it is returned. Please be assured that all responses to the questionnaire will be grouped together and that, at no time, will your answers ever be identified with you.

The questionnaire will take approximately 20 minutes to complete. A reply-paid envelope addressed to the Department of Recreation, Park and Tourism Sciences is enclosed for your convenience. The results are being analyzed for us by Dr. John Crompton in that department at Texas A&M. Again, we remind you that the City of Bryan is not responsible for the costs of data collection or analysis.

We hope that you will fill out and return the questionnaire soon. If you have already done so, please accept our sincere thanks. If you have any questions about the study, please feel free to contact Dr. Crompton at (979) 845-5320.

Thank you again for your assistance with this project.

Sincerely,



David Schmitz
Director, Bryan Parks and Recreation
History Museum



Mell Pruitt
Founder & Chair, Bryan African American



Steve Gongora
Member, LULAC
Member, Hispanic Forum

December 29, 2003

Dear Bryan Board Member,

The Bryan Parks and Recreation Department is seeking to identify the importance that residents place on a variety of community issues. We are also interested in identifying residents' perceptions of the Department's contributions to each of these issues. We believe this information will be very useful in helping us to improve our service to City of Bryan residents. For this reason, we would be very appreciative if you would complete and return the enclosed questionnaire.

We have contacted you again with this request because you are one of a relatively small number of city officials selected to receive the questionnaire and, in order for the results to be usable, it is important that it is returned by the sample who receive it. We hope that you will take the opportunity to provide us with your input by filling out and mailing back this final survey.

We assure you that all responses will be kept confidential. An identification number is printed on the front of each questionnaire so that your name can be checked off the mailing list when it is returned. All responses to the questionnaire will be statistically aggregated and at no time will your responses ever be identified with you.

The questionnaire will take approximately 20 minutes to complete. A reply-paid envelope addressed to the Department of Recreation, Park and Tourism Sciences is enclosed for your convenience. The results are being analyzed for us by Dr. John Crompton in that department at Texas A&M University. The City of Bryan will not be responsible for the costs of either data collection or analysis.

If you have already completed the questionnaire and returned it, please accept our sincere thanks. If you have any questions about the study, please feel free to contact Dr. Crompton at (979) 845-5320. Thank you again for your assistance with this project.

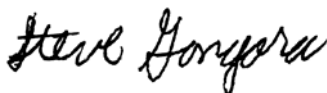
Sincerely,



David Schmitz
Director, Bryan Parks and Recreation
Museum



Mell Pruitt
Founder & Chair, Bryan African American History



Steve Gongora
Member, LULAC
Member, Hispanic Forum

APPENDIX O**CORRELATION MATRIX FOR FINAL 8-FACTOR MODEL**

CORRELATION MATRIX (WITH VARIANCES ON THE DIAGONAL)

	<u>C1</u>	<u>C2</u>	<u>C3</u>	<u>C4</u>	<u>C5</u>
C1					
C2	0.621				
C3	-0.026	-0.131			
C4	-0.008	0.114	0.177		
C5	-0.349	-0.174	0.150	0.385	
C6	-0.095	-0.312	0.196	0.020	0.138
C7	0.193	0.192	0.122	0.244	-0.129
C9	0.054	0.138	0.244	0.638	0.213
C10	-0.063	0.082	0.161	0.287	0.288
C11	0.087	0.187	0.020	0.368	-0.006
C12	0.585	0.592	0.036	0.034	-0.321
C13	0.058	-0.015	0.759	0.121	0.106
C14	-0.234	-0.019	0.211	0.232	0.618
C15	-0.386	-0.166	0.107	0.190	0.762
C16	-0.003	0.101	0.085	0.073	0.072
C17	-0.171	-0.119	0.213	0.036	0.323
C18	-0.098	-0.094	0.082	-0.034	0.055
C19	0.021	-0.087	0.713	0.079	0.079
C20	0.196	0.264	0.055	0.344	-0.117
C21	0.584	0.439	0.011	-0.020	-0.454
C23	-0.053	0.096	0.158	0.291	0.219
C24	0.133	0.192	0.076	0.261	-0.139
C27	0.437	0.528	-0.017	0.105	-0.247
C28	-0.234	0.027	0.159	0.187	0.532
C29	-0.039	-0.107	0.201	0.232	0.187
C30	-0.366	-0.190	0.257	0.197	0.467
	<u>C6</u>	<u>C7</u>	<u>C9</u>	<u>C10</u>	<u>C11</u>
C7	0.214				
C9	0.191	0.292			
C10	0.021	0.153	0.405		
C11	0.031	0.436	0.382	0.225	
C12	-0.204	0.153	0.069	-0.067	0.136
C13	0.151	0.165	0.244	0.140	0.058
C14	0.054	-0.086	0.287	0.430	-0.016
C15	0.150	-0.188	0.184	0.264	-0.028
C16	-0.020	0.030	0.170	0.321	0.150
C17	0.234	0.002	0.223	0.326	-0.016
C18	0.239	0.159	0.114	0.192	0.053
C19	0.116	0.100	0.133	0.060	-0.013
C20	0.003	0.562	0.341	0.209	0.556

C21	-0.156	0.094	0.073	-0.142	0.082	
	<u>C6</u>	<u>C7</u>	<u>C9</u>	<u>C10</u>	<u>C11</u>	
C23	0.117	0.262	0.383	0.573	0.307	
C24	-0.008	0.377	0.238	0.097	0.350	
C27	-0.229	-0.031	0.143	0.054	0.068	
C28	-0.063	-0.107	0.241	0.466	0.044	
C29	0.241	0.233	0.326	0.201	0.168	
C30	0.147	-0.044	0.266	0.407	0.018	
	<u>C12</u>	<u>C13</u>	<u>C14</u>	<u>C15</u>	<u>C16</u>	
C13	0.149					
C14	-0.158	0.246				
C15	-0.309	0.029	0.713			
C16	0.051	0.047	0.224	0.134		
C17	-0.118	0.208	0.419	0.385	0.300	
C18	-0.079	0.080	0.159	0.122	0.178	
C19	0.054	0.774	0.171	0.049	0.018	
C20	0.185	0.133	-0.029	-0.139	0.165	
C21	0.648	0.096	-0.340	-0.479	0.088	
C23	-0.051	0.145	0.337	0.248	0.306	
C24	0.111	0.091	0.015	-0.115	0.083	
C27	0.539	0.061	-0.042	-0.238	0.128	
C28	-0.086	0.115	0.561	0.537	0.275	
C29	-0.088	0.171	0.165	0.138	0.139	
C30	-0.175	0.211	0.530	0.432	0.205	
	<u>C17</u>	<u>C18</u>	<u>C19</u>	<u>C20</u>	<u>C21</u>	
C18	0.368					
C19	0.156	0.106				
C20	-0.011	0.073	0.094			
C21	-0.159	-0.046	0.077	0.116		
C23	0.303	0.206	0.040	0.305	-0.117	
C24	-0.007	0.112	0.084	0.529	0.091	
C27	-0.058	-0.144	-0.033	0.089	0.592	
C28	0.388	0.118	0.055	-0.057	-0.263	
C29	0.309	0.298	0.148	0.218	-0.073	
C30	0.494	0.221	0.188	-0.090	-0.285	
	<u>C23</u>	<u>C24</u>	<u>C27</u>	<u>C28</u>	<u>C29</u>	
C24	0.222					
C27	0.113	0.145				
C28	0.342	-0.024	0.069			
C29	0.189	0.139	-0.193	0.192		
	C30	0.293	-0.019	-0.141	0.557	0.251

VITA**STEPHANIE THERESA WEST**

ADDRESS 1000 Friendship Church Rd.
Boone, NC 28607

EMAIL ADDRESS westst@appstate.edu

EDUCATION

1997-2004 PhD in Recreation, Park and Tourism Sciences
Texas A&M University, College Station, Texas

1990-1992 Master of Science in Recreation
Georgia Southern University, Statesboro, Georgia

1986-1990 Bachelor of Science in Recreation Administration
Auburn University, Auburn, Alabama

EXPERIENCE

2001 to Present **Asst. Professor, Instructor (2003-04)**, Appalachian State

2001-2003 **Instructor (GA) – RPTS 301: Leisure and Outdoor, Recreation Internship Coordinator, Graduate Teaching Assistant to Drs. Lou Hodges and C. Scott Shafer**, Texas A&M

1998-2003 **Bryan Parks and Recreation Advisory Board Member and Chairperson (2001-03)**, Sole author of \$100,000 Texas Parks & Wildlife Department Recreational Trails Grant on behalf of Bryan Parks & Recreation Department.

8/1995 - 8/2001 **Assistant Intramural Director**, Texas A&M

1/1993 - 8/95 **Recreation Coordinator, Assistant Facility Manager, Camp Director**, University of North Florida

1990 - 1992 **Recreation/Intramural Graduate Asst.**, Georgia Southern

1987 – 1990 **Informal Recreation Supervisor (Part-time)**, Auburn

1989 - 1990 **Transportation Hostess (Intern)**, Walt Disney World Co.