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UMI®
TOWARDS AN EMPIRICAL TYPOLOGY OF BATTERED WOMEN:
DIFFERENTIATING SUBGROUPS AND SERVICE OUTCOMES OF FEMALE
SURVIVORS OF DOMESTIC VIOLENCE

DISSERETATION

Presented in Partial Fulfillment of the
Degree Doctor in Philosophy in the College of Social Work of
The Ohio State University

By
Jennifer C. Brandt, M.S.W.

* * * * *

The Ohio State University
2002

Dissertation Committee:
Professor Tom Gregoire, Adviser
Professor Elizabeth Vonk
Professor Denise Bronson

Approved by:

Professor Tom Gregoire
(Adviser)

College of Social Work
ABSTRACT

The purpose of this study was to create an empirical typology of battered women and to examine the relationship between subtype membership and service outcomes following participation in domestic violence intervention services. Secondary analyses were conducted on data obtained from the client records of 295 battered women who participated in services at a non-shelter, community-based, domestic violence intervention program located in an urban Ohio city. Ward's hierarchical clustering analysis method with squared Euclidean distance (SED) was employed to derive empirically a typology of battered women according to personal and environmental characteristics. Seven groups of battered women were identified. Chi-square and cross tabs tested associations between group membership and the dependent, categorical service outcome variables of environmental barriers at case closure, awareness of resources, insight into battering dynamics, likelihood of calling for help if battered again, safety increased as a result of services, relationship status at case closure, filed civil charges, followed through on civil charges, filed criminal charges, and followed through on criminal charges. There was a statistically significant relationship between group membership and increased safety at case closure. The
typology derived in this study appears to have resulted in a functional characterization of battered women who utilize non-shelter, community-based domestic violence intervention services in urban Ohio. Comparative analyses suggest that group membership may be associated with differences in service outcomes.
Dedicated to the Women in My Family,
Past, Present, and Future
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VITA

January 6, 1967 ............................................................. Born - Newport Beach, California

1988 .............................................................................. B.A. Social Work and Sociology, The University of Indianapolis

1997 .............................................................................. M.S.W., The Ohio State University

1991-1996 ...................................................................... Director of Early Childhood Education, KinderCare At Work, Columbus, Ohio

1997-2001 ...................................................................... Licensed Social Worker/Licensed Independent Social Worker, The Elizabeth Blackwell Center, Columbus, Ohio

1998-1999 ...................................................................... Graduate Research Associate, The Ohio State University

1998-Present ................................................................... Instructor/Social Worker/Program Coordinator, The Ohio State University

PUBLICATIONS


FIELDS OF STUDY

Major Field: Social Work
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CHAPTER 1

INTRODUCTION

Husbands and boyfriends abuse nearly 6 million American women each year. Acts of domestic violence occur every 15 seconds in the United States, making domestic violence one of the most common crimes (Pennsylvania Attorney General's Family Violence Task Force, 1999). In the year 2000, the state of Ohio recorded more than 62,000 victims of family violence. Every five days an Ohioan dies as the result of domestic violence (Goodman, 2001). Recently, the Ohio Office of Criminal Justice Services administered $2.9 million in federal grants to assist Ohio victims and their families. Ohio shelters are slated to receive an additional $3.8 million in federal money in 2002. Despite changes in the law and the proliferation of services for battered women and their children, however, violence against women persists as the single major cause of injury to women in this country, exceeding injuries caused by auto accidents, rapes, or muggings. Consequently, service providers face mounting pressure to demonstrate the efficacy of intervention programs for battered women.
Battered women are a heterogeneous group representing a wide range of economic, cultural, and social backgrounds. These factors influence the obstacles that battered women encounter and the amount and type of resources available to those who seek help. Little, however, is known about differences among the women who utilize intervention services. Efforts to improve the quality of care available to battered women may require gathering more precise information about them and their environments than is currently available. Identifying subtypes of battered women may be a useful tool for evaluating different treatment goals and "best practice" service models for this population.

Overview of the Study

Despite increased pressure to investigate "...what works, for whom?" (Rubin, 2000, p.5), researchers have continued to ignore the heterogeneity of battered women. As a result, services and service outcome goals continue to be designed, measured, and evaluated under a one-size-fits-all approach. The primary purpose of this study is to create an empirical typology of battered women. The rationale for undertaking this study is to assist clinicians and researchers in meeting the growing demand to address more consistently and thoroughly the question of "what intervention, conducted by what therapist, with what client, to resolve what psychosocial dysfunctions, produces what effects?" (Kendall & Butcher. 1982, p. 434).
The goal of identifying what works for whom is a research challenge which will require repeated studies, conducted in a variety of settings, under a variety of conditions, over a period of time. An initial step in this process is to begin to gather more precise information about the individuals being served (Rubin, 2000). Findings from this exploratory study will serve as a building block toward addressing what works for whom by providing more specific information about female survivors of domestic violence than is currently available.

**Definition of Battered Women**

According to Ohio Law, domestic violence is generally defined as physical, sexual, verbal, and/or emotional abuse of a person by an intimate partner. Per the Ohio Revised Code, domestic violence is indicated if one or more of the following acts occur between family or household members who reside together, have resided together, or have a child in common, regardless of whether they have previously resided together: (1) attempting to cause or recklessly causing bodily injury, (2) placing another person, by the threat of force, in fear of imminent serious physical harm, or (3) committing any act with respect to a child that would result in the child being an abused child (CARTP, 1996).

In this study, battered women, also referred to as female victims of domestic violence, are defined as women, regardless of marital status or living arrangements, who have been victimized by a male intimate partner. Such violence may include threats of physical, sexual, or withholding of resources abuse, psychological abuse, controlling/withholding of resources abuse, or physical/sexual abuse.
Addressing "What Works": The Problem with Traditional Outcome Measures

McKenzie (1995) suggests that despite the proliferation of services currently available, battered women are no safer today than they were a decade or two ago. Unfortunately, safety remains a difficult construct to operationalize and measure, leading many researchers to avoid outcomes-based studies altogether. Of the studies that do evaluate the safety status of battered women, most base their conclusions on measured changes in pre- and post-intervention psychological assessment scores, or post-intervention relationship status (living with the batterer/not living with the batterer) at the time of exit from a battered women's shelter. To date, however, no specific link has been found between changes in psychological assessment scores or separation from the batterer and increased safety. In fact, some authors have instead suggested "...that the woman's risk of serious bodily harm and even death increases significantly if the woman actually leaves the relationship with the abusive spouse" (Cervantes & Hansen, 1997, p. 45).

The few studies available that attempt to measure battered women's safety following participation in services for victims of domestic violence differ greatly in their selection of variables and offer mixed results. For example, Berk, Newton, and Berk's (1986) study on the impact that shelter makes in the lives of battered women focused largely on the help-seeking behaviors of women in shelter. They found that each additional effort to obtain help reduced the number of subsequent violent episodes. No discussion was provided, however, regarding how help-accessibility, help-type, or help-response influenced help-seeking behavior or service outcomes.
Sullivan, Tan, Basta, Rumptz, and Davidson (1992) investigated the effects of advocacy intervention on a sample of women with abusive partners. Using a 10-week intervention experimental design, they interviewed women a week after exiting shelter. Following the interviews, women were randomly assigned to either the experimental group (post-exit advocacy) or the control group (no post-exit advocacy). At the 10-week follow-up, they found mixed results between the two groups. For example, the researchers found statistically significant differences in resources needed between the two groups. The experimental group (n=71) reported needing more material goods and housing, and less health care, than the study control group (n=70). However, a comparison of abuse experienced by the two groups within 10 weeks after leaving shelter reflected no statistically significant differences. According to the authors, 46% of the respondents (40%-experimental/51%-control) reported being battered again within the 10-week time frame.

In a follow-up report, Sullivan, Basta, Tan, and Davidson (1992) conducted discriminant function analyses to investigate which variables influenced the need for specific resources. They identified a statistically significant relationship between the type of resources needed and the variables of race, age, and whether or not a woman was returning to her assailant (p = <.05). No further discussion was provided regarding which variables best predicted increased safety post-shelter.

Another reason for the limited number of studies measuring women's safety is that tracking women after they exit service has traditionally presented significant methodological concerns. Abel (2000) described two particularly critical difficulties:
Follow-up has been a difficult element to include when providing services to domestic violence survivors. Abused women often move and, for safety reasons, do not leave a forwarding address. Furthermore, contacting battered women who have returned to their abusers may place the women in danger. These ethical and practical issues have made follow-up of battered women difficult. As a result, few follow-up programs have been developed...

Researchers wishing to build in a follow-up component to practice effectiveness studies with battered women will need to be creative (p. 74).

Because of the difficulties involved in follow-up, domestic violence researchers have often utilized a woman's relationship status as she leaves shelter to infer her degree of safety. However, to some, using separation from the abuser as the desired outcome goal implies that all battered women should want to leave their batterer, have the resources necessary to leave, and are safer if they leave. What has resulted "...has been a body of research focused on what is wrong with battered women" (Rhodes & McKenzie, p. 402), rather than on what is wrong with batterers or battered women's services.

Addressing "For Whom": The Importance of an Empirical Typology

One of the most prevalent oversights in existing research to date has been that the diversity among battered women has been largely ignored. Although most outcome studies treat battered women as a homogenous group, an increasing body of evidence supports that battered women are a heterogeneous group, with different resources, barriers, and goals (Wilson, 1997).
Recent trends in the literature underscore the need to move away from a "one-size-fits-all" model of violence intervention, toward a model that is more responsive to the specific needs and goals of individual clients (Petretic-Jackson & Jackson, 1996; Abel, 2000). Increased pressure is being placed on social workers to provide services that are client specific (Wilson, 1997) and to become more responsive to concerns regarding the value and effectiveness of battered women’s programs. The research to date, however, has not satisfactorily answered the question of "what works for whom?"

According to Rubin (2000), identifying "what works for whom?" involves developing a more precise picture of both the personal and the environmental characteristics that are specific to the type of client for whom services are intended. One means of accomplishing this is to describe client populations "...in terms of 'prototypes' based on [a wide-range of] clusters of characteristics" (Rubin, 2000 p. 7). Rubin explained this approach:

...assumes that "experts" working with special populations can identify clusters of people within those populations whose typical members share common problems, treatment needs and prospects for recovery. These clusters can be characterized by a set of correlated or typical features rather than in terms of a set of necessary and sufficient conditions. These clusters would describe both common elements and the variability among members of the same cluster (p. 7).
Although few cluster-based studies were found in the domestic violence literature, Rubin's (2000) work with the Severe Mental Disability (SMD) adult population suggests that this approach may be appropriate for researchers seeking to assess the efficacy of other currently available social service policies and programs:

...[C]luster-based approaches to identifying prototypes of adults with SMD are demonstrating generalizability across geographic areas and predictive validity in terms of service utilization, hospitalization, and recidivism rates, and costs for each cluster. Clusters are also demonstrating their utility in suggesting different treatment goals and "best practice" service models for each cluster (p. 8).

Rationale for the Study

One of the most prevalent questions asked in battered women's research has been "why do women stay?" Jones (1994) responds:

This question [why does she stay] ...is not a real question. It doesn't call for an answer; it makes a judgment...It transforms an immense social problem into a personal transaction, and at the same time pins responsibility squarely on the victim (p. 131).

In response to criticisms of blaming the victim, researchers are increasingly urged to move away from "why do women stay?" and, instead, investigate "what factors prevent them from leaving?" (Grigsby & Hartman, 1997; Rhodes & McKenzie, 1998). Researchers and service providers are also challenged to move beyond interventions and outcome goals that focus solely on the psychological states of battered women.
Shepard (1991) suggests that to develop effective intervention strategies for battered women, service providers must understand that treatment outcomes are the products of complex interactions between individuals and environments.

According to Snyder and Scheer (1981), differences in "...whether or not a woman returns to live with her assailant ha[ve] far-reaching implications for the type of ...services she requires as a shelter resident" (p. 559). Thus, a cluster-based approach could prove useful for domestic violence intervention programs and program evaluation initiatives. Such an approach would enable service providers to identify more specifically the goals of certain subgroups, then match and evaluate treatment plans according to these goals.

As was previously suggested, continuing to study battered women from the perspective that all battered women are the same seems limited in scope. Evaluating the effectiveness of battered women's programs based solely on a participant's post-intervention relationship status or post-intervention psychological assessment scores appears to be similarly short-sighted. Given the increased demand for program accountability, refining service outcome goals and broadening our understanding of the variability among battered women have important implications for social work researchers and practitioners. Social workers must consider alternative frameworks for researching battered women and battered women's services.
Statement of the Problem

This study seeks to address the need for more specific information regarding female victims of domestic violence by identifying subgroups of battered women according to personal and environmental characteristics and barriers and by assessing the relationship between subgroup membership and service outcomes.

Purpose and Objectives of the Study

The purpose of this study is to create an empirical typology of battered women and to examine the relationship between subtype membership and service outcomes following participation in domestic violence services. The research objectives of this study are as follows:

1. To create a typology of battered women; to identify empirically subgroups of battered women according to personal and environmental characteristics and barriers.

2. To compare and describe subgroups of battered women; conduct analyses to identify how groups differ in average age of dependent children, race, financial dependence on abuser at intake, relationship with abuser, length of relationship with abuser, and reason for never leaving/returning to abuser.

3. To compare and describe service provision and service utilization of subtypes of battered women; conduct analyses to identify how groups differ in referral follow-through, number of education groups attended, number of support groups attended, received advocacy services, received case management services, received court
accompaniment, received court outreach, received legal services, and total combined hours of legal and intervention services received.

4. To compare and describe service outcomes of subtypes of battered women; conduct analyses to identify how groups differ at case closure on relationship status, awareness of available resources, insight into battering dynamics, likelihood of calling for help if battered again, environmental barriers, safety status, filing civil charges, following though on civil charges, filing criminal charges, and following through on criminal charges.

Plan of the Study and Summary

Despite increased emphasis on program evaluation to determine "what works for whom," researchers have yet to recognize the heterogeneity among battered women and to determine how differences among the personal and environmental characteristics of battered women are associated with differences in service outcomes. The purpose of this study is to create an empirical typology of battered women and to examine the relationship between subtype membership and service outcomes for female victims of domestic violence following participation in domestic violence services.

Chapter 1 contains the introduction to and overview of the study, problems associated with traditional outcome measures, the importance of identifying subtypes of battered women and establishing outcome goals that are type specific, the rationale for the study, the statement of the problem, and the purpose and objectives of the study. Chapter 2 contains the theoretical basis for the study and a review of the literature relative to formulating typologies of battered women, comparing service provision and
service utilization between subtypes, and investigating differences in service outcomes according to subtype membership. Chapter 3 details the research design and methodology used in the study. Chapter 4 presents data analysis and the findings of the study. Chapter 5 discusses conclusions, practical implications, and recommendations for further research.
CHAPTER 2

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

To date, little specific information is known about differences among battered women who utilize intervention services. Consequently, domestic violence researchers and service providers are far from being able to answer the utilitarian question of "what services work for whom?" One of the most substantial barriers to investigating the relationship between study participants and service outcomes is that human behavior is complex—the more complex the theories developed to explain human behavior, the greater the difficulty in subjecting these theories to empirical testing (Gelles, 1993). In addition, researchers investigating battered women continue to be challenged by significant methodological constraints.

First, women and children experiencing violence within the home are often in imminent danger. Research efforts that would impose a delay or withholding of services would be unethical (Berk, Newton, & Berk, 1986). Second, any attempts by the researcher to formulate an experimental study by randomly assigning women to various levels of intervention are impractical due to the limited number and types of service choices available to women in most regions of the country (Rubin, 1991).
Third, because there are many barriers to women seeking shelter (Grisgby & Hartman, 1997), service providers place a premium on responding to the client's immediate needs. Any attempt to manipulate services as a means of obtaining experimental control is considered wholly unacceptable (Rubin, 1991). Fourth, many programs that offer services to domestic violence victims may be reluctant to participate in well-controlled studies because they "...accept the value of battered women's programs as self-evident, especially when considering the protection offered by shelters for victimized women and their children" (Rubin, 1991, p. 333). The fifth issue regards follow-up data. Due to safety concerns, costs, and limited time and resources, many researchers elect not to gather follow-up data on women after their exit from service. In instances when follow-up data is collected, the follow-up period rarely extends to more than a few days or weeks post-intervention. When follow-up information is sought, it is often obtained through unreliable or inadequate sources (Healey, Smith, & O'Sullivan, 1998).

The most fundamental factor contributing to our lack of knowledge about battered women may be that when study subjects are grouped for analysis only by generalized categories, considerable within-group heterogeneity is masked (Rubin, 2000). For example, older battered women with no children and with access to financial resources may be evaluated using the same assessment tools as younger battered women with infant children, who have limited financial and/or social support, and no education. Although the subjects may score similarly on screening instruments, service goals and outcomes for each group could differ greatly.
To begin to address "...what works, for whom...?" (Rubin, 2000, p. 5), it may be more useful to group participants according to clusters of characteristics. Reducing information about a total population of battered women to discover natural groupings of cases, "... represents a more holistic, 'person-focused' approach to classification as contrasted with the ['problem-focused' approach] implied by diagnostic categories" (p. 7). Identifying and comparing clusters or subgroups of battered women could increase the current knowledge base and help in evaluating "what works, for whom, and at what cost?" (p. 5). Therefore, the present investigation seeks to create an empirical typology of battered women and to compare differences between subgroups of battered women according to service provision, service utilization, and service outcomes.

Theoretical Basis for the Study

The Contribution of the Feminist Perspective

Since the late 1960s, feminism and the battered woman's movement have been instrumental in demanding changes in the social, political, and economic norms that legitimize male violence against women. Fundamental to the feminist perspective are the values that (1) no woman deserves to be beaten, and (2) men are solely responsible for their actions (Bograd, 1984, p. 561). Throughout the past four decades, distinct theoretical orientations regarding male violence have emerged from feminist ideology, representing markedly different strategies and philosophies for ameliorating violence against women. Among the most prevalent of these orientations are liberal feminism, socialist feminism, and radical feminism.
**Liberal Feminism**

According to the perspective of liberal feminists, women and men are seen as essentially equal. Where inequalities exist, it is suggested that they are natural outcomes of individual differences in motivation and ability (Nes & Iadicola, 1989). When "illegitimate" gender differences occur, they are interpreted as the consequences of unequal opportunities for women. Because liberal feminists do not view governmental and institutional structures to be at the root of oppression, they largely support the existing values of our current democratic society (Whalen, 1996). From this perspective, a prescription for change calls for women to "...become more like men--that is, more assertive, competitive, and individualistic" (Nes & Iadicola, 1989, p. 13).

**Socialist Feminism**

As with liberal feminism, socialist feminism suggests that differences between men and women are created by the environment (Nes & Iadicola). According to this perspective, men and women are not inherently different. They become different because they are products of a patriarchal system where women’s access to resources is limited. Socialist feminists suggest that women are oppressed because they lack power in the modes of production and reproduction. Supporters of this viewpoint advocate consciousness-raising and coalition-building to promote equality for men and women. Socialist feminists call for "...individuals to recognize that their ...needs for love, companionship, and nurturance can be met outside relationships of dominance and submission and that individuals need not realize their potentials at the expense of others..." (Nes & Iadicola, p. 15).
Radical Feminism

Radical feminism suggests that patriarchy is the root of all forms of oppression and argues that differences between men and women are largely the consequences of a social construction of gender perpetuated for the benefit of males within society. According to this perspective, although men and women may hold inherent differences, they have the potential to be biologically, psychologically, and socially similar (Whalen, 1996). In direct contrast to the liberal point of view, radical feminists do not contend that oppression can be eliminated through changes in the current democratic structure. To transcend traditional definitions of gender, they call for the subversion of existing political and social systems and for the reorganization of society (Whalen, 1996).

Feminism and Domestic Violence

The feminist perspective has been described as a conceptual base (Valentich, 1986), a lens (Yllo, 1993), and a movement (Farganis, 1996). Supporters of the feminist point of view acknowledge, however, that, "...it is not yet a fully developed, distinctive framework..." (Yllo, 1993, p. 47). Critics suggest that although feminist ideology offers a politically attractive perspective from which to base intervention practice, the explanation it provides of the complexities involved in family violence is incomplete. For example, issues such as violence in lesbian relationships and female violence against intimate partners have been largely ignored by the feminist literature. Other questions, such as why some men batter and others do not, present additional challenges to feminist ideology.
A significant criticism of the feminist perspective is that it has, in large part, failed to recognize fundamental differences among domestic violence victims. Whalen (1996) explained the historical basis and potential consequences of ignoring the heterogeneity among battered women:

One of the central conceptual categories for feminists is that of woman. In the effort to conceptualize women as a class, early radical feminists stressed the commonalities among women's experiences. But critics argue that to a large extent those commonalities were falsely universalized from white middle-class experience to other cultures and experiences. Early radical feminists were taken to task for equating their notions of woman with that of white, middle-class heterosexual women. One of the dangers in losing sight of this diversity is that counseling can become a practice and a service exclusively for white, middle-class heterosexual women (p. 24).

Even among battered women who are similar with respect to culture or socioeconomic status, differences may emerge regarding involvement in community services, available resources, perceptions of violence, and goals for intervention. Wilson (1997) stated, "The oppression of women knows no ethical or racial boundaries, true, but that does not mean it is identical within those differences" (p. 101). Discussions of these differences remain conspicuously absent in the current literature.

Concerns have also been raised regarding the ongoing gap among theory, research, and practice aimed at ameliorating domestic violence. For radical feminists, the approach to practice has been to "...challenge the sanctity of the institution of
marriage...and to encourage battered women to get out of their abusive relationships and get free" (Whalen, 1996, p. 54). Little research, however, has been offered to suggest that women who leave their abusers are safer from violence. Furthermore, the imposed goal of leaving one's partner seems in conflict with the feminist value that women should be free to choose their own best course of action and may unwittingly suggest that the woman, rather than the abuser, is responsible for her continuing abuse.

In the only study found to investigate specifically the service outcomes of women who received feminist counseling, Mancoske, Standifer, and Cauley (1994) used a comparative treatment condition, pre-test--post-test design. The researchers compared self-esteem, self-efficacy, and attitude change scores between a group of ten battered women who received grief-oriented counseling and a group of ten battered women who received feminist-oriented counseling. The researchers reported these results:

The women who received counseling with a grief resolution emphasis showed improvement in self-esteem and self-efficacy. However, changes in their attitudes toward feminism, although showing improvement, were not statistically significant. The women who received counseling with a feminist approach did not show statistically significant improvement on any outcome measure... (p. 60).

The implication of this study is that, despite the prevalence of using feminist counseling with battered women, this type of counseling may not be the most universally effective intervention modality. Although these findings cannot be
generalized beyond the study population, they do support further investigation into the relationship between domestic violence clients, violence intervention methods, and service outcomes.

Letellier (1996) also suggested that feminist theory was inadequate to explain, prevent, or challenge domestic violence when he wrote:

Unfortunately, feminist theory, with its doctrine of male victimizers and female victims, has...contributed to the invisibility of gay and lesbian domestic violence because it precludes the possibility of such violence occurring. Indeed, the movement to stop domestic violence has been extremely reluctant to address and work to prevent same-sex battering, in large part because of the fundamental challenge to domestic violence theory that gay and lesbian battering represents. The existence of female batterers and male victims defies the strict gender categorizations of victims and perpetrators that are central to a feminist analysis of domestic violence...Without a wider dissemination of information about same-sex domestic violence, there is little hope for a more inclusive approach to the topic of battering in general (p. 2).

Concerns that feminist ideology does not adequately address female violence or violence in gay and lesbian relationships (Coleman, 1996; Hamberger & Potente, 1996; Letellier, 1996) and the introductory findings of Mancoske, Standifer, and Cauley (1994), support the earlier charge by Gelles (1993) that the "gendered lens" offered by a
feminist perspective provides a necessary, albeit insufficient, "telephoto" view of domestic violence. Therefore, a broader, more inclusive framework, from which to develop models of practice for battered women, is needed.

The Contribution of the Ecological Perspective

Nearly three decades ago, Germain (1973) introduced an ecological metaphor as a perspective for social work practice. Fundamental to an ecological perspective is the understanding that person and environment are not separate elements of study, but rather a unitary system formed through the continual influences of each on the other within a particular context. Dwyer, Smokowski, Bricout, and Wodarski (1996) state, "The multifaceted nature of [domestic violence] makes simplistic solutions impractical, and so solutions need to be fashioned with multiple components within a holistic framework" (p. 77). An ecological perspective may offer practitioners:

...perhaps the most useful prescription for the change effort...[because it] builds upon the person in the environment perspective of social work practice...Since each individual case will have its own unique blend of causal factors, a flexible, comprehensive approach adds power and applicability to the intervention (Dwyer, Smokowski, Bricout, & Wodarski, 1995, pp. 193-194).

The ecological perspective also confronts the "ecological fallacy" (Dooley & Catalano, 1984) that exists in feminist theory. That is, "[t]he 'slippage' between structural patriarchy and individual male ideology..." (Dutton, 1996). According to Dutton, broad macrosystem features, such as patriarchy, the core of feminist theory, cannot strongly predict the actions of individuals. "Moderating variables from the
exosystem, from the microsystem, and from the individual’s own developmental history are necessary to complete the predictive picture” (p. 131). Likewise, although battered women in general may face barriers to safety, understanding differences in the types of barriers, differences in individual women, and differences in the relationship between certain types of barriers and certain types of women are necessary steps in developing effective practice models for intervention and prevention.

Therefore, in addition to understanding the psychological consequences of domestic violence that impede women, social workers practicing from an ecological perspective must also be aware of the potential impact that environmental barriers may have on the outcomes of battered women who participate in intervention services. This dual focus, however, has yet to be applied consistently in practice. At present, most practice and research initiatives continue to focus solely on the personal influences of why battered women stay, "...without regard to the larger context in which women live" (Brown & Dickey, 1992, p. 57).

Such a singular vision of personal variables in research and practice has led to concerns regarding practice effectiveness and charges of "blaming the victim." When clients "fail" to leave their abuser, they, rather than their environment or the interventions provided, are called into question. Kemp, Whittaker, and Tracy (1997) explain the need to look beyond personal variables in domestic violence research and practice:
Unless significant environmental constraints and pressures are addressed...it is unlikely that [traditional intervention methods] alone will be of much use to clients. Used indiscriminately, [these interventions] can assume a 'blame the victim' attitude, implying that if only the clients possessed more skills, they could handle or adapt to an inadequate or impoverished environment (p. 157).

According to Rhodes and McKenzie (1998), if a victim chooses to leave her assailant, it may be beneficial for researchers and practitioners to determine what enables her to do so. They also caution, however, that the "...likelihood of finding a unitary theory that will provide us with an accurate, let alone functional, understanding of why battered women remain in abusive relationships is unlikely" (p. 403). This may be because although relationships between individuals and their environments can sometimes be linear, whereby a cause precedes an effect, alternative explanations for an outcome seldom can be ruled out entirely when examining complex situations. Thus, cause and effect may be difficult, if not impossible, to discern.

Despite this significant challenge, the importance of the ecological perspective is that in recognizing the complexity of domestic violence, it neither seeks a simple or singular explanation for human behavior, nor focuses primarily on causality. Instead, ecological thinking is concerned with creating a synthesized approach to examining the consequences of exchanges between person and environment and modifying maladaptive exchanges (Germain & Bloom, 1994).
The Ecological Perspective Through a Feminist Lens: The Barriers Model

As identified earlier, the feminist perspective has been suggested as a necessary, yet insufficient, framework for developing models of practice for battered women. An ecological approach that fails to consider the role of patriarchy in perpetuating domestic violence would be similarly insufficient. Together, however, feminist and ecological perspectives provide a powerful prescription for change.

Recognizing the importance of both perspectives, Grigsby and Hartman (1997) recently developed the Barriers Model (see Figure 2.1). By combining the feminist and ecological perspectives into one framework, their theoretical hybrid provides a model for identifying and evaluating differences in personal and environmental barriers among battered women.
Figure 2.1. The Barriers Model. Grigsby and Hartman's schema depicting the effects of external environment and life experiences on battered women.

Graphically represented, the Barriers Model situates women in the center of four concentric circles, with each circle representing existing barriers or obstacles that battered women may encounter, including barriers in the environment, family/social/role expectations, psychological consequences of violence, and childhood abuse/neglect issues. These layers are not linear. Victims may experience barriers in one or more layers, or in all of the layers. Because this "...model takes into account the
whole of the battered woman's experience, including community barriers...", it establishes a framework for differentiating battered women according to a range of personal and environmental factors (Grigsby & Hartman, 1997, p. 496). Although many of the barriers identified by Grigsby and Hartman cannot readily be operationalized, their model represents an important shift away from research and practice that subtly blames domestic violence victims and offers a new paradigm for identifying and evaluating what works for whom.

Review of Literature

An ecological view does not propose that personal resources or experiences be ignored in the process of working with battered women; rather, it proposes that understanding the influence of both personal and environmental characteristics is integral to understanding battered women. Much of the research to date regarding battered women has been framed around the question, "Why do women stay in abusive relationships?" Consequently, the body of literature that has developed has focused primarily on what is "...wrong with battered women" (Rhodes & McKenzie, 1998, p. 402), rather than on what external factors need to change to prevent battering or the efficacy of existing intervention services.

Despite growing criticism of a singular or primary emphasis on the psychopathology of battered women, the "what is wrong with the battered woman" perspective maintains its stronghold in much of today's literature, research, and practice (Rhodes & McKenzie, 1998). For example, mandatory attendance at individual or group counseling and parenting workshops continues to be the norm in many agencies.
and shelters that provide services for battered women (Bohmer, Bronson, Hartnett, Brandt, & Kania, 2000). As a result, little is known about differences among battered women and the relationships between these differences and service outcomes.

In the present study, the Barriers Model provides the framework for the literature review. Background literature is organized into three sections: personal and environmental characteristics that differentiate battered women, service provision and service utilization, and service outcomes.

**Personal and Environmental Characteristics that Differentiate Battered Women**

With few exceptions (Snyder & Scheer, 1981; Berk, Newton, & Berk, 1986; Wilson, Baglioni, & Downing, 1989; Sullivan, Tan, Basta, Rumpitz, & Davidson, 1992; Aguilar & Nightingale, 1994; Marshall, 1996; Tutty, Bidgood, & Rothery, 1996; Hamby & Gray-Little, 1997), most domestic violence research has been limited to comparisons between battered and non-battered women. Through careful examination of the literature, however, some empirical and conceptual differences among battered women were identified, including age, number/age of dependent children, batterer behaviors, type of abuse, belief systems, material resources, support systems, employment status/financial dependence, race/ethnicity, and the type and length of relationship with the batterer. These factors provide the framework for creating an empirical typology of battered women.
An early concern addressed by Gove and Geerken (1977) is that individuals in older age groups tend to score higher on social desirability scales than their younger counterparts. They suggested that this may account for some of the differences in rates of reported violence between younger and older cohorts. More recently, however, it has been suggested that the effect of social desirability alone does not adequately explain the large differences in rates of reported violence between younger and older victims (Suitor, Pillemer, & Straus, 1990).

In their review of 52 empirical studies on husband-to-wife violence, Hotaling and Sugarman (1986) report a link between age and incidents of domestic violence. They initially found that when both community and inmate/shelter populations were considered, the risk associated with age was inconsistent for both victims and batterers. However, when limiting the scope of analysis to include only community studies, age as a function of victimization became a consistent risk factor for women. Hotaling and Sugarman found that in 100% of the community-based studies under review (n=5), younger women were reportedly more likely to be victims of domestic violence than older female respondents. They suggest that the lack of significant findings in the target-sample studies may be the result of attempts to match participants on specific demographic variables or other sampling problems.

Gelles (1993) also found a correlation between age and rates of violence. He reported that incidents of violence among intimate partners remains highest for persons between the ages of 18 to 30 years of age, which is similar to rates of violence among
non-intimates in the general population. In a 1985 study of 1,750 men and 2,285 women, persons at or below 30 years of age were positively associated with increased rates of marital violence even when holding constant the variables of marital conflict, husband’s alcohol consumption, and verbal aggression (Suitor, Pillemer, & Straus, 1990).

Despite findings that younger respondents may be at a higher risk overall for violence, however, little is known about the influence of age on safety post-shelter. In the only study found to compare service outcomes for female victims of domestic violence according to age, Tutty, et al. (1996) report that once victimized, older respondents may experience greater difficulties than their younger counterparts. Specifically, in initial pre- and post-tests, there were virtually no significant differences among three age categories: 20-29 years (n=23), 30-39 years (n=23), and 40 years and over (n=12). At the 6-month follow-up, however, "...the eldest category of women was characterized by significantly higher problem scores..." than the other two groups on several measures (p. 320). These included: locus of control, attitudes toward marriage and the family, and emotional involvement, communication, and verbal abuse on the Conflict Tactics Scale.

Tutty, et al. concluded, "...although clients of varying ages may benefit equally from support group membership, it appears that it is markedly more difficult for the eldest clients to maintain their level of functioning over time" (p. 320). The researchers advise caution in interpreting the results due to the nonrandom sampling technique and small sample size.
Number/Age of Dependent Children

In a comparison study between women who used shelter once and those who were repeat users, Wilson, Baglioni, and Downing (1989) hypothesized that the variables, number of children and age of children, would be positively correlated to shelter readmission. Utilizing intake data collected at one shelter between 1978-1985, they concluded that the average age of children was positively related to shelter readmission. Profiles developed from this study suggest that women with older children may be more "...willing to leave a relationship with a battering man" (p.281), than are women with younger children. Number of children was negatively correlated to shelter readmission. Because only the average age of children and the range of number of dependents were presented, however, it is not known how many respondents reported having no children or how return rates varied between women with children and women without children.

Data for Davis and Srinivasan's (1995) inquiry into what helps battered women escape further violence were collected from nine focus groups throughout seven cities in a midwestern state. Although no reference was made to the exact number of study participants or number of participants by type, the authors did note differences in living arrangements among the women. These included women residing in shelter, women living with their abusers, and women making the transition into independent living. It was also briefly noted that 87% of the participants had at least one child.
Findings from their qualitative investigation suggest that for women with dependent children who left their abuser, children's modeling of inappropriate parental behavior may have been a precipitating factor. Others left when their children were perceived to be at risk. One tentative interpretation of this finding is that a child's age or developmental stage may play a role in a woman's initial decision to leave her batterer. What is not known from this study, however, is what specific relationship, if any, exists between age of children, number of children, and service outcomes.

Forte, Franks, Forte, and Rigsby's (1996) comparison of battered and non-battered women found that battered women tend to have larger families and younger children ($M=9$ years of age), compared to non-battered women ($M=12$ years of age). As with the majority of studies that included descriptive data regarding number or age of children, however, no within-group differences were analyzed to distinguish subgroups of battered women or to determine a relationship between specific variables and service outcomes.

Tutty's (1993) brief reference to an unpublished investigation conducted by Smillie (1991) suggests that for battered women who return to their abuser after having lived independently, children may be a primary factor:

...Several women who were successful in living independently in the community for over a year ultimately returned to their husbands. Two of the main reasons provided by the women for their return were to 'give their children a father' and the stresses of single-parenting (p. 195).
Tutty's (1993) own exploratory study found additional support for the link between dependent children and a return to a violent partner. She cites that women with children often experience "...pressure to reconcile with their partners, either because of their children's reaction to the separation, or because the partner exerted pressure through the children" (p. 195). Interpretation of these findings, however, is limited due to nonrandom sampling and small sample size ($n=18$).

Pagelow's (1997) review of research related to children and domestic violence suggests that regardless of the number or ages of children, the existence of any children at all may be the critical factor in preventing a battered woman from leaving her assailant. For example, faced with unsupervised visits or exchanges, women attempting to leave their assailant may determine that it is ultimately safer for themselves and/or their children to remain with the abuser. In part, this may be because battered women with children who attempt to leave their abuser may have limited access to the resources necessary to remain independent.

In a nationwide survey of abused-women's coalitions and state domestic violence agencies, Davis, Hagen, and Early (1994) found that less than half offered programs for children. Edleson and Frank (1991) reported similar results in their descriptive study of intervention programs for battered women in rural Minnesota. They found that of 31 respondents, 55% did not offer children's support programs. They concluded that "[s]hould a woman decide to leave her abuser, the scarcity of activity involving children's programs is especially problematic..." (p. 547).
Sullivan's (1991) study found that 46.3% of respondents required assistance in finding childcare. However, despite reporting that "...working with advocates increased a woman's chances of obtaining needed resources..." (p. 329), no specific information was provided on either the influence of advocacy services on subsequent childcare needs or on the relationship between childcare needs and the risk of further abuse (Sullivan, Tan, Basta, Rumptz, & Davidson II, 1992).

Although no statistical relationship between subtype membership, number of children, age of children, and service outcomes has been established, descriptive reports and logic support further examination. As Wodarski (1987) concludes, "Most of the research agrees that the battered woman has no place to go, particularly if there are children. If there are children she stays because of them, and if and when she does leave it is frequently because she sees the children as being in danger" (p. 175).

**Batterer Behaviors**

For women whose goal is to foster a relationship that is free of violence, the batterer is a necessary component to the maintenance of change (Holiman & Schilit, 1991). For women whose goal is to leave a violent relationship and remain safe, again the most fundamental element to consider is the batterer. Throughout the literature, descriptive accounts portray a wide-range of behaviors exhibited by batterers that may be useful in identifying and evaluating differences between battered women and their service outcomes.
For example, a batterer may lock his victim in or out of the house; harm or threaten to harm her children or other family members; limit her contact with outside resources, including employment, family, friends, and other social networks; or prohibit her access to her children, money, medication, and other important resources. Batterers may also enlist assistance from family or friends to maintain control of the victim when he needs to leave the house (Grigsby & Hartman, 1997); become apologetic; promise to change; beg the victim to reconcile; threaten suicide; or harass, stalk, or threaten to kill the victim (Rhodes & McKenzie, 1998). To highlight the often, tangible barriers imposed by batterers, Grigsby and Hartman (1997) recorded the experience of an Ohio judge as follows:

Frustrated by the number of domestic violence complainants not appearing for the arraignment of the defendant, other local judges had issued bench warrants so they could arrest the victim to get her to come to court. This judge, not wanting to take such punitive measures, sent a deputy to the home of one...battered woman who failed to appear at court. The deputy peered through the windows prior to seeking entrance only to find the defendant literally sitting on top of the victim on the living room floor, preventing her from appearing at court, in hopes the charges would be dropped (pp. 487-488).

As suggested by these clinical accounts, "...the behavior of the batterer post-separation appears to significantly influence whether [some battered women] will stay separated or return to their violent relationship" (Rhodes & McKenzie, 1998, p. 403). Despite this awareness, however, the variable most "...conspicuously absent in outcome
research on battered women..." is the behavior of the batterer when the victim attempts to change or leave (Rhodes & McKenzie, 1998, p. 403). According to Rhodes and McKenzie, further "[r]esearch is necessary to determine the effects of the ...batterers’ behaviors on women's decisions about the relationship" (p. 403).

**Type of Abuse**

In one of only a handful of studies found to investigate directly within-group differences among battered women, Aguilar and Nightingale's (1994) two-phase study initially compared self-esteem scores between 48 battered women and 48 non-battered women. As expected, the self-esteem scores of battered women were found to be significantly lower than those of non-battered women. In the study's second phase, the researchers used a hierarchical cluster analysis and identified four clusters of battering experiences. These included physical abuse, controlling/emotional abuse, sexual/emotional abuse, and miscellaneous abuse. The researchers reported that emotional/controlling abuse was the only cluster significantly related to lower self-esteem scores.

Concluding that low self-esteem may contribute to the difficulty that many battered women have in leaving their abusive relationships, additional analyses were performed to determine if any significant between-group differences among battered women could be identified. Significant differences emerged in t-tests in self-esteem scores between the group of women who had not experienced abuse for at least one year prior to the study (M=21, SD=11.42) and the group of women battered within the past year/currently involved with their abuser (M=-0.87, SD=13.14, t (27) = 2.89, p < .01).
Significant differences were also found for the group of women abused over one year ago and the group of women battered within the past year/not currently involved with their abuser (M=-2.10, SD=11.14, t (34) = 3.28, p < .01).

Subsequent multivariate regression analysis revealed that emotional/controlling abuse scores and miscellaneous abuse scores were also significant predictors of self-esteem. Specifically, women who scored high on the emotional/abuse cluster had significantly lower self-esteem scores. In contrast, women who scored higher on the miscellaneous abuse cluster had significantly higher self-esteem scores.

Aguilar and Nightingale identified several significant study limitations, including questions regarding the validity of abuse types and the lack of experimental control. Although they provided no specific data regarding a correlation between subgroup type, self-esteem, and relationship status, they cautiously suggest that experiencing controlling/emotional abuse "might" be particularly detrimental to self-esteem. They conclude that this may, in turn, contribute to the difficulty that some battered women have in terminating their relationships.

Belief Systems

Grigsby and Hartman (1997) suggest that "...female socialization in patriarchal culture, individual and societal values and attitudes, personal identity, religious beliefs, and rules learned within one's family of origin" may present barriers to intervention (p. 493). For example, women who have been taught to place the needs of their partner and children first may find residing in a shelter, filing criminal charges, or terminating an abusive relationship to be incompatible with their personal goals and values.
Women with a strong spiritual or religious foundation may also find it unacceptable to leave their partner, or if exploring the option of leaving, may be advised by their religious advisor or community network to remain in an abusive relationship. A battered woman may be advised similarly by family members who believe she should honor her vows, question aloud how she will survive without a man to take care of her, or threaten to abandon her if she attempts to flee. Although Grigsby and Hartman (1997) offer a conceptual link between belief systems and outcomes for battered women, an empirical relationship between subtypes, belief systems, and service outcomes has not yet been established. Therefore, further examination is warranted.

**Material Resources**

Based largely on theoretical supposition and case studies, recent trends in the literature suggest that access to material resources may also influence the safety of battered women (Grigsby & Hartman, 1997). Rhodes and McKenzie (1998) insist, "We must not treat the issue of why battered women stay with their partners as if they (the women) exist in a vacuum. There are many sources of influence which can help or hinder a woman in ending her abuse" (p. 399).

For example, Deschner (1984) reports, "If a woman leaves...shelter without having organized four basic necessities, a place to live, a source of income, child care arrangements, and transportation...she will soon go back to her batterer" (p. 23). According to Sullivan (1991), "...many women remain with or return to abusive men..."
because they lack the resources necessary to live independently" (p. 43). With the exception of housing, however, few empirical studies have been generated to support these clinical observations.

In a survey of 36 programs offering services to battered women in rural Minnesota, Edleson and Frank (1991) found that an overwhelming majority (90.3%) did not provide transitional or post-shelter housing. More recently, Davis, Hagen, and Early (1994), reported that in their nationwide survey of abused women’s coalitions and state agencies, "[s]ervices that might promote independence and self-sufficiency, such as housing advocacy…and transitional housing services, were available on a more selective basis" (p. 699).

In a preliminary evaluation of the service needs of women leaving abusive partners, Sullivan (1991) concluded that battered women are in need of many services when attempting to leave their assailants. Specifically, "[a] sizable minority of the women…indicated the need to work on housing (48.8%)…" (p. 49). Utilizing exit data from this same study, Sullivan, Basta, Tan, and Davidson (1992) subsequently reported that of the 92 women ending their relationship post-shelter, 41% needed housing. They noted, however, that 35% of the women continuing their relationship (n=49), also needed housing, suggesting no statistically significant difference between the two groups.

Sullivan (1991) acknowledges that due to the dearth of research in this area, the influence of interventions targeted at increasing resource availability remains to be seen (1991). From the data provided in the previously cited study, it cannot be determined to
what extent the need for housing specifically influenced a woman’s decision to stay with her partner. Despite similarities in housing needs between the two groups, however, the importance of housing needs and other material resources cannot be ruled out as an important determinant for women exiting shelter. Further examination is warranted.

Support Systems

Although support systems can be instrumental in promoting positive outcomes for battered women, the inaccessibility of some services and inconsistencies in the way domestic violence is responded to by service providers can influence how women perceive their options. According to Grisgby and Hartman, community resources, including health care professionals, police, court, attorneys, clergy, and mental health professionals, can either provide "...key tools to escape, or put up serious barriers to safety" (p. 488). They outline these potential barriers as follows:

Health care workers. Assault by the spouse is the single most common reason women enter hospital emergency rooms (Mills, 1996). Consequently, those in the health care profession may be one of the first contacts a battered woman makes with a community resource after a violent episode. More than 85% of Americans believe that they could tell their physician if they themselves had been victims of violence. This is slightly more than those who are willing to tell their priest, pastor, or rabbi and is considerably more than those who would be willing to tell a police officer (McAfee, 1995).

In recent years, health care professionals have placed a growing emphasis on identifying battered women and providing appropriate referrals (Council on Scientific
Affairs, 1992). For example, in the past decade the American Medical Association (1992) has issued guidelines for physicians regarding identifying and treating battered women, developed a National Advisory Council on Family Violence, and participated in National Conferences on Family Violence (McAfee, 1995). According to a survey conducted by Abbott, Johnson, Kaziol-McLain, and Lowenstein (1995), however, violence continues to be overlooked or not reported as the cause of injury for women who seek medical attention.

In a study of 833 women seeking acute medical care, Abbott and his colleagues found that of 648 respondents, 11.7% were currently seeking medical attention for injuries caused by domestic violence. More than half of the women reported having been exposed to domestic violence during their lifetime. When asked if they had reported the violence to a health care worker or been asked by hospital staff regarding the cause of their injuries, however, only 13% of the respondents who had experienced acute domestic violence indicated being asked by or informing the professional staff. A follow-up review found documentation for domestic violence in only two of the client records.

Regarding battered women who seek treatment in medical settings, Skolnick (1995) reports, "...[W]hen no intervention is offered...they return again and again for medical care unless and until the violence is fatal" (p. 1744). Unfortunately, a woman who returns to medical settings repeatedly because of battering risks being labeled as a "frequent flyer" or problem patient. Skolnick reported:
One patient was given a diagnosis of atypical chest pain—which guarantees that she won't be taken seriously...No one bothered to find out that her husband had punched her in the chest and that's why she was having chest pain or that her panic attacks began after the husband threatened to kill her if she told anyone about the beating. A psychiatrist who later saw the patient noted the abuse in the woman's chart and diagnosed her as having 'adjustment disorder'...Because the woman was having trouble adjusting to being beaten, she was given a psychiatric disorder and referred to a mental health center where she was given a prescription for chlordiazepoxide (p. 1745).

As with other community resources, negative responses from the health care system may inadvertently contribute to a woman's sense of "...hopelessness and despair, further convincing her that it is she who is at fault, and that she has no practical alternative to remaining in the destructive relationship" (Skolnick, p. 1744).

**Police.** For many victims, engaging the police for assistance may prove to be valuable in escaping violence. However, if the police respond by encouraging the couple to just "cool off," or if they threaten to arrest both parties, the battered woman may believe that no one can help her to escape. Furthermore, battered women may elect not to contact the police for follow-up assistance if the police have previously failed to enforce existing protection or restraining orders. "If the police do not respond firmly with the offender, both the victim and the abuser learn a powerful lesson: that no one will stop the violence and hold the abuser accountable" (Grigsby & Hartman, 1997, p. 488).
Courts in the cities of Quincy, Massachusetts, and San Diego, California, have dramatically reduced their rates of domestic violence homicide over the past several years. Although no empirical studies were found regarding the programs in these cities, it has been suggested that the reduced domestic homicide rates may, in part, be related to the following: batterers arraigned in these systems receive high bonds, have their weapons confiscated, are screened for outstanding warrants, are assessed for lethality, and when convicted, are sentenced to serve time in jail. In contrast, in other cities, if a batterer is arrested, domestic violence victims face a prosecution process that is often confusing, overwhelming, and far from predictable. Grigsby and Hartman reported (1997):

They find prosecutors with mind-boggling dockets who plead their cases down in the hallway without any consultation with them. Some battered women are asked to help enforce house arrest as a condition of bond in cities where jail overcrowding is an issue. Others find that their abuser is released directly from jail, usually without notice to them. They often find judges who still issue the typical sentence of a suspended fine, a suspended sentence, and unsupervised probation (p. 489).

As with the police, these responses can send a powerful message to both the abuser and his victim. "Offenders can learn that the system is a joke, and that it is unprepared to hold them accountable. Victims often learn there is no help for them here…" (Grigsby & Hartman, 1997, p. 489).
Attorneys. Although some of the most powerful relief available to battered women is through the court (long-term protection orders, child custody, or child support), it generally requires the assistance of legal counsel to successfully maneuver these motions through the legal system. Unfortunately, many attorneys are too costly for battered women who have been denied access to their resources or who have left their resources behind in an effort to save their lives or the lives of their children. In instances when victims can obtain legal assistance, it is often through an attorney inexperienced in domestic relations law. Batterers, on the other hand, who often have command of the family resources and/or financial support from other family members, may be able to hire an attorney specializing in domestic relations issues. Grigsby and Hartman (1997) stated:

With some members of Congress attempting to downsize or eliminate the Legal Services Corporation, which funds many Legal Aid offices across this country, many victims simply cannot get an attorney to file for emergency protection orders, child custody, and alimony...When victims secure pro bono attorneys, they sometimes find they are represented by corporate attorneys with no domestic relations experience, or individuals who do not deliver the same caliber of legal services they provide paying clients. [In addition], [m]any victims receive legal advice that prioritizes their property interests over their safety and that of their children (p. 489).
Clergy. Many domestic violence victims seek the help of a priest, rabbi, pastor, or other faith leader first. Rarely, however, do battered women report that it was the advice of a religious figure that convinced them their safety was the most important issue (Grigsby & Hartman, 1997, p. 489). In fact, Davis and Srinivasan (1995) found that "[w]hen the women spoke about specific clergy, it was more to criticize their efforts than to laud them..." (p. 62). Depending on the values of their religious leader or family members, victims may be advised that domestic abuse is their fault, God’s will, and within their control if only they would be more obedient partners. As with the other formal support systems highlighted in this section, determining the influence of barriers imposed by clergy requires further examination.

Mental health workers. Much of the early domestic violence literature focused primarily on the psychopathology of female victims and their "need" for intensive, long-term "treatment." According to these initial perspectives, in addition to being "neurotic" with "masochistic tendencies" (Lystad, Rice, & Kaplan, 1996), "official" victims were perceived to suffer from a multitude of psychological symptoms, including anxiety, depression, somatic complaints (Gayford, 1975; Walker, 1991), hopelessness, helplessness, despair, passivity, and decreased self-esteem (Lystad, Rice, & Kaplan, 1996).

Implicit in the literature was the assumption that these symptoms were the causes, rather than consequences, of abuse. Traditional interventions to assist battered women, including crisis intervention, group and individual psychotherapy, couple therapy, family therapy, parenting workshops, substance abuse treatment and/or "the
consideration of medication for incapacitating depression or other psychiatric
disorders," focus almost entirely on the identification and diagnosis of a victim's
psychological status (Lystad, Rice, & Kaplan, 1996, p. 156).

Despite growing ideological challenges to this perspective, in practice, the
traditional medical model of client-patient/practitioner-expert continues. According to
Grigsby and Hartman, "What many of these women find is a system so focused in a
disease/pathology model, that mental health becomes paramount over safety and
survival" (p. 490). They continued:

A common mistake is to move toward medication immediately, in the name of
stabilization. What care providers may forget is that domestic violence victims
need all their faculties and that certain drugs may impair their ability to perceive
imminent danger and react to it. [In addition, many] mental health practitioners
continue to employ contraindicated modalities, such as couples counseling, that
do not address the victim's needs...The reality is that marital/relationship
therapy endangers victims, does not address the behavioral problems of the
abuser, and does not succeed in getting the violence to stop (p. 490).

What it does do, however, is send the subtle message to the victim that her
psychological problems are both the root cause of, and cure for, the abuse. As a result,
instead of serving as advocates for change, practitioners may be "inadvertently
reinforcing society's message to women...that they are inadequate" (Davis &
Employment Status/Financial Dependence

As suggested earlier, demographic information, including employment status, is prevalent in the domestic violence literature. Most studies that utilize this information, however, compare employment rates between groups of battered women and groups of non-battered women. Few studies were found that investigated a potential link between employment status and differences in service outcomes for battered women. One exception, however, was Johnson's (1992) study examining the economic, situational, and psychological correlates of the decision-making process for battered women. In her study of 412 women seeking refuge in a battered women's shelter, Johnson used data from interview schedules taken from agency records and secondary data collected from counselors at intake. The dependent variable, dichotomized as "returned home to the abusive relationship" or "did not return home to the abusive relationship," was measured according to information provided by the victim when exiting shelter.

Data analysis revealed a significant relationship between employment status and the victim's decision to return to her abusive partner. Regardless of overall family income, "[v]ictims who returned home were significantly more likely to have been unemployed, than employed ($X^2 = 6.47, df=2, p<.05$)" (p. 172). Johnson concluded that, "...it was not income that influenced the victim's decision to stay in the abusive relationship, but rather her lack of ability to control a portion of the income through employment..." (p. 174).
Wilson, Baglioni, and Downing (1989) and Aguirre (1985) have also suggested that a woman’s employment status may be linked to her ability to leave a violent relationship. Using data collection techniques similar to those employed by Johnson (1992), they concluded that "...earned income and not amount of income is the important determinant of readmission" (Wilson, Baglioni, & Downing, p. 282). According to Aguirre, when the abusive husband is the sole source of income, the probability that the wife will return increases substantially.

In Strube and Barbour's (1983) survey study, employment outside of the home was found to be an independent predictor of relationship status for women in abusive relationships. These findings were replicated in their 1984 study, which reported that according to intake interviews conducted with 251 battered women, employment status was the most important predictor of a woman planning to return to her assailant.

Okun (1988) also suggests that control of household income may be a significant determinant in whether battered women return to their abusers after residence in shelter. Using largely the judgments of shelter workers, Okun concluded that battered women who were the main income producers in their households (n=33) were more than twice as likely as the rest of the shelter sample, for whom relationship outcomes were known (n=154), to separate immediately from their assailants.

As with most outcome studies conducted of battered women, no post-shelter data were collected. What is not known, therefore, is how employment status may have influenced a woman’s decision to remain with or remain separated from the batterer on a more long-term basis, or how these factors were correlated to specific service outcomes.
Race/Ethnicity

The dearth of studies examining the influence of race on domestic violence has been well documented in the literature (Hampton, Gelles, & Harrop, 1991; Lockhart, 1991; O'Keefe, 1994). Among the scant studies that highlight race/ethnicity, data are often reduced to little more than a descriptive statistic. In fact, few empirical studies were found that provided information beyond a racial/ethnic demographic composite of study subjects. In studies that focused on the potential link between race/ethnicity and domestic violence, analysis was frequently narrowed to comparisons of rates of violence by racial category.

According to Bonilla-Santiago (1996), "...[R]esearch or information on the cultural aspects of domestic violence against women and how they differ among ethnic groups is very limited. Most research on the abuse of women has focused on the Anglo-American population, and most of the literature has ignored cross-cultural differences..." (p. 230). Studies that examine environmental barriers or treatment outcomes for minority battered women are virtually nonexistent. Only two studies were found that identified or compared differences in service outcomes according to race among women who participated in intervention services (Gondolf, Fisher, & McFerron, 1991; Sullivan, Basta, et al., 1992).

Barriers to Black women. Coley and Beckett's (1988) introductory discussion of culturally sensitive issues for practice has provided a framework for examining potential barriers that Black battered women may encounter within traditional service models. Based on the authors' professional observations, "...the sparse literature on
black battered females, and the general literature on intervention with blacks," barriers in the following areas were identified: community outreach, shelter services, the shelter environment, shelter policies, staff training, and counseling (p. 484). Coley and Beckett’s views (and views of others as noted) on these barriers are described as follows:

1. Community outreach. Coley and Beckett suggest that since "...minorities may be less inclined to seek assistance from formal counseling organizations," community outreach may be paramount in encouraging minority racial/ethnic group participation (p. 484). They indicate that Black women may be less likely to utilize shelters because of the widely held belief among minority populations that shelters were established for White females. Black women may also feel that the value orientation of the shelter is incompatible with their own value base.

2. Shelter services. Because of the scarcity of shelter space and the reluctance of some Black women to seek shelter services, the addition of community-based services may provide a more acceptable option for Black battered women. Community-based services, as well as shelters "...should seek to reflect, at all levels of operation, the community's racial/ethnic composition..." (p. 485). Coley and Beckett also suggest that policies that emerged from the battered women's movement have failed to take into account the concerns of women of color. "...[M]ultiethnic perspectives are needed to develop policies, procedures, and programs that encompass cultural differences" (p. 485).
3. Shelter environment. The shelter environment, which includes both the physical setting and interpersonal atmosphere, must also take into consideration the needs of a diverse population. For example, few handouts or written materials are available in alternative formats. In addition, "...the selection of games, toys...and books for children: adult reading materials: and other entertainment materials reflect a white norm" (p. 486). As suggested in Bonilla-Santiago's 1996 study, minority women may perceive their battering experiences differently from the way Whites do. Despite this, it is assumed that Black and White women will relate because of their common experience of being battered. However, Black women who hold that racial oppression and discrimination contribute to domestic violence "...may bring doubt, suspicion, and in some cases hostility to their interactions with white clients and staff" (p. 486). Outcomes may be compromised for Black women who cope with these differences by isolating themselves from group interaction or by declining participation in other services.

4. Shelter policies. Despite support in the literature that suggests that many Black women may be highly reliant on an extended-family support system, many shelter policies restrict client contact with family members or friends. Further, many shelters may have child disciplinary policies that differ greatly from the accepted norms of Black families. "In a shelter where they are told that they can no longer discipline children in a manner that is familiar to them, these women may feel helpless in their parenting role. Such policies may compound their feelings of frustration and inadequacy" (p. 487).
5. **Staff training.** Due to a prevalent view that physical violence is more commonplace in Black families (Hampton, Gelles & Harrop, 1991), counselors' assumptions regarding Black women may "...translate into less concrete or meaningful aid for black families" (Coley & Beckett, p. 488). On the one hand, counselors may assume that because Black women are "more accustomed" to violence, they are emotionally strong enough to deal with the violence independently. On the other hand, false assumptions about Black women may cause service providers to determine that a Black woman is not "...psychologically sophisticated enough to think through her problems herself or that she is incapable of making decisions for herself" (p. 488).

6. **Counseling.** Coley and Beckett suggest that Blacks are often reluctant to seek out counseling services. Those that do may tend to have "...lower expectations, experience less trust, feel less understood, and are more likely to drop out of therapy before mutual termination is agreed upon" (p. 489). Counselors may wrongly assume a black woman is resistant to efforts to help or reluctant to change if she appears disinterested in increasing her "self-awareness" or "self-actualization" (p. 489). Instead, however, Black women may simply be more concerned with concrete goals such as economic survival than with traditional therapeutic goals. Self-disclosure is facilitated when clients feel bound by common experience. For minority women who may feel obligated to "protect" their spouse or racial group, mandated group counseling in a multiethnic setting may not provide the most ideal forum for promoting change or offering assistance (p. 490).
Differences in perspective and barriers for Latinas. Subsequent support for Coley and Beckett's discussion has been found in the limited studies examining racial/ethnic influences on battered women's safety. For example, one descriptive study comparing information on the cross-cultural aspects of abuse from the perspectives of Latina and Anglo American battered women, found substantive differences between the two groups (Bonilla-Santiago, 1996).

In Bonilla-Santiago's (1996) study, survey data were obtained from interviews with 25 Latina and 25 Anglo-American women residing in a female correctional facility in Clinton, New Jersey, and two resource centers for Latina women in Camden and Newark, New Jersey. Focus groups were used to explore cross-cultural perceptions regarding what constitutes wife abuse and participants' attitudes toward wife abuse in general.

The focus groups revealed "...that many immigrant Latina women were isolated and trapped in violent homes, afraid to turn to anyone for help" (p. 232). Many of the women identified differences in language, culture, the legal system, and social systems as barriers to support. "Consequently, they often suffered the triple burden of discrimination based on sex, race, and their undocumented status" (p. 232).

Bonilla-Santiago (1996) also found that there were significant differences between the two cultures. "The Latina women were more tolerant of wife abuse and their perceptions of what constituted wife abuse differed from those of ...Anglo-American subjects" (p. 232). Differences in perceptions about abuse, as well as influences such as language and immigration status, may inhibit non-majority women
from seeking help from shelter workers or law enforcement personnel (Grigsby & Hartman, 1997). "White women felt that they could go to shelter or police and feel temporarily protected. Latinas [had] a sense of futility in seeking police assistance" (Bonilla-Santiago, 1996, p. 233).

Latina subjects also faced economic barriers in disparate proportion to Anglo-American women. This may stem from the fact that for many, economic existence was based on "underground" employment sources. The finding of these and other barriers, such as limited English language comprehension and immigration status, contribute to our understanding of the potentially significant differences among battered women.

Differences found in other race/ethnicity research. Using secondary data from 5,708 interviews of battered women in Texas shelters during an 18-month period (1983-1985), Gondolf, Fisher and McFerron (1991) also investigated differences among shelter residents according to race. Variables in the exploratory study included personal income, combined income, marital status, length of relationship, number of children, educational levels, help-seeking behavior, and planned living arrangements after exiting shelter. Abuse items were categorized according to type (physical, verbal, child abuse, injury and previous abuse) and severity (most severe to least severe). From their sample, comprising Anglo (57%), Black (15%), and Hispanic (29%) respondents, the researchers found significant differences according to race.

In general, Anglo respondents were described as being slightly older, having fewer children, being the least likely to have incomes below the poverty line, and being the most likely to visit or phone a social service agency and own their own car. The
education, occupation, and personal income levels of Anglo and Black respondents were similar. Black respondents, however, more often reported having a weapon used against them and were more likely to contact clergy or police for assistance. More than half (52%) of Hispanic respondents fell below the poverty line, and generally had much lower education, employment, and job status rates than the other two groups. In addition, Hispanics tended to report the longest duration of abuse and were the least likely to contact a friend, the clergy, or a social service agency for assistance.

The authors note increasing differentiation within racial groups and suggest that using strict categories of race will likely mask important within-group differences among respondents in the same racial category. "The Hispanic women, in particular, are subject to different levels of acculturation" (p. 109). They also suggest that socioeconomic status "...confounds racial differences...[raising] problematic issues with regard to the relationship of race and class" (p. 109). Gondolf, Fisher, and McFerron acknowledge limitations in their research, including problems of measuring the frequency, severity, and impact of abuse, and caution that findings cannot be generalized to other populations of battered women. They conclude, however, that this study lends tentative support to racially/ethnically-sensitive practices and services.

Sullivan, Basta, et al.'s (1992) investigation into the influence of race/ethnicity on services needed after leaving shelter posited that, "[g]iven institutional racism, one could expect women of Color to experience more discrimination in the areas of housing, education, employment..." and health care (p. 268). From a sample in which 55% were women of Color (Black, 42.6%; Hispanic, 7.8%; Asian-Pacific, 1.4%; Others, 2.8%),
findings from this needs assessment of 141 women suggested that race influenced the resources that women reported needing when exiting emergency shelter. Although the small sample size precluded a separate analysis for Hispanic, Asian, or Native American participants, a comparative analysis to identify differences between women of Color and White women was conducted. According to the results, women of Color were more likely to mention needing health care, material goods, and resources for their children.

As outlined by Gondolf, Fisher, and McFerron (1991), the scant research on race/ethnicity and domestic violence is marked by significant methodological limitations. However, based on preliminary findings, researchers suggest that race/ethnicity may influence a battered woman's ability to access and use available resources, the types of services needed, and the subsequent service outcomes. Researchers have concluded that "[c]onsideration of and responsiveness to cultural and racial differences..." must be central to service planning, policy, and implementation (Bonilla-Santiago, 1996, p. 233).

Relationship Type/Length of Relationship

The status and length of an abusive relationship are common demographic data in domestic violence research. To date, several studies have been conducted examining the influence of relationship status and length of relationship on overall risks of violence (see Berk, Newton, & Berk, 1986; Hotaling & Sugarman, 1986; Wilson,
Baglioni, & Downing, 1989; Sullivan, Basta, Tan, & Davidson, 1992; Forte, Franks, Forte, & Rigsby, 1996). Little is known, however, about a possible correlation between relationship status, relationship length, and service outcomes.

Snyder and Scheer (1981) investigated the influence of specific variables on the disposition of battered women following their utilization of shelter services. Questionnaires were administered to a sample of women admitted to a battered women's shelter throughout a 6-month period. Although the total number of women interviewed in the first phase of the study was not reported, follow-up data was collected on 74 of the original respondents 6 to 10 weeks following discharge. The authors note that comparisons between women who participated only in the first phase of the study and those who participated throughout the study's second phase showed no significant differences in service outcomes.

At two separate data collection points, date of intake and date of discharge, rates of women indicating a planned return to their assailant were 14% and 33%, respectively. Of the 74 women interviewed 2 months after leaving the shelter, the actual rate of women living with their assailants had risen to 41 (55%). Comparisons between the group living with their assailants and the group not doing so suggest significant differences in relationship status and length. Specifically, a discriminant analysis indicated that previous separations and length of marriage (if married) contributed independently and significantly to intended relationship status at discharge. Those living with their assailant at the time of follow-up had longer marriages (M=10.0) than those not living with their assailant (M=4.5). Those still living with their assailant
also had fewer previous separations (53%) than respondents who did not return to their assailant (91%). No specific intake data were provided for the number of relationships by type (married, separated, or cohabitating), and no comparisons for differences among relationship status, relationship length, and relationship status post-discharge were discussed.

If correlations between relationship status, length, and relationship post-discharge are determined, however, tenable predictions regarding the types of services an individual client might request may be possible. For example, in Sullivan, Basta, Tan, and Davidson's (1992) study, women intending to return to their assailants reported needing fewer material, social, educational, health, financial, legal, employment, transportation, childcare, and housing resources than those planning to end their relationships. Because so few studies have focused on a potential correlation between relationship status, relationship length, and services needed, further examination is warranted.

**Service Provision and Service Utilization**

Many battered women's services throughout the state of Ohio are premised upon participation in education and support groups and follow-through of staff initiated service or "treatment" plans (Bohmer, Bronson, Hartnett, Brandt, & Kania, 2000). Despite this emphasis, however, few studies were found that investigated a relationship between service provision, service utilization, and service outcomes for battered women.
In a nonrandom survey of 155 female domestic violence victims, Berk, Newton, and Berk's (1986) study of the impact that shelters make in the lives of battered women investigated the interaction between women's help-seeking behaviors and reduced rates of violence. Operationalized as a previous shelter stay, calling the police, trying to get a restraining order, seeking criminal justice prosecution, seeking counseling, and/or trying to get help from legal aid or a private attorney, the relationship between help-seeking behaviors and reduced violence was found to be significant. "...[F]or victims who use the shelter, each additional effort to obtain help reduces the number of violence episodes by a multiplicative factor of .61. This means that women who...[report] six such actions are largely free of new violence" (p. 488).

Although not clearly operationalized, Aguirre (1985) suggests that "...the greater the number of decisions made by the respondents while in shelter," the greater the likelihood that they will separate from their husbands (p. 352). As with the Berk, Newton, and Berk study (1986), Aguirre's findings stem from data collected through nonrandom sampling and are therefore not generalizable to other populations of battered women.

In a separate investigation of help-seeking behaviors, Marshall (1996) interviewed 578 women who voluntarily participated in a study of "bad" or "stressful" heterosexual relationships. The primary purpose of the study was unclear. According to the researcher, the goal of the study was to identify patterns of psychological abuse and determine whether different patterns mediate the effects of violence and sexual aggression. However, the author also stated that the purpose of the study "...was to
determine how the total amount of psychological abuse, threats and acts of violence, and sexual aggression relate to women's health, help seeking and perceptions of their relationship" (p. 386). Cluster analysis with 51 items was used to identify six distinct groups (see Table 2.1).

<table>
<thead>
<tr>
<th>Cluster Number</th>
<th>Average Age</th>
<th>Average Psychological Abuse</th>
<th>Average Threats of Violence</th>
<th>Average Acts of Violence</th>
<th>Average Sexual Aggression</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>34.65</td>
<td>290.18</td>
<td>38.45</td>
<td>25.51</td>
<td>6.85</td>
</tr>
<tr>
<td>2</td>
<td>39.49</td>
<td>209.79</td>
<td>22.13</td>
<td>13.04</td>
<td>2.61</td>
</tr>
<tr>
<td>3</td>
<td>33.34</td>
<td>179.94</td>
<td>13.93</td>
<td>7.69</td>
<td>1.97</td>
</tr>
<tr>
<td>4</td>
<td>34.08</td>
<td>111.73</td>
<td>8.11</td>
<td>3.43</td>
<td>.86</td>
</tr>
<tr>
<td>5</td>
<td>39.76</td>
<td>236.36</td>
<td>27.30</td>
<td>13.91</td>
<td>4.09</td>
</tr>
<tr>
<td>6</td>
<td>38.21</td>
<td>234.58</td>
<td>21.91</td>
<td>11.07</td>
<td>3.28</td>
</tr>
</tbody>
</table>

Table 2.1. Descriptive statistics (Marshall, 1996).

Women in the first cluster (n=172) had been the most psychologically, physically, and sexually abused. Those in the second cluster (n=68) were among the oldest in the sample and scored high on total psychological abuse, threats, and acts of violence, but had sustained relatively little sexual aggression. Women in the third cluster (n=222) were generally young and reported relatively low levels of psychological abuse, threats, violence, and sexual aggression. All but a few of the
women had been threatened with violence at least once, and most had been threatened with serious violence. The fourth cluster (n=40) of women were similar in age and relationship duration to cluster one, but sustained the least number of incidents of psychological abuse, threats, acts of violence, and sexual aggression. The women in the fifth cluster (n=33) were among the oldest, had endured a great deal of psychological abuse, and were similar to cluster two with relatively high scores on threats and violence. Similar also to the first cluster, they had sustained much sexual aggression. In the sixth cluster (n=76), similar to cluster five, women had sustained a great deal of psychological abuse, and as with clusters two and five, had experienced a number of threats and sexual aggression. In contrast to cluster five, twice as many women in cluster six had not been threatened with violence and approximately 9% had not sustained any act of violence.

Marshall concluded that "[s]everal missing pieces of information made it impossible to give each cluster a label" (p. 400). However, she also stated that total psychological abuse, threats of violence, acts of violence, and sexual aggression scores made different contributions to women's health, help-seeking behavior, and relationship perceptions. For example, for women in cluster one, abuser threats were related to seeking help from at least one source. The number of sources from which help was sought was related to sexual aggression and threats of violence. Threats of violence predicted seeking help from an attorney, the court, and a women's group, whereas sexual aggression predicted seeking help from the clergy, a physician, and a social service agency. Abuser violence predicted seeking help from the police.
Because Marshall does not refer to existing research regarding help-seeking behaviors nor does she include data regarding the safety status of women subjects, she falls short of being able to suggest any correlations between help-seeking behavior and service outcomes for battered women. The contribution of her work, however, is significant in its recognition of the differences that exist among the experiences and perceptions of battered women. Based on her work and the works cited previously regarding help-seeking behavior, a possible relationship between type and severity of abuse, help-seeking behavior, and safety status cannot be ruled out. Due to the limited knowledge regarding differences in service utilization and service provision among battered women, further examination in this area is warranted.

Service Outcomes

According to Bograd (1984), the ultimate goal of clinical interventions with battered women and violent men should be "...the complete cessation of violence..." (p. 565). Studies of violence against women, however, have not generally assessed changes in actual rates of violence because "...accurately measuring reductions...is a monumental, long-term, and possibly unattainable goal" (Schewe & O'Donahue, 1993, p. 672). Stemming largely from a medical model of treatment, many early studies used changes in pre- and post-test scores on women's self-esteem, locus of control, assertiveness, anxiety, and/or depression, (Cox & Stoltenberg, 1991; Holiman & Schilit, 1991), self-efficacy, attitudes toward feminism (Mancoske, Standifer, & Cauley, 1994), or thoughts, feelings, and behaviors (Rubin, 1991), to serve as a proxy variable for safety.
One of the most prevalent measures of increased safety has been living arrangements/relationship status post-shelter. According to Berk, Newton, and Berk (1986), however, "...it is difficult to know what to make of this figure" (p. 482). First, it is not known how many women were assaulted after reportedly leaving their partners. Second, studies provide no comparison group of battered women who did not reside in shelter. Berk, Newton, and Berk discuss the limitations associated with this outcome measure:

The former means that one cannot determine whether women who return to their spouses are at a greater risk than those who do not return. The latter means that little can be learned about the impact of shelters per se...In addition, measuring whether or not a woman returns to her mate upon leaving the shelter does not take into account the likelihood of returning to the mate some time in the future...[Furthermore], if the woman does establish a new living arrangement, she may still be beaten when the assailant comes calling. Therefore, studies that report...success...after a shelter stay must be viewed cautiously. At the very least, the measure of success is suspect (p. 482).

**Domestic Violence and the Law**

On November 17, 1994, the Ohio General Assembly passed Amended Substitute House Bill 335. This legislation substantially reformed Ohio's protection order statues, provided additional funding to domestic violence shelters, and provided stringent guidelines for law enforcement policies and practices on handling domestic violence. The key provisions of the new legislation include a preferred arrest policy for acts of
domestic violence or protection order violations, a mandatory arrest policy for felonious assault, and a no-drop, pro-prosecution policy for domestic violence charges. A brief summary of these three provisions is as follows:

1. **Preferred arrest.** "If...a police officer has reasonable grounds to believe that the offense of domestic violence or the offense of violating a protection order or consent agreement has been committed and reasonable cause to believe that a particular person is guilty of committing the offense, it is the preferred course of action in this state that the officer arrest and detain that person...until a warrant can be obtained" (Alliance for Cooperative Justice, 1998).

2. **Mandatory arrest.** "All police and sheriff's departments must adopt a mandatory arrest policy for felonious assault, applicable regardless of whether the victim is a family or household member of the offender. Knowingly causing serious physical harm to another or knowingly causing or attempting to cause physical harm to another by means of a deadly weapon constitutes 'felonious assault'" (CARTP, 1996).

3. **No-Drop/Pro-Prosecution.** "When a victim refuse[s] to file a domestic violence charge or fails to cooperate with the prosecutor, the prosecutor should not automatically drop charges against the alleged offender. Instead, the prosecutor must determine whether to continue the prosecution or to dismiss the charges notwithstanding the victim's wishes or her failure to cooperate. In making that
determination, the prosecutor must consider all relevant facts and circumstances, including the statements and observations of the officers who responded to the incident and any of the witnesses to the incident" (CARTP, 1996).

With the passage of House Bill 335, the number of legal advocacy services, as well as the pressure on battered women to cooperate and participate fully in civil and criminal prosecution proceedings, increased considerably (Bohmer, Bronson, Hartnett, Brandt, & Kania, 2000). Proponents of the legislation argue that the intention of House Bill 335 is to deter domestic violence and to protect victims of domestic violence. This law was enacted, however, despite the acknowledgment that (a) there is no existing database in Ohio that can be used to track domestic violence offenders from arrest to disposition and sentencing except on a case-by-case basis, (b) there is no mechanism in place to track recidivism rates, and (c) very little data exists regarding the impact of the policy on victims of domestic violence "...especially relating to their opinions of the effects of the policy" (ACJ, 1998, p. 1).

The difficulties inherent in tracking accurate violence rates for women post-shelter and questionable correlations between proxy variables, such as relationship status and safety status, are well documented. Few well operationalized alternatives, however, are identified in the literature. Due to the lack of empirical research directed at battered women and service outcomes, little is known about the relationship between subtype membership and case disposition following intervention services. Because so few investigations have been conducted in this area, further examination is warranted. For this study, outcome variables consistent with the Barriers Model and recent
legislative changes were selected from the secondary data set. These include:
relationship status at case closure, awareness of resources, insight into battering
dynamics, likelihood of calling for help if battered again, environmental barriers at case
closure, safety status at case closure, and participation in civil and criminal legal
proceedings.

Summary

Growing demands to eliminate domestic violence and increase service
accountability have sparked interest in program evaluations of services for battered
women. The primary goal of the present study is to provide a foundation for identifying
what works for whom by gathering precise information about subgroups of battered
women and testing for differences in service provision, service utilization, and service
outcomes according to subtype membership.

This chapter contains the theoretical basis for the study, a model for depicting
the effects of external environment and life experiences on battered women, and the
review of literature. The literature was organized into three sections. The first section,
on the personal and environmental characteristics that differentiate battered women,
provides the framework for creating an empirical typology of battered women.
Variables detailed in this section include: age, number of dependent children, age of
dependent children, batterer behaviors, types of abuse, material resources, support
systems, employment status, financial dependence, race, length of relationship with
batterer, and relationship type. The second section, service provision and service
utilization, highlights possible differences in services provided and service usage
according to subtype membership. In this study, service provision variables include: advocacy services, case management services, court accompaniment services, court outreach services, legal services, and total hours of service received. Service utilization variables include: acted on referrals, number of education groups attended, and number of support groups attended. The final section, service outcomes, explains the selection of the study's dependent variables. These include: relationship status at case closure, awareness of resources at case closure, insight into battering dynamics at case closure, likelihood of calling for help if battered again, overall environmental barriers at case closure, safety status at case closure, client filed civil charges, client followed through with civil charges, client filed criminal charges, and client followed through with criminal charges. In Chapter 3, the research methodology is described.
CHAPTER 3

RESEARCH OBJECTIVES AND METHODOLOGY

This chapter presents and describes the research procedures used in this study. The chapter is divided into two sections. The first section summarizes the research objectives of the study; the second section describes the research methodology.

Research Objectives

The literature review described the importance of program-based evaluation for battered women's programs and the current lack of knowledge regarding the efficacy of domestic violence intervention services. Although researchers have advocated the development of a more comprehensive description of battered women as a step toward being able to differentiate which interventions work best with specific types of battered women (Lewis, 1983; Abel, 2000), few cluster-based studies were found in the literature. No typologies of battered women based on personal and environmental characteristics were found in the literature. A fundamental step toward addressing the question of what works for whom requires deriving empirically a typology of battered women and assessing the relationship between subtype membership and service outcomes.
The research objectives for this dissertation are:

1. To create a typology of battered women: identify empirically subgroups of battered women according to personal and environmental characteristics and barriers.

2. To compare and describe subgroups of battered women; conduct analyses to identify how groups differ on average age of dependent children, race, financial dependence on abuser at intake, relationship with abuser, length of relationship with abuser, and reason for never leaving/returning to abuser.

3. To compare and describe service provision and service utilization of battered woman subtypes; conduct analyses to identify how groups differ on referral follow-through, number of education groups attended, number of support groups attended, received advocacy services, received case management services, received court accompaniment, received court outreach, received legal services, and total hours of service received.

4. To compare and describe service outcomes of battered woman subtypes; conduct analyses to identify how groups differ at case closure on relationship status, awareness of available resources, insight into battering dynamics, likelihood of calling for help if battered again, environmental barriers, safety status, filing civil charges, following through on civil charges, filing criminal charges, and following through on criminal charges.
Research Methodology

The research methodology section is organized into four subsections: (1) the research site, sample, sampling strategy, and protection of human subjects; (2) the data collection process; (3) the plan for data analysis, including variable selection and variable definitions, research design, assumptions, forming clusters, determining the number of clusters in the final solution, and cluster interpretation; and (4) the statistical measures, including level of significance, tests of statistical significance, and measures of association.

Research Site

The site selected for the study was located within an urban Ohio city. The center, which is dedicated to providing early intervention and education to victims of domestic violence and their children, serves approximately 2,300 clients per year. The center’s services include a hotline, counseling and support, legal services, court outreach, advocacy, children’s programs, support and education groups, community education, and direct assistance.

The site was selected for several reasons. First, it has a well-established program for domestic violence intervention. Second, the program director and staff were interested in identifying factors that promote and maintain domestic violence. Third, after the researcher signed a confidentiality statement, the program director facilitated communication between the researcher and agency staff and provided the researcher direct access to client records. Fourth, the selection of a single site allowed
the researcher to have control over the influence of extraneous variables such as program size, the mission and methods of intervention, and the community in which the center is located.

**Sample Description and Sampling Strategy**

**Sample Description**

This dissertation is a secondary analysis of data obtained from the client records of a domestic violence intervention program located in an urban area of Ohio. To be eligible for agency services, an individual must be a past or present victim of domestic violence seeking domestic violence intervention services. Persons excluded from services are those who have been identified as being either a batterer or a victim of crime not classified as domestic violence. Individuals who are violent to staff are also excluded from services. The present study is limited to subjects identified as female victims of male domestic violence.

The sample is purposive. At the time of case closure, a data collection form is completed for all clients who have participated in agency services. Criteria to close a case include no more anticipated contact with client, and/or no client contact for 30-45 days. Data for all closed cases is then routinely entered into the agency database.

**Sampling Strategy**

The original data set of 3,059 cases represents the total number of cases closed by the agency throughout a four-year period (1995-1999). In other multivariate analyses methods, such as factor analysis, a general rule of thumb for determining an appropriate sample size is to have at least five times as many cases as there are variables.
to be analyzed. According to Hair, Anderson, Tatham and Black (1998), a ratio of at least ten-to-one is preferred. Unlike factor analysis, however, which is based upon an extensive body of statistical reasoning, there are no clearly defined guidelines for determining the appropriate number of subjects to be included in an exploratory cluster analysis sample.

Because there was no a priori basis for knowing the number of clusters which would be included in the final solution, it could not be determined conclusively in advance the appropriate number of subjects to include in the study sample. Given the known number of study variables (30), a decision was made to apply Hair, Anderson, Tatham, and Black's (1998) guideline ratio of ten cases per variable to derive the number of subjects needed for the study.

After examining the original data set for missing or invalid values, the total number of valid cases was determined \((n = 3,059)\). From this list, simple random sampling utilizing SPSS and a 30 to 1 ratio guideline was applied to narrow the final sample to \(n = 300\). Post hoc analyses were subsequently conducted to assess the appropriateness of the final sample size.

Protection of Human Subjects

Because this was an analysis of secondary data, the researcher had no direct client contact. To ensure the security of each client, the agency automatically assigns a reference/case number to each client to prevent the accidental transmission of identifying information, such as client name or address, from the client file to the
database. The researcher was also required to sign a confidentiality statement and keep all client records on site. Permission to collect data was granted by The Ohio State University Office of Research Risks.

Data Collection

Data Sources

Two stages of data collection were used for this study. The initial stage accessed an already existing database of client information collected and entered by agency staff. When a client has no contact with the agency for a period of up to 45 days, and/or when staff anticipate no further contact with the client, a case closure form is completed by the agency staff member who worked directly with the client. Staff receive training from their supervisor regarding how to complete the case closure form, however, no input or comparisons are solicited from the client or other agency staff. Once the case closure form is completed, it is entered into the agency database. The case closure form was the source of all service provision, service utilization, and service outcome data (see Appendix A).

Additional data on the final sample to be analyzed were collected from forms already completed by the client during the agency intake process. Two of these forms, the Intake Questionnaire (see Appendix B) and Personal Information Sheet (see Appendix C), were the sources for the following data: client's age, number/age of dependent children, batterer behaviors, belief system barriers, type of abuse, material resources, support systems, employment status, financial dependence, race, length of relationship with batterer and relationship type.
Reliability and Validity of Self-Report Data

Research data consisted of client self-reports and staff perceptions of client barriers and outcomes. Because all self-report measures are subject to memory errors and distortions, the reliability and validity of self-report data must always be taken into consideration when findings are interpreted.

In previous studies of the frequency and severity of domestic violence, Straus (1990) suggests that the use of concrete instruments, such as the Conflict Tactics Scale, helps to minimize distortions by "...presenting the violence items in a context that has meaning and legitimacy to respondents" (p. 54). The Conflict Tactics Scale is a component of the questionnaire completed by each client at the point of agency intake (see Appendix B).

According to Kemp, Whitaker, and Tracy (1997), efforts to assess environmental threats and deficits are strengthened by employing various methods, including, but not limited to, behavior observation, background information sheets, questionnaires, and interviews with others who interact with the client. "As we employ various assessment methods...and explore more than one level of the environment, our environmental assessments become more complete and valid" (p. 95). In this study, several sources of data, including personal information sheets, intake questionnaires, staff perceptions, and client self-reports, were employed. This lends confidence to the reliability of self-report data from this sample for creating a typology of battered women.
Analysis of Data

This study employed cluster analysis, a multivariate technique designed to group objects based on known characteristics. Cluster analysis methods identify existing heterogeneity among subjects by discovering smaller, more meaningful subgroups within a sample. Six stages of cluster analysis were incorporated in this study. These included variable selection, research design, assumptions, deriving clusters, determining the number of clusters in the final solution, and cluster interpretation. The six stages are detailed below.

Stage One: Variable Selection

The choice of variables to be used in the cluster analysis is "...one of the most critical steps in the...process" (Aldenderfer & Blashfield, 1984). According to Aldenderfer and Blashfield, however, it is also one of the least understood. One common error for those employing cluster analysis techniques is to fail to choose variables within the context of a stated theory. Consequently, the researcher may be tempted to collect and analyze data for as many variables as possible, in the hopes that a structure will emerge. An inherent limitation in clustering methods, however, is that a structure will always be created regardless of the true existence of meaningful or significant clusters of characteristics. Thus, "...variables should be chosen within the context of a stated theory that is utilized to support the classification" (p. 20).

As discussed previously, the Barriers Model (Grigsby & Hartman, 1997), which is grounded in feminist and ecological theory, can be applied as a tool for identifying the personal and environmental barriers that promote and maintain violence against
women. Previous literature (Aguilar & Nightingale, 1994; Marshall, 1996; Tutty, Bidgood, & Rothery, 1996), suggests that these personal and environmental barriers may subsequently affect the service utilization and service outcomes of battered women. A review of literature identified empirical and theoretical support for three categories of variables: personal and environmental characteristics of battered women, service provision and service utilization, and service outcomes. Table 3.1 illustrates the cluster solution, service provision, service utilization, and service outcome variables included in the present study.
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Table 3.1. Study variables
Dependent variables. The ten service outcome (dependent variables) included in this study are defined as follows:

1. Relationship status at case closure. The client’s relationship status with abuser at case closure is classified as either reconciled/remained intact with batterer treatment, reconciled/remained intact without batterer treatment, or separated/terminated.

2. Awareness of resources at case closure. The rating of client’s awareness of community resources increased is ranked by staff on a 5-point Likert scale. Responses are ranked from 1 (Not True) to 5 (Extremely True).

3. Insight into battering dynamics at case closure. The rating of client’s insight into battering dynamics increased as a result of services is ranked by staff on a 5-point Likert scale. Responses are ranked from 1 (Not True) to 5 (Extremely True).

4. Likelihood of calling for help if battered again. The rating of client likely to call for help if battered again is ranked by staff on a 5-point Likert scale. Responses are ranked from 1 (Not True) to 5 (Extremely True).

5. Overall environmental barriers at case closure. The rating of a client’s overall environmental barriers at case closure comprises staff perceptions of batterer behavior barriers, employment status barriers, financial dependence barriers, and material resources barriers. Environmental barriers are ranked by staff on a 5-point Likert scale. Responses are ranked from 1 (None/Almost None) to 5 (Extreme).
6. Safety status at case closure. The rating of client's safety increased as a result of services is ranked by staff on a 5-point Likert scale. Responses are ranked from 1 (Not True) to 5 (Extremely True).

7. Client filed civil charges. Responses to client filed civil domestic case are classified as 0-client did not file civil domestic case, or 1-client filed civil domestic case.

8. Client followed through with civil charges. Responses to client followed through with civil domestic case are classified as either 0-client did not follow through with civil domestic case, or 1-client filed through with civil domestic case.

9. Client filed criminal charges. Responses to client filed criminal charges are classified as 0-client did not file criminal charges, or 1-client filed criminal charges.

10. Client followed through with criminal charges. Responses to client followed through with criminal charges are classified as either 0-client did not follow through with criminal charges, or 1-client followed through with criminal charges.

Cluster solution variables. The eleven cluster solution variables included in this study are defined as follows:

1. Client's age at intake. Client's age at intake is calculated from responses to the questions "date of birth," and "date of intake."

2. Number of dependent children. Responses to number of dependent children are classified as the number of children below the age of 18 residing with the client at the time of intake.

3. Batterer behavior barrier. A section of the client intake questionnaire (Appendix B) instructs clients to place a check next to factors that affected their decision to never
leave their partner or to return to their partner after separating. Factors representing batterer behavior barriers include: continually stalked me, felt safer with partner because I knew what he/she was doing, fear of partner, threats from partner to find me and kill me, threats from partner to kill self, threats from partner to harm family, partner found me, partner apologized, partner promised to change, partner needed me, and partner took children from me. Responses to these questions are classified as 0-to indicate no, or 1-to indicate yes, and summed to create a total batterer behavior barrier score.

4. Belief system barrier. A section of the client intake questionnaire (Appendix B) instructs clients to place a check next to factors that affected their decision to never leave their partner or to return to their partner after separating. Factors representing belief system barriers include: love, fear of being alone, fear of not being able to survive without partner, belief that I should try to make my marriage vows work, fear that I might lose my children, belief that the children would suffer without partner, and missed my partner. Responses to these questions are classified as 0-to indicate no, or 1-to indicate yes, and summed for a total belief system barrier score.

5. Threats abuse barrier. Factors representing threats of physical/sexual/withholding resources abuse barriers include: threatened to abuse my pets, threatened to abuse my children, threatened to harm my family or others close to me, told me he/she

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1 Variables 5 through 8 present types of battering experience. Clients were instructed to "Check the items which have occurred with your partner." Responses were subsequently categorized into four distinct types of abuse: threats of physical/sexual/withholding resources abuse (threats abuse), psychological abuse, controlling/withholding of resources abuse, and physical/sexual abuse.
would find me and kill me if I ever left him/her again, threatened that I would never see my kids again, and threatened to hit me. Responses to these questions are classified as 0-to indicate no, or 1-to indicate yes, and summed to create a total threats abuse barrier score.

6. Psychological abuse barrier. Factors representing psychological abuse barriers include: embarrassed me in front of friends, family, or co-workers, made promises but did not keep them, denied incidents of abuse, criticized my friends, family, or co-workers, made fun of me, lied to me, humiliated me in front of my children, blamed me for his/her problems, blamed me for the abuse, blamed me for bad things that happened to me, yelled at me, called me names like whore, slut, or bitch, told me no one would ever want me, told me I was crazy, told me I could not survive without him/her, and made me fear for my life. Responses to these questions are classified as 0-to indicate no, or 1-to indicate yes, and summed to create a total psychological abuse barrier score.

7. Controlling/withholding of resources abuse barrier. Factors representing control/withholding of resources abuse barriers include: did not care for me when I was sick, took my children without my okay, controlled all the big decisions in our family/relationship, controlled what I was allowed to read, kept me from sleeping, controlled all the money, stole my money, kept us from having food, turned off heat, electric, or phone, tried to control who I talked to or saw, tried to control where I went, kept me from getting or keeping a job, tried to keep me from going to school, locked me out of the house, was possessive of me, invaded my privacy,
tried to control me, called home often to check on me, came home unexpectedly to check on me, would not let me use the phone, and would not let me see friends, family, etc. Responses to these questions are classified as 0-to indicate no, or 1-to indicate yes, and summed to create a total controlling/withholding of resources abuse barrier score.

8. Physical/sexual abuse barrier. Factors representing physical/sexual abuse barriers include: abused my pets, abused my children, harmed my family or others close to me, pushed, shoved, or grabbed me, punched or kicked me, choked me, hit me with an object, was violent to me in front of my children, threw objects at me, beat me, tied me, stabbed me, shot me, caused visible injuries, caused injuries that required first aid, caused injuries that required emergency medical treatment, caused injuries that required me to stay at the hospital, tried to kill me, and was sexual with me when I did not want sex. Responses to these questions are classified as 0-to indicate no, or 1-to indicate yes, and summed to create a total physical/sexual abuse barrier score.

9. Material resources barrier. A section of the client intake questionnaire (Appendix B) instructs clients to place a check next to factors that affected their decision to never leave their partner or to return to their partner after separating. Factors representing material resources barriers include: became homeless, lack of money, couldn't get a lawyer, medical people (doctor, nurse, etc.) didn't give me help I needed to get safe, nowhere to go/stay, shelter was full, courts wouldn't give me the help I needed to make partner stop, professionals didn't understand my culture, and
police didn’t help me. Responses to these questions are classified as 0-to indicate no, or 1-to indicate yes, and summed to create a total material resources barrier score.

10. Support system barrier. A section of the client intake questionnaire (Appendix B) instructs clients to place a check next to factors that affected their decision to never leave their partner or to return to their partner after separating. Factors representing support system barriers include: advice from priest, preacher, rabbi, or spiritual leader, advice from friends or relatives, advice from counselor, advice from lawyer, and children wanted to go back. Responses to these questions are classified as 0-to indicate no, or 1-to indicate yes, and summed to create a total support system barrier score.

11. Employment status. Responses to employment status are classified as either 0-not employed, or 1-employed.

Service provision and service utilization variables. The nine service provision and service utilization variables included in this study are defined as follows:

1. Acted on referrals. Responses to client acted on referrals received from agency are classified as either 0-no, client did not act on referrals received from agency, or 1-yes, client acted on referrals received from agency.

2. Number of education groups attended. Responses to number of education groups attended are classified as the sum of education groups attended by the client.

3. Number of support groups attended. Responses to number of support groups attended are classified as the sum of support groups attended by the client.
4. Advocacy services. Responses to advocacy services are classified as either 0-did not receive advocacy services, or 1-received advocacy services.

5. Case management services. Responses to case management services are classified as either 0-did not receive case management services, or 1-received case management services.

6. Court accompaniment services. Responses to court accompaniment are classified as either 0-did not receive court accompaniment services, or 1-received court accompaniment services.

7. Court outreach services. Responses to court outreach services are classified as either 0-did not receive court outreach services, or 1-received court outreach services.

8. Legal services. Responses to legal services are classified as either 0-did not receive legal services, or 1-received legal services.

9. Total hours of service received. Responses to total hours of service received are classified as the sum of service hours received by the client.

**Descriptive Variables.** Table 3.2 illustrates the descriptive variables used in this study. These six variables are included in this study to expand the description of characteristics of subtypes of battered women and to test the validity of the final cluster solution.
### Descriptive Variables

- **Race**
- **Percentage of dependent children**
- **Age of dependent children**
- **Financially dependent at intake**
- **Length of relationship with batterer**
- **Relationship type**

#### Table 3.2 Descriptive variables.

1. **Race/ethnicity.** Black, White, Asian/Pacific Islander, Latina, American Indian.
2. **Percentage of dependent children.** Responses to percentage of dependent children are classified as the number of respondents in each cluster who have any dependent children residing with them, divided by the total number of cluster respondents.
3. **Age of dependent children.** Ages of dependent children are calculated from responses to the questions "child’s date of birth" and "date of intake."
4. **Financially dependent at intake.** Responses to financially dependent at intake are classified as either 0-not financially dependent at intake, or 1-financially dependent at intake.
5. **Length of relationship with batterer.** Responses to length of relationship with batterer are classified as the numeric response to the question, "How long have you been in this relationship?"
6. Relationship type. The client's relationship with abuser at intake is classified as current nonmarital partner, current spouse, former nonmarital partner, or other. “Other” indicates clients who listed their abuser as "father of child."

Stage Two: Research Design

Measuring similarity. The process of categorization requires computing the similarity among cases to determine which cases to group together. Similarity measures are numerical representations of the degree of similarity or difference between the cases or groups of cases.

The most commonly used index of similarity between cases and the distance measure employed in this study is the squared Euclidean distance (SED). SED is the sum of the squared differences over all of the variables for a particular pair of cases. A disadvantage of SED is that it depends on the unit of measurement and the scales of measurement for variables. Variables that are measured in larger numbers will contribute more to the distance than variables that are measured in smaller numbers. A means of circumventing this problem is to express all variables in standardized form (Hair, Anderson, Tatham, and Black, 1998; Aldenderfer & Blashfield, 1984). For this study, all values were standardized prior to cluster analysis.

Detecting outliers. According to Hare, Anderson, Tatham, and Black (1998), "[o]utliers can represent either (1) a truly 'aberrant' observation that is not representative of the general population, or (2) an undersampling of actual group(s) in the population that causes an underrepresentation of the group(s) in the sample" (pp. 482-483). A graphical representation of the data, a dendrogram, was employed to screen for outliers.
(Aldenderfer & Blashfield, 1984). Because a dendrogram illustrates how clusters are combined at each step, outliers can be identified as individual cases that remain separate from all other cases until the latter stages of the clustering procedure.

Stage Three: Assumptions

Most cluster analysis methods involve procedures that are not supported by an extensive body of statistical reasoning (Aldenderfer & Blashfield, 1984). Therefore, the requirements of other techniques, including normality, linearity, and homoscedasticity, have little bearing on cluster analysis (Hair, Anderson, Tatham, & Black, 1998). In cluster analysis, however, the representativeness of the sample must be considered.

Sample representativeness. According to agency staff, all clients who received services at the research site and whose cases were closed during a four-year period (1995-1999) were included in the initial data collection phase. This increases the likelihood that the original sample is representative of the study population. Despite the use of random sampling to reduce the total number of cases in the final sample to \( n = 300 \), however, it is possible that the final non-probability sample does not represent the population under study.

Missing values. Missing data may also affect the generalizability of study results (Hair, Anderson, Tatham, & Black, 1998). There were few missing or erroneous values in the existing database. Values identified as missing or erroneous appeared to have been the result of random data entry errors. Following the reduction in sample size to \( n = 300 \), missing or erroneous values were replaced with correct values obtained from the original data source during the second phase of data collection.
Stage Four: Forming Clusters

There are two general categories for combining similar cases into groups, hierarchical cluster procedures and nonhierarchical cluster procedures. In agglomerative hierarchical clustering, clusters are formed by grouping cases into bigger clusters until all cases are members of a single cluster. Nonhierarchical cluster procedures, or K-means clustering, use cluster seeds to group objects that are within a pre-specified distance. Cluster seeds, also known as starting points, are selected according to some practical, objective, or theoretical basis (Hair, Anderson, Tatham, & Black, 1998).

Because there is no a priori basis for establishing cluster seeds with this study population, this analysis will employ the hierarchical agglomerative method, one of the most prevalent methods in cluster analysis (Aldenderfer & Blashfield, 1984). A hierarchical agglomerative cluster analysis starts with individual cases and groups the most similar cases first. Cases are subsequently grouped into progressively larger clusters. As the similarities among groups decrease, all subgroups (clusters) are fused into a single cluster (Hair, Anderson, Tatham, & Black, 1998).

There are four primary criteria for combining clusters or cases. These include single linkage, complete linkage, average linkage, and Ward's method. Although none of these has emerged as a preferred method (Morey & Skinner, 1986), two of the more frequently employed methods are average linkage and Ward's method. Both of these recommended algorithms have performed well in studies that compared cluster analytic methods (Borgen & Barnett, 1987).
The average linkage method treats the distance between two clusters as the average distance between all pairs of cases where one member of a pair belongs to each cluster (Aldenderfer & Blashfield, 1984). Cases are joined to a cluster if the average value attains a given level of similarity. Ward's method, based on reducing variance within clusters, begins by calculating the means for all variables in a given cluster. For each case, the squared Euclidean distance to the cluster means is calculated. These distances are summed for all cases in the cluster. At each step, the two clusters that merge are those that resulted in the smallest increase in the overall sum of the squared within-cluster distances (Aldenderfer & Blashfield, 1984).

Although no literature was found utilizing cluster analysis to develop typologies of battered women, Morey, Blashfield, and Skinner (1983) tested a number of clustering methods with a sample of 750 alcohol abusers to determine the efficacy of a number of clustering algorithms. These authors split their sample to replicate the cluster solutions. They also administered a number of alcohol-related scales to each subject and used these scales for external validation. They reported that Ward's method of cluster analysis outperformed other methods. Aldenderfer and Blashfield (1984); Morey and Skinner (1986); Bayne, Beaucamp, Bogovich, and Kane (1980); and Mojena (1977) have all reported that Ward's method performed in a superior fashion compared to other clustering algorithms.

Despite the general support for the efficacy of Ward's method, however, Aldenderfer and Blashfield (1984) recommend employing more than one algorithm and comparing the findings. In addition to the highly recommended Ward's method, the
average linkage method was employed and analyzed. This method has also demonstrated its ability to provide adequate clustering solutions (Borgen & Barnett, 1987).

Stage Five: Determining the Number of Clusters in the Final Solution

Cluster analysis requires selecting the number of clusters to be retained. Despite the existence of guidelines for making a decision, no standard, objective method has emerged. Therefore, mathematical and graphical methods, as well as conceptual and theoretical considerations, were employed to arrive at the number of clusters retained in this analysis.

Mojena’s stopping rule. The distances between clusters at successive steps can serve as a useful guide for determining which clusters to retain. Small coefficients indicate that fairly homogenous clusters are being merged. In contrast, large coefficients indicate that clusters containing dissimilar cases are being combined. As a general guideline, clustering should stop when this distance exceeds a specified value or when the successive distances between steps make a sudden jump. Mojena (1977) proposed a mathematical stopping rule and reported particularly effective results when applying the rule with Ward’s method of cluster analysis. This rule provides a formula for calculating the likely occurrence of a significant change in the similarity measure.

The formula is as follows:

\[ \alpha_{j+1} > m + ks \]

Where \( \alpha_{j+1} \) is the value of the distance coefficient at stage \( j+1 \); \( m \) represents the mean, and \( s \) is the standard deviation of the distribution of the distance coefficients. The value
of k is a score for which Mojena proposed a number of critical values. After testing the stopping rules on data containing known sets of clusters, Mojena recommended that k values between 2.75 and 3.50 obtained the best prediction.

**Dendrogram.** The dendrogram is a tool for determining when to stop joining clusters. A graphical method, it represents a hierarchical tree indicating the distance and stage in the analysis when clusters joined each other (Aldenderfer & Blashfield, 1984). Visual inspection of the dendrogram allows determination of when the distance between clusters begins to increase.

**Horizontal icicle diagram.** The horizontal icicle plot is another graphical representation of cluster solutions and is used in this study to determine the appropriate number of clusters to include in the final solution. No cases have been merged at the right of a horizontal icicle plot. Reading from right to left, cases that have been merged are indicated by an "X." Separate clusters are indicated by a white space. Visual inspection of the horizontal icicle plot provides a guide for determining the appropriate number of clusters to retain in the final solution (SPSS, 1999).

**Inverse scree test.** Morey, Blashfield, and Skinner (1983) described a variant on the factor analytic scree test for ascertaining the appropriate number of clusters. The method is referred to as the inverse scree plot, because, in contrast to the "true" line in factor analysis, the sloped line on the inverse scree is an "error" line (Lathrop & Williams, 1987, p. 954). The inverse scree plot, which assesses values of the similarity measure as the analysis progresses, reportedly has high inter-rater reliability when tested with multiple raters. In a study by Lathrop and Williams (1987), three raters...
agreed on the number of clusters in 199 out of 200 graphs. Visual inspection of the inverse scree plot provides a guide for determining the appropriate number of clusters to retain in the final solution.

Stage Six: Interpretation

A final stage of cluster analysis requires assigning a label to the cluster that accurately describes its content or nature. One frequent measure used in the initial phase of interpretation is the mean value of objects contained in the clusters on each variable. Using standardized scores, the average profiles for each cluster were calculated and described.

Bivariate Comparisons

After deriving clusters that differentiate types of battered women, bivariate analyses were conducted to determine how subgroups differed according to service provision, service utilization, and service outcomes. The level of significance, tests of significance, and measures of association for between-group comparisons used in this study are detailed as follows:

Level of Significance

Testing for statistical significance between the dependent and independent variables means establishing whether or not differences in the dependent variable are due to real differences among the clusters, or the result of sampling error (Levin & Fox, 1994). Interpreting tests of significance requires a priori specification of the acceptable level of statistical error within the study (Hair, Anderson, Tatham, & Black, 1998). The alpha value ($\alpha$), also known as the level of Type I error, refers to the probability of
finding statistically significant results, when, in fact, they are the result of chance. "By specifying an alpha level, the researcher sets the allowable limits for error by specifying the probability of concluding that significance exists when it really does not" (p. 10).

Alpha values of .05, meaning that sample differences occur by chance only 5 or fewer times out of 100, or .01, meaning that sample differences occur by chance only 1 or fewer times out of 100, are standard within social science research (Levin & Fox, 1994). According to Rubin and Babbie (1993), however, these alpha levels are dictated by convention, rather than by mathematical theory. They suggest, "[a] strong case can be made for using a higher level, perhaps around .10 under certain conditions, especially when [the] sample is small..." (p. 483). Cohen (1992) suggests that $\alpha = .10$ may also be appropriate "...for circumstances in which a less rigorous standard for rejection is desired, as, for example, in exploratory studies" (p. 156). In this study, because of the exploratory nature of the research, and the absence of a priori criteria for determining the number of clusters that would be derived through cluster analysis or the subsequent number of subjects assigned to each cluster group, $\alpha = .10$.

**Tests of Statistical Significance**

Inferential statistics are tests for the probability that observed associations between the dependent and independent variables can be attributed to sampling error, or chance (Rubin & Babbie, 1993). These tests can be categorized broadly into two types, nonparametric tests and parametric tests. Criteria for selecting the appropriate significance tests require consideration of the level of measurement of the variables.
(e.g., nominal, ordinal, interval, or ratio) and the number of variables included in the analysis. For this study, the chi-square statistic and analysis of variance (ANOVA) were selected.

The chi-square statistic. The chi-square statistic is a nonparametric test appropriate for use with nominal or ordinal level data. This test assesses the extent to which observed frequencies in the dependent variable differ from frequencies that would be expected if the distribution were created by chance (Rubin & Babbie, 1993).

Analysis of variance (ANOVA). ANOVA is a parametric test appropriate for use when the independent variable has more than two categories and when at least one of the variables being analyzed consists of interval or ratio level data. This test assesses the probability that differences between groups are the result of chance (Rubin & Babbie, 1993).

Measures of Association

Tests of statistical significance, which calculate the odds that observed associations between variables are due to chance, do not assess the strength of association between variables. In order to describe the relationship between two variables, a coefficient of correlation is required. Values of coefficients of correlation usually range from -1.0 to +1.0, or 0 to +1.0. The magnitude of the relationship is indicated by the numerical value of the coefficient. When the level of measurement of the variables is metric, the direction of the relationship is indicated by either a positive
(+ or negative (-) sign. When the level of measurement of the variables is categorical, the nature of the relationship is described with words. The measures of association used in this study are Phi (ϕ) and Cramer's V (Rubin & Babbie, 1993).

**Phi** (ϕ). Phi (ϕ) values range from 0, indicating no association between variables, to 1, indicating complete association between variables. The Phi coefficient is appropriate when the variables being analyzed are dichotomous.

**Cramer's V**. Cramer's V (V) values range from 0, indicating no association between variables, to 1, indicating complete association between variables. The Cramer's V coefficient is appropriate when the either of the variables being analyzed has more than two categories.

**Summary**

This chapter was divided into two sections. The first section described the research objectives. The second section presented the research methodology, including selection of the research site, sample, sampling strategy, protection of human subjects, the data collection process, variable definitions and measures, and bivariate comparisons using level of significance, tests of statistical significance, and measures of association. Chapter 4 reports the findings of the study.
CHAPTER 4

ANALYSIS AND FINDINGS

Hierarchical cluster analysis is a procedure that identifies relatively homogenous groups of cases within a heterogeneous population, based on selected characteristics (Aldenderfer & Blashfield, 1984). After subgroups have been identified, differences between the groups can be analyzed and interpreted. This study employed a hierarchical agglomerative method of cluster analysis aimed at differentiating subgroups of battered women according to relevant personal and environmental characteristics. Of the original number of cases included in the final analysis (n = 300), five cases in the sample were excluded because they represented male victims (n = 2) and female batterers (n = 3). This reduced the total number of cases in the final sample to n = 295. Following the identification of battered women typologies, bivariate analyses were employed to compare differences in service provision, service utilization, and service outcomes according to group.

This chapter comprises seven sections. The first section highlights the sample demographics; the second summarizes the selection of variables for the study; the third describes the selection of the clustering method and the decision-making process

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regarding the number of clusters retained in the final solution; the fourth includes a
description of each cluster and post hoc analysis of cluster variables; the fifth compares
service provision, service utilization, and service outcomes among the clusters; the sixth
describes post hoc analysis of statistical tests employed in the study; and the final
section details modal types for each cluster.

Study Sample Demographics

The subjects of this study (n = 295) were female victims of domestic violence
who participated in domestic violence intervention services at an Ohio area violence
prevention and intervention agency. The age of study subjects ranged from a minimum
of 16 to a maximum of 70. The average age of study subjects was 32.64 (SD = 9.15).
The vast majority of subjects were classified as Caucasian (70.5%). The remainder of
the sample consisted of persons classified as African American. The ratio of employed
(50.8%) to unemployed (49.2%) subjects was nearly equal. Subjects reported an
average length of relationship with their abuser of approximately eight years (M = 8.35,
SD = 7.34). More than half of the persons in the sample (57.6%) were married to their
abuser at the time of intake. Table 4.1 highlights demographic data from the study
sample.
<table>
<thead>
<tr>
<th>Age of Relationship (in years)</th>
<th>% Abuser is Current Spouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.64*</td>
<td>32.64*</td>
</tr>
<tr>
<td>50.8</td>
<td>70.5</td>
</tr>
<tr>
<td>411</td>
<td>70.5</td>
</tr>
<tr>
<td>417</td>
<td>29.5</td>
</tr>
<tr>
<td>524</td>
<td>8.35**</td>
</tr>
<tr>
<td>524</td>
<td>57.6</td>
</tr>
<tr>
<td>* Standard Deviation (SD) = 9.15. ** SD = 7.34</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1. Study sample demographics

Selection of Variables

As detailed in chapter three, clustering techniques will always create subgroups regardless of the true existence of meaningful or significant clusters of characteristics. Thus, the integrity of cluster solutions is completely dependent on the variables included in the analysis. According to Hare, Anderson, Tatham, and Black (1998), because "the cluster analysis technique has no means of differentiating relevant from irrelevant variables," the researcher should include only those variables that (1) characterize the objects being clustered, and (2) relate specifically to the objects being clustered (p. 482). The review of literature identified empirical and conceptual support for personal and environmental characteristics that differentiate battered women. These variables included: age, number of dependent children, employment status, batterer behavior barriers, belief system barriers, threats abuse barriers, psychological abuse barriers, controlling/withholding of resources barriers, physical/sexual abuse barriers, material resources barriers, and support system barriers.
Selection of the Clustering Method and the Number of Clusters

Selection of the Clustering Method

The decision to use either the average linkage method or Ward's method in the cluster analysis was assessed by the extent to which either method provided a tenable cluster solution. Had previous research been available, consistencies between prior typologies and this study would have been used to assist in determining the clustering method. Because no similar research on battered women was identified in the literature, however, other criteria were employed to assess the appropriateness of the solutions created by the different clustering methods.

One means of determining the appropriate clustering method is to examine the solutions for outliers (Hair, Anderson, Tatham, & Black, 1998). An acceptable solution should be relatively free of observations that are distinctly different from other observations. Because the presence of clusters with very few cases is suggestive of outliers (Aldenderfer & Blashfield, 1984), a tenable cluster solution for this study should distribute the 295 cases in the sample throughout the clusters. A high level of diversity was identified in this sample with respect to age, number of dependent children, employment status, batterer behaviors, belief systems, and types of abuse (see Tables 4.1 and 4.2). Therefore, it was expected that a successful cluster solution would be capable of distributing cases throughout the clusters. Table 4.2 illustrates the range of values obtained for the batterer behaviors, belief systems, and types of abuse variables employed in the cluster solution.

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Average Linkage Method

The average linkage method with the SED similarity measure produced unacceptable results. This method derived a solution containing over 90% of all cases in one cluster, and a number of outlier clusters. The three, four, and five cluster solutions each held a cluster containing over 98% of the cases. Each of the six, seven, and eight cluster solutions for this method produced four clusters containing only one case. Poor distribution of cases throughout the clusters suggests that this method failed to distinguish adequately the underlying structure in these data.

Ward’s Method

The decision to accept Ward's method for the clustering solution was based on three criteria. First, in each of the cluster solutions, this method consistently distributed cases throughout the clusters. Second, the dendrogram indicated no outliers in the three, four, five, six, seven, or eight cluster solutions (see Appendix D). Third, in tests of a number of clustering methods to determine the efficacy of each method, Morey, Blashfield, and Skinner (1983) reported that Ward's clustering method outperformed all
other methods. Aldenderfer and Blashfield (1984), Morey and Skinner (1986), Bayne, Beaucamp, Bogovich, and Kane (1980), and Mojena (1977) have also reported that in comparison tests, Ward’s method performed better than other clustering methods.

**Selection of the Number of Clusters**

At the first phase of the hierarchical clustering process, all cases are clustered individually. In subsequent steps, groups of individual cases, or clusters, are combined until all cases are merged into a single group. Although no standardized procedure exists for determining the exact number of clusters to retain in a clustering solution, the distances between clusters at successive steps serve as a useful guide. Specifically, small coefficients indicate that fairly homogeneous clusters are being merged. Large coefficients indicate that clusters containing heterogeneous cases are being combined. A general guideline in cluster analysis is to stop clustering when the coefficient exceeds a specified value, or when the successive distances between steps make a sudden jump. Mathematical and graphical methods were used to determine the number of clusters to be retained in this study. In addition, solutions for several different numbers of clusters were computed and analyzed.

**Mojena’s Stopping Rule**

Mojena’s (1977) mathematical formula calculates the likely occurrence of a significant change in the similarity measure. The value of $k$ is a score for which Mojena proposed employing a number of critical values. After testing the stopping rules on data containing known sets of clusters, Mojena found that $k$ values between 2.75 and 3.50 best predicted the most tenable cluster solutions.
To apply Mojena’s rule, a data set was created using the distance coefficients for each clustering step. The mean and standard deviation of the distribution of the distance coefficients were calculated at 365.1 and 463.5 respectively. Using four k values, 2.75, 3.00, 3.25, and 3.50, Mojena’s rule suggested retaining between five and nine clusters. Table 4.3 displays the proposed number of clusters for each k value.

<table>
<thead>
<tr>
<th>K Value</th>
<th>Number of Clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.50</td>
<td>5</td>
</tr>
<tr>
<td>3.25</td>
<td>6</td>
</tr>
<tr>
<td>3.00</td>
<td>8</td>
</tr>
<tr>
<td>2.75</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 4.3. Proposed number of clusters for each k value

Dendrogram

The dendrogram, or tree graph, is a graphical representation that illustrates how clusters are combined at each step of the procedure until all cases are contained in a single cluster (Hair, Anderson, Tatham, & Black, 1998). By visually inspecting the dendrogram, the researcher is able to determine when the distance between cluster merges begins to increase. In this study, the dendrogram (see Appendix D) suggested a range of possible solutions, from a minimum of three clusters to a maximum of seven.
**Horizontal Icicle Plot**

The horizontal icicle plot is the second graphical representation used in this study to help determine the appropriate number of clusters to retain in the final solution. At the right of a horizontal icicle plot, no cases have been merged. Reading from right to left, cases that are merged are indicated by an "X." Separate clusters are indicated by a white space (SPSS, 1999). In this study, the horizontal icicle plot (see Appendix E) suggested a range of possible solutions, from a minimum of three clusters to a maximum of seven.

**Inverse Scree Test**

The inverse scree plot assesses the values of the similarity measure throughout the clustering solution process. On a scree plot, the distance between the two clusters joined at each stage in the cluster analysis, referred to as the distance coefficient, is plotted against the number of clusters. The line on the scree plot represents a jump in the similarity measure. If similar clusters have been combined, little error is present. When very dissimilar clusters are combined, error increases. A substantial flattening of the scree line suggests minimal errors in combining clusters at each stage in the process. Figure 4.1 displays the inverse scree chart with the distance coefficients graphed for the final 20 clusters.
Visual inspection of the inverse scree plot reveals no distinct break that would indicate a specific step at which error associated with joining clusters increased markedly. The rise in the graph at less than nine clusters suggests that the appropriate number of clusters is between six and nine.

Elimination of Certain Numbers of Clusters

The methods employed for determining the appropriate number of clusters to retain are designed to offer a range of cluster solutions, not a single, "best" solution. Mojena's rule suggested retaining between five and nine clusters. The dendrogram and horizontal icicle plot indicated a range of three to seven possible solutions. The inverse
scree plot indicated a range of six to nine possible solutions. To determine specifically the most appropriate number of clusters to retain, consistencies or discrepancies in the results of these methods must be examined carefully.

Mojena reported the tendency of \( k \) values of 2.75 with Ward's Method to overestimate the number of clusters to be retained (p. 361). In this analysis, \( k = 2.75 \) yielded nine clusters. Based on this and on the proposed three to seven cluster solutions from the dendrogram and horizontal icicle plot, the nine-cluster solution was ruled out. Consistency in the number of solutions suggested by the dendrogram and horizontal icicle plot also ruled out the eight-cluster solution. Mojena's rule and the scree plot further ruled out the three and four cluster solutions. The minimum six-cluster solution suggested by the scree plot aided in ruling out the five-cluster solution. Combined consideration of Mojena's rule, the dendrogram, the horizontal icicle plot, and the inverse scree narrowed the range of appropriate solutions to between six and seven. These four tools, however, did not identify which was the most tenable solution of the two remaining.

When graphical and mathematical guidelines for the number of clusters to retain are ambiguous, Hair, Anderson, Tatham, and Black (1998) suggest deciding among alternative solutions based on a priori criteria, practical judgment, common sense, or conceptual/theoretical foundations. Aldenderfer and Blashfield (1984) advise comparing group differences between the clusters. The more the groups differ according to variables not included in the study, the more tenable the cluster solution.
In the hierarchical clustering solution, clusters are merged according to their similarities. The six cluster solution joined \( n = 22 \) and \( n = 32 \) into one 54 case cluster. Significant differences between these two groups on variables that would be expected to vary among types of battered women would aid in determining the number of clusters to be retained in the final cluster solution.

**Six-Cluster Solution vs. Seven-Cluster Solution**

To determine if the joining of \( n = 22 \) (A) and \( n = 32 \) (B) into one cluster masked substantive between-group differences and to test the validity of the final cluster solution, bivariate comparisons were conducted. Using the literature as a guide (Forte, Franks, Forte, & Rigsby, 1996; Sullivan, Basta, Tan, & Davidson, 1992; Gondolf, Fisher, & McFerron, 1991; Wilson, Baglioni, & Downing, 1989; Berk, Newton, & Berk, 1986), variables were selected that might be expected to differ between groups of battered women. Cluster membership was the dependent variable for this analysis, which included both continuous and categorical variables. The chi-square statistic was used to test for differences among the categorical variables including, race, financial dependence at intake, and relationship type. Independent samples t-tests were used to test continuous variables, including relationship length and age of dependent children. Table 4.4 illustrates the demographic similarities between clusters A and B.
As indicated in Table 4.4, the two groups had similar racial composites. Group A consisted of 68.2% White subjects and 31.8% African American subjects. The composition of group B was nearly identical, with 65.6% White subjects and 34.4% African American subjects. The percentage of subjects who have dependent children was also similar for each group (A = 55%, B = 59%). Despite these similarities, however, there were distinct differences between the groups. Table 4.5 displays variables that differentiate clusters A and B.
Table 4.5. Cluster A and B dissimilarities

Persons in group A were less likely to be financially dependent on their abuser at intake (38.1%) than persons in group B (70.4%) (p = .069). In addition, group A members had longer-term relationships with their batterers (M = 15.2) than those in group B (M = 5.3) (p = .010).

There was also a statistically significant association between relationship type and cluster membership (p = <.001). Approximately 57% of subjects in group A were involved in a relationship with the batterer at the time of intake. Of those, more than 80% were married. Group A also had the largest percentage of subjects (23.8%) who reported someone other than a current or former intimate partner as their abuser. In contrast, of those in group B who were involved in a relationship with their abuser at the time of intake (66%), less than half (47.6%) were married. Fewer than 7% in group B reported their abuser as someone other than a current or former intimate partner.
Statistically significant differences in age of dependent children were also identified ($p = .001$). On average, the children of subjects in group A ($M = 11.8$) were older than those in group B ($M = 6.6$) by a margin of five or more years.

Based on these findings, it was determined that combining clusters A and B would obscure relevant differences. Therefore, the seven-cluster solution was retained. Figure 4.2 displays the frequency distribution of cases for the seven-cluster solution.

![Figure 4.2. Seven cluster member frequency distribution](image-url)
Descriptions of Clusters and Post Hoc Analysis

Descriptions of Clusters

Differences among demographic data and cluster barriers were used to provide a
descriptive account of each cluster. Table 4.6 illustrates demographic data for each
cluster. Table 4.7 summarizes environmental barriers by cluster.

<table>
<thead>
<tr>
<th>Cluster Number</th>
<th>Average Age</th>
<th>Average # Of Dependent Children</th>
<th>% Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (n = 32)</td>
<td>41.1</td>
<td>&lt; 1</td>
<td>40.6</td>
</tr>
<tr>
<td>2 (n = 55)</td>
<td>30.2</td>
<td>1</td>
<td>49.1</td>
</tr>
<tr>
<td>3 (n = 39)</td>
<td>30.7</td>
<td>3</td>
<td>66.7</td>
</tr>
<tr>
<td>4 (n = 62)</td>
<td>31.3</td>
<td>2</td>
<td>8.1</td>
</tr>
<tr>
<td>5 (n = 22)</td>
<td>46.5</td>
<td>&lt; 1</td>
<td>77.3</td>
</tr>
<tr>
<td>6 (n = 32)</td>
<td>27.8</td>
<td>2</td>
<td>37.5</td>
</tr>
<tr>
<td>7 (n = 53)</td>
<td>30.2</td>
<td>1</td>
<td>94.3</td>
</tr>
</tbody>
</table>

Table 4.6. Demographic data for seven-cluster solution
Table 4.7. Environmental barrier data for seven-cluster solution

<table>
<thead>
<tr>
<th>Cluster Number</th>
<th>Overall Abuse Barriers*</th>
<th>Average Batterer Behavior Barriers</th>
<th>Average Belief System Barriers</th>
<th>% Returned for Material Reasons</th>
<th>% Advised to Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26.3</td>
<td>3.3</td>
<td>3.3</td>
<td>100</td>
<td>78.1</td>
</tr>
<tr>
<td>2</td>
<td>45.1</td>
<td>6.2</td>
<td>3.1</td>
<td>85.5</td>
<td>30.9</td>
</tr>
<tr>
<td>3</td>
<td>33.9</td>
<td>3.6</td>
<td>3.7</td>
<td>100</td>
<td>92.3</td>
</tr>
<tr>
<td>4</td>
<td>23.7</td>
<td>1.6</td>
<td>1.7</td>
<td>29</td>
<td>12.9</td>
</tr>
<tr>
<td>5</td>
<td>11.6</td>
<td>.18</td>
<td>.05</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>7.13</td>
<td>1.2</td>
<td>.78</td>
<td>0</td>
<td>3.1</td>
</tr>
<tr>
<td>7</td>
<td>29.9</td>
<td>2.1</td>
<td>1.8</td>
<td>37.7</td>
<td>0</td>
</tr>
</tbody>
</table>

* = Sum of Threats, Psychological, Controlling/Withholding, and Physical/Sexual Abuse Barrier Scores

Cluster One: High Support System Barriers (n = 32)

Cluster One members were approximately 41 years of age. Of those with dependent children, most had only one child under the age of 18 living with them at the time of intake. The majority of persons in this cluster (60%) were unemployed and characterized primarily by significant barriers in support systems and material goods.

Cluster Two: High Batterer Behavior Barriers (n = 55)

Cluster Two members were approximately 30 years of age. Persons with dependent children in this group generally had one minor child residing with them at intake. Nearly half of this group's members (49.1%) were employed. Cluster Two
membership is characterized by having the highest batterer behavior barriers, including threats abuse, psychological abuse, controlling/withholding of resources abuse, and physical/sexual abuse within the relationship, and batterer imposed barriers when attempting to leave the abusive relationship.

**Cluster Three: High Belief System Barriers** \( (n = 39) \)

Persons in this cluster were approximately 31 years of age. The majority of them (66.7%) were employed. At an average of three dependent children per person, this group had the highest number of dependent children among the clusters. High belief system and material goods barriers were the most prevalent traits in Cluster Three. Of the members in this group who attempted to leave the batterer and returned, or those who never left, 100% cited the need for material goods as a major obstacle. This group also had the highest percentage of members with dependent children and scored the second highest in batterer behavior barriers and types of abuse barriers.

**Cluster Four: High Unemployment Barriers** \( (n = 62) \)

Individuals in Cluster Four were approximately 31 years old and averaged nearly two dependent children per member. At only 8.1% employment, this cluster is distinguished by having the highest rate of unemployed members among the seven groups. Compared to the other clusters, persons in this group experienced lower than average batterer behavior and abuse types barriers.
Cluster Five: Lowest Overall Barriers (n = 22)

At an average age of nearly 47, persons in this cluster were the oldest and reported the lowest batterer behavior and belief system barriers. This cluster also represented the second lowest average number of dependent children, the second lowest abuse types barriers, and the second highest employment rate. Of those in Cluster Five who attempted to leave their partner and returned, or never left, none cited lack of material goods or support person barriers as the reason.

Cluster Six: Low Abuse Barriers (n = 32)

With an average age of nearly 28, Cluster Six members were the youngest in the sample. Persons in this group averaged more than one dependent child per member. More than 60% of the individuals in this cluster were unemployed. The members of Cluster Six had low belief system barriers and the lowest overall batterer behavior barriers within the seven-cluster solution.

Cluster Seven: Low Employment Barriers (n = 53)

Persons in this cluster were approximately 30 years of age and averaged one dependent child per member. The primary characteristic of the individuals in Cluster Seven was having the lowest unemployment rate. Persons in this cluster experienced slightly lower than average batterer behavior and belief system barriers and slightly higher than average threats, psychological, controlling/withholding, and physical/sexual abuse barriers.
Post Hoc Analysis of Cluster Variables

Because cluster analysis methods create subgroups by minimizing within-group differences, finding significant differences among the clusters on the variables used to create the clusters is virtually assured. Therefore, conducting tests of significance on these variables is "useless at best" (Aldenderfer & Blashfield, 1984). However, as cluster analysis can be "...dramatically affected by the inclusion of only one or two inappropriate or undifferentiated variables," it is important to examine the results of the analytic process carefully to determine which variable or variables do not contribute distinctively to the final solution (p. 482).

As described earlier, measures of association are valuable in determining the magnitude of the relationship between the independent (cluster variables) and the dependent variable (subgroup). Cramer's V values, appropriate for use with dichotomous or multichotomous, nominal and ordinal variables, range from 0, indicating no association between variables, to 1, indicating complete association between variables. Conventions for describing measures of association are illustrated in Table 4.8 (Davis, 1971).
## Table 4.8. Terms for describing relationship between variables

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.70 or higher</td>
<td>Very strong association</td>
</tr>
<tr>
<td>.50 to .69</td>
<td>Substantial association</td>
</tr>
<tr>
<td>.30 to .49</td>
<td>Moderate association</td>
</tr>
<tr>
<td>.10 to .29</td>
<td>Low association</td>
</tr>
<tr>
<td>.01 to .09</td>
<td>Negligible association</td>
</tr>
</tbody>
</table>

Table 4.9 illustrates the Cramer's V statistic associated with each of the cluster variables employed in this study. Values are listed in rank order from highest association to lowest association. Associations between the variables age, material resource barriers, and support system barriers and the dependent measure (subgroup membership) are very strong. Employment status is substantially associated with subgroup membership. In contrast, type of abuse, batter behavior barriers, and belief system barriers are only moderately associated with subgroup membership. There is a low association between number of dependent children and subgroup membership.
### Table 4.9. Cramer’s V values for cluster variables

<table>
<thead>
<tr>
<th>Cluster Variable</th>
<th>Cramer’s V Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client’s age</td>
<td>.988</td>
</tr>
<tr>
<td>Material resources barriers</td>
<td>.751</td>
</tr>
<tr>
<td>Support system barriers</td>
<td>.738</td>
</tr>
<tr>
<td>Employment status</td>
<td>.580</td>
</tr>
<tr>
<td>Psychological abuse</td>
<td>.429</td>
</tr>
<tr>
<td>Physical/sexual abuse</td>
<td>.417</td>
</tr>
<tr>
<td>Controlling/withholding abuse</td>
<td>.415</td>
</tr>
<tr>
<td>Batterer behavior barriers</td>
<td>.381</td>
</tr>
<tr>
<td>Threats abuse</td>
<td>.360</td>
</tr>
<tr>
<td>Belief system barriers</td>
<td>.305</td>
</tr>
<tr>
<td>Number of dependent children</td>
<td>.224</td>
</tr>
</tbody>
</table>

Comparisons of Service Provision, Service Utilization, and Service Outcomes

As noted in the literature review, there is growing demand to not only acknowledge the heterogeneity among service recipients, but to identify differences in service provision, service utilization, and service outcomes as well (Rubin, 2000). Having derived clusters that differentiated types of battered women, bivariate analyses and descriptive statistics were employed to determine how the groups differed in service
 provision, service utilization, and service outcomes. As discussed earlier, because of
the exploratory nature of this study, the alpha level for these analyses was set at \( \alpha = .10 \).

Comparisons of Service Provision

A series of tests was conducted to determine the relationship between service
provision and subgroup membership. For these analyses, the independent variable was
typology group. The chi-square statistic was used to test the categorical variables of
client received advocacy services, client received case management services, client
received court accompaniment services, client received court outreach services, and
client received legal services. Table 4.10 displays the service provision patterns for
each cluster.

No statistically significant differences were found between the groups according
to the percentage of members who received advocacy, court accompaniment, court
outreach and legal services. On the variable "received case management services," four
of the cells had expected frequencies of less than five cases. It is inappropriate to
interpret the chi-square statistic when more than 20% of the cells have an expected
frequency of less than five (Levin & Fox, 1994). Although significance tests of
"received case management services" were not possible, a visual inspection of the
crosstabs table indicated that in each of the seven clusters, fewer than seven individuals
had not received case management services. Therefore, there also appears to be no
association \( (V = .146, p = .397) \) between receiving case management services and group
membership.

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<table>
<thead>
<tr>
<th>Cluster Number</th>
<th>Received Advocacy Services</th>
<th>%</th>
<th>Received Case Management Services</th>
<th>%</th>
<th>Received Court Accompaniment</th>
<th>%</th>
<th>Received Court Outreach</th>
<th>%</th>
<th>Received Legal Services</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>61.3</td>
<td></td>
<td>80.6</td>
<td>45.2</td>
<td>35.5</td>
<td>45.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>75.9</td>
<td></td>
<td>92.6</td>
<td>59.3</td>
<td>42.6</td>
<td>47.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>71.8</td>
<td></td>
<td>92.3</td>
<td>59.0</td>
<td>51.3</td>
<td>56.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>79.0</td>
<td></td>
<td>91.9</td>
<td>55.7</td>
<td>41.0</td>
<td>42.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>77.3</td>
<td></td>
<td>90.5</td>
<td>61.9</td>
<td>52.3</td>
<td>47.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>75.0</td>
<td></td>
<td>84.4</td>
<td>40.6</td>
<td>62.5</td>
<td>40.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>75.0</td>
<td></td>
<td>94.2</td>
<td>62.0</td>
<td>52.0</td>
<td>34.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
X^2 = 3.803, \quad V = .146, \quad X^2 = 5.915, \quad X^2 = 7.068, \quad X^2 = 5.043, \\
df = 6, \quad p = .397, \quad df = 6, \quad df = 6, \quad df = 6, \\
p = .703 \quad p = .433 \quad p = .315 \quad p = .538
\]

Table 4.10. Comparisons of service provision for seven-cluster solution

**Comparisons of Service Utilization**

A series of tests was conducted to determine the relationship between service utilization and subgroup membership. For these analyses, the independent variable was typology group. The chi-square statistic was used to test the categorical variable of client acted on referrals. One-way analysis of variance was employed to test the
continuous variables of number of education groups attended, number of support groups attended, and total hours of service received. Table 4.11 displays the service utilization patterns of each cluster.

<table>
<thead>
<tr>
<th>Cluster Number</th>
<th>% of Clients who Acted on Referrals</th>
<th>Average # of Education Groups Attended*</th>
<th>Average # of Support Groups Attended</th>
<th>Average Hours of Service Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>47.1</td>
<td>1.4</td>
<td>.71</td>
<td>8.3</td>
</tr>
<tr>
<td>2</td>
<td>41.7</td>
<td>.66</td>
<td>1.1</td>
<td>10.0</td>
</tr>
<tr>
<td>3</td>
<td>38.5</td>
<td>.52</td>
<td>1.5</td>
<td>15.1</td>
</tr>
<tr>
<td>4</td>
<td>40.8</td>
<td>1.2</td>
<td>2.6</td>
<td>14.6</td>
</tr>
<tr>
<td>5</td>
<td>50.0</td>
<td>.43</td>
<td>.13</td>
<td>8.3</td>
</tr>
<tr>
<td>6</td>
<td>30.4</td>
<td>.73</td>
<td>1.4</td>
<td>17.0</td>
</tr>
<tr>
<td>7</td>
<td>22.2</td>
<td>.95</td>
<td>1.7</td>
<td>13.6</td>
</tr>
</tbody>
</table>

\[ X^2 = 7.218, \]
\[ df = 6, \]
\[ p = .301 \]

\[ f = 1.814, \]
\[ df = 6, \]
\[ p = .10 \]

\[ f = .780, \]
\[ df = 6, \]
\[ p = .588 \]

\[ f = .331, \]
\[ df = 6, \]
\[ p = .920 \]

*_{p < .10.}*

Table 4.11. Comparisons of service utilization for seven-cluster solution

There were no significant differences between the subgroups in relation to acting on referrals, number of support groups attended, and number of service hours received. The association between education group attendance and subgroup

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membership, however, was statistically significant ($p = .10$). According to these data, half of Lowest Overall Barriers (5) members acted on agency referrals. In contrast, only 30% of Young, Unemployed, Low Abuse Barriers (6) members and less than one quarter (22.5%) of Low Employment Barriers (7) members acted on agency referrals. High Support System Barriers (1) members represented the highest number of education groups attended (1.4). High Unemployment Barriers (4) members averaged the highest number of support groups attended (2.6). Lowest Overall Barriers (5) members averaged the lowest attendance at education groups (.43) and support groups (.13). Weak Support System (1) and Lowest Overall Barriers (5) averaged the lowest number of service hours received. Young, Unemployed, Low Abuse (6) received the highest number of service hours.

Comparisons of Service Outcomes

As noted in the literature, few studies have attempted to measure safety outcomes for battered women following intervention services (Sullivan, Tan, Basta, Rumptz, & Davidson, 1992; Schewe & O'Donahue, 1993; McKenzie, 1995). No studies were found that differentiated safety outcomes according to barrier groups. For this study, a final series of bivariate analyses and descriptive statistics were employed to determine differences in service outcomes according to group membership. The typology group was the independent variable throughout these analyses. Categorical dependent variables to be tested included relationship with abuser at case closure, rating of environmental barriers at case closure, client's awareness of community resources increased, client's insight into battering dynamics increased, client likely to call for help
if battered again, client's safety increased, client filed civil charges, client followed through on civil charges, client filed criminal charges, and client followed through on criminal charges. The relationship between each of these variables and the typology groups was assessed with cross tabs and the chi-square statistic. Because of the limitations of the chi-square statistic, in instances where more than 20% of the cells had an expected frequency of less than five, only the Cramer's V (V) coefficient was used to interpret the association between the independent and dependent variables. There were no continuous dependent outcome variables. As illustrated in Table 4.12, a majority of subjects in this study reported overall positive service outcomes.
<table>
<thead>
<tr>
<th>Outcome Variable</th>
<th>Response</th>
<th>Percentage of Respondents in Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness of community resources increased</td>
<td>True</td>
<td>52.1</td>
</tr>
<tr>
<td>Insight into battering dynamics increased</td>
<td>True</td>
<td>51.2</td>
</tr>
<tr>
<td>Likelihood of calling for help if battered again</td>
<td>High</td>
<td>58.4</td>
</tr>
<tr>
<td>Safety increased</td>
<td>Moderate/high increase</td>
<td>40.2</td>
</tr>
<tr>
<td>Filed civil charges</td>
<td>Yes</td>
<td>38.8</td>
</tr>
<tr>
<td>Followed through on civil charges</td>
<td>Yes</td>
<td>72.5</td>
</tr>
<tr>
<td>Filed criminal charges</td>
<td>Yes</td>
<td>63.6</td>
</tr>
<tr>
<td>Followed Through on criminal charges</td>
<td>Yes</td>
<td>77.3</td>
</tr>
</tbody>
</table>

Table 4.12. Sample (n = 295) service outcomes

Table 4.13 illustrates the outcomes for each cluster according to relationship status at case closure. The low association between relationship status at case closure and cluster membership was not statistically significant ($V = .206, p = .127$). More than half (52.4%) of persons in the Young, Unemployed, Low Abuse Barriers group (6) remained with their abuser following participation in services. This group also had the highest percentage (42.9%) of persons who remained with an abuser without batterer treatment intervention. The Low Employment Barriers group (7) held the highest
percentage of women who remained intact with batterer treatment intervention (9.8%).

The highest relationship termination rate (76.9%) reflects the majority outcome for persons in the Lowest Overall Barriers group (5).

<table>
<thead>
<tr>
<th>Cluster Number</th>
<th>% Reconciled with Batterer Treatment</th>
<th>% Reconciled Without Batterer Treatment</th>
<th>% Relationship Terminated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>24.0</td>
<td>76.0</td>
</tr>
<tr>
<td>2</td>
<td>9.1</td>
<td>9.1</td>
<td>81.8</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>34.5</td>
<td>65.5</td>
</tr>
<tr>
<td>4</td>
<td>8.9</td>
<td>17.8</td>
<td>73.3</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>23.1</td>
<td>76.9</td>
</tr>
<tr>
<td>6</td>
<td>9.5</td>
<td>42.9</td>
<td>47.6</td>
</tr>
<tr>
<td>7</td>
<td>9.8</td>
<td>19.5</td>
<td>70.7</td>
</tr>
</tbody>
</table>

Table 4.13. Comparisons of relationship status at case closure for seven-cluster solution
<table>
<thead>
<tr>
<th>Cluster Number</th>
<th>% Environmental Barriers at Closure</th>
<th>% Awareness of Resources Increased</th>
<th>% Insight into Battering Dynamics Increased</th>
<th>% Likely to Call For Help</th>
<th>% Safety Increased*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No/Lo 6.7 High 43.3</td>
<td>55.6</td>
<td>52.6</td>
<td>62.1</td>
<td>51.7</td>
</tr>
<tr>
<td>2</td>
<td>No/Lo 10.2 High 44.9</td>
<td>56.7</td>
<td>59.4</td>
<td>58.3</td>
<td>36.0</td>
</tr>
<tr>
<td>3</td>
<td>No/Lo 16.2 High 37.8</td>
<td>62.5</td>
<td>64.7</td>
<td>73.0</td>
<td>46.2</td>
</tr>
<tr>
<td>4</td>
<td>No/Lo 9.7 High 43.6</td>
<td>59.4</td>
<td>50.0</td>
<td>57.6</td>
<td>50.8</td>
</tr>
<tr>
<td>5</td>
<td>No/Lo 25.0 High 25.0</td>
<td>58.8</td>
<td>58.8</td>
<td>57.1</td>
<td>42.9</td>
</tr>
<tr>
<td>6</td>
<td>No/Lo 14.3 High 42.9</td>
<td>33.3</td>
<td>36.8</td>
<td>50.0</td>
<td>31.3</td>
</tr>
<tr>
<td>7</td>
<td>No/Lo 16.0 High 34.0</td>
<td>40.6</td>
<td>40.6</td>
<td>52.0</td>
<td>25.5</td>
</tr>
</tbody>
</table>

\[
X^2 = 7.225, \quad df = 12, \quad p = .842 \\
X^2 = 6.246, \quad df = 6, \quad p = .396 \\
X^2 = 5.527, \quad df = 6, \quad p = .478 \\
X^2 = 11.044, \quad df = 6, \quad p = .087 \\
\]

Table 4.14. Comparisons of safety measure outcomes for seven-cluster solution

Table 4.14 illustrates the outcomes for each cluster according to safety measure outcomes at case closure. There was no statistically significant relationship between environmental barriers at case closure and group (p = .842). In this sample, those identified as Lowest Overall Barriers (5) were the most likely to have no or low...
environmental barriers at case closure (25.0%). The High Unemployment (4) and High Support System Barriers (1) groups were the most likely to have high environmental barriers at case closure with scores of 43.6% and 43.3% respectively.

There was no statistically significant relationship between an increase in resource awareness and group (g = .396). The majority of respondents in each group experienced an increased awareness of available resources except for the Young, Employed, Low Abuse Barriers (6) and Low Employment Barriers (7) groups. With scores of 33.3% and 40.6% respectively, groups six and seven were also identified as being the least likely to be more aware of resources following intervention. On the opposite end of the continuum, nearly two thirds of the persons in the High Belief System Barriers (3) group were likely to have increased their awareness of resources at case closure.

There were also no statistically significant findings for a relationship between group membership and increased insight into battering dynamics (g = .478) or likelihood of calling for help (g = .526). With scores of 36.8%/50.0% (6) and 40.6%/52.0% (7) respectively, the Young, Employed, Low Abuse Barriers (6) group and the Low Employment Barriers (7) group represent the lowest increases in battering dynamics insight and likelihood of calling for help if battered again. Members of the High Belief System Barriers group were the most likely to have increased insight into battering dynamics (64.7%) and to call for help if battered again (73.0%). These findings were consistent with those for resource awareness.
The relationship between group and increased safety was statistically significant ($p = .087$). Table 4.15 represents the overall increased safety scores for each cluster. Scores are listed in descending order, from the most likely to increase safety (cluster one) to the least likely to increase safety (cluster seven).

<table>
<thead>
<tr>
<th>% Safety Increased</th>
<th>51.7</th>
<th>50.8</th>
<th>46.2</th>
<th>42.9</th>
<th>36.0</th>
<th>31.3</th>
<th>25.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster Number</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 4.15. Ranked subgroup safety scores

Persons characterized as weak support system (1), unemployed with young children (4), highest overall barriers (3), and lowest overall barriers (5) were perceived by staff as having the largest increase in safety at the end of services. Severe abuse (2), young/unemployed/low abuse (6), and employed subgroups (7) were perceived as having the lowest increase in safety as a result of participation in services.
<table>
<thead>
<tr>
<th>Cluster Number</th>
<th>% Filed Civil Case</th>
<th>% Followed Through with Civil Case</th>
<th>% Filed Criminal Case</th>
<th>% Followed Through with Criminal Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32.3</td>
<td>61.5</td>
<td>54.8</td>
<td>66.7</td>
</tr>
<tr>
<td>2</td>
<td>50.9</td>
<td>71.0</td>
<td>69.1</td>
<td>72.7</td>
</tr>
<tr>
<td>3</td>
<td>44.7</td>
<td>78.9</td>
<td>71.8</td>
<td>85.7</td>
</tr>
<tr>
<td>4</td>
<td>41.0</td>
<td>76.0</td>
<td>50.0</td>
<td>80.6</td>
</tr>
<tr>
<td>5</td>
<td>36.4</td>
<td>88.9</td>
<td>72.7</td>
<td>92.9</td>
</tr>
<tr>
<td>6</td>
<td>34.4</td>
<td>73.3</td>
<td>71.9</td>
<td>75.0</td>
</tr>
<tr>
<td>7</td>
<td>26.9</td>
<td>63.2</td>
<td>64.2</td>
<td>71.9</td>
</tr>
</tbody>
</table>

\[ X^2 = 7.948; \quad V = .162, \quad p = .755 \]
\[ df = 6, \quad p = .242 \]

\[ X^2 = 9.575; \quad V = .175, \quad p = .493 \]
\[ df = 6, \quad p = .144 \]

Table 4.16. Comparisons of participation in legal proceedings for seven-cluster solution

Table 4.16 illustrates the outcomes for each cluster according to participation in legal proceedings. There were no statistically significant findings for a relationship between filing civil charges or following through on civil or criminal charges. A non-significant trend in filing criminal charges and differences in filing civil charges, however, was identified. Persons in the High Batterer Behavior (2) group were the most likely to file civil proceedings against their abuser (50.9%), while criminal charges were most likely to be filed by individuals in the Lowest Overall Barriers (5) group.
(72.7%). In contrast, at just under 27%, persons in the Low Employment Barriers group (7) were the least likely to file civil charges. High Unemployment (4) members represent the group least likely to file criminal charges (50.0%).

Following the filing of legal action, persons in the Lowest Overall Barriers group were the most likely to follow through on both civil proceedings (88.9%) and criminal charges (92.9%). Those in the High Support System Barriers (1) group were the least likely to follow through on either civil (61.5%) or criminal (66.7%) action against the batterer.
<table>
<thead>
<tr>
<th>Outcome Variable</th>
<th>Lowest Percentage Clusters (Cluster Number)</th>
<th>Highest Percentage Clusters (Cluster Number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship terminated</td>
<td>47.6 (6)</td>
<td>81.8 (2)</td>
</tr>
<tr>
<td>No/low environmental barriers</td>
<td>6.7 (1)</td>
<td>25.0 (5)</td>
</tr>
<tr>
<td>Awareness of community resources increased</td>
<td>33.3 (6)</td>
<td>62.5 (3)</td>
</tr>
<tr>
<td>Insight into battering dynamics increased</td>
<td>36.8 (6)</td>
<td>64.7 (3)</td>
</tr>
<tr>
<td>High likelihood of calling for help if battered again</td>
<td>50.0 (6)</td>
<td>73.0 (3)</td>
</tr>
<tr>
<td>Filed civil charges</td>
<td>26.9 (7)</td>
<td>50.9 (2)</td>
</tr>
<tr>
<td>Followed through on civil charges</td>
<td>61.5 (1)</td>
<td>88.9 (5)</td>
</tr>
<tr>
<td>Filed criminal charges</td>
<td>50.0 (4)</td>
<td>72.7 (5)</td>
</tr>
<tr>
<td>Followed through on criminal charges</td>
<td>66.7 (1)</td>
<td>92.9 (5)</td>
</tr>
</tbody>
</table>

Table 4.17. High/low outcome percentage scores for each cluster

Table 4.17 illustrates the percentage scores for each dependent variable by cluster. Low scores represent less desirable outcomes. High scores represent more desirable outcomes. Persons in weak support system (1), young/unemployed/low abuse (6), and employed (7) subgroups tended to score lower on desired outcome measures. Persons in severe abuse (2), highest overall barriers (3), and lowest overall barriers (5) subgroups scored higher on desirable outcome measures. For this variable, the trend of least likely to increase safety continued for those in the Young, Employed, Low Abuse...
Barriers (6) group (31.3%) and the Low Employment Barriers (7) group (25.5%). Persons in the High Support System Barriers (1) group and the High Unemployment Barriers (4) group were the most likely to increase safety after participation in intervention services.

Post Hoc Analysis of Power

In this study, two tests of significance, chi-square and one-way analysis of variance, were employed to assess the relationship between group membership and service outcomes. With these types of analyses there is always the possibility of reaching the wrong conclusion. These possibilities of error are referred to as Type I errors and Type II errors. Type I errors occur when the researcher believes that groups differ, when in fact they do not. Type I errors are minimized by selecting an appropriate alpha level. Because this was an exploratory study, the alpha level was set at \( \alpha = .10 \) (Cohen, 1992; Rubin & Babbie, 1993). Type II errors occur when the researcher believes that groups do not differ, when, in fact, they do. Type I and Type II errors are inversely related. By attempting to control for a Type I error, the likelihood of committing a Type II error is increased (Rubin & Babbie, 1993).

The ability of a statistical test to identify correctly the differences between groups is referred to as the power of the test. As an example, if the power of a test is equal to .80, there is a 20% chance that the researcher will not identify a significant
result. Power, or the probability that statistical significance will be indicated if present, is determined by three factors: effect size, alpha level, and sample size (Hair, Anderson, Tatham, & Black, 1998).

**Effect Size (ES)**

Effect size refers to the strength of the difference between the groups or the influence of the independent variable. The most frequently used guidelines for effect size, proposed by Cohen (1988), were based on findings generally observed in sociobehavioral research. "...[H]e proposed that a difference between means of .2 of a standard deviation be deemed small, .5 as medium, and .8 as large. When expressed as correlation coefficients, the preceding are equivalent to .1 for a small effect, .3 for a medium effect, and .5 for a large one" (Pedhazur & Schmelkin, 1991, p. 338). The measures of association utilized in this study, Phi (\(\phi\)) and Cramer's V (\(V\)), are parameters used to determine statistical power in tests when either of the variables being analyzed is nominal or ordinal. Phi (\(\phi\)) is appropriate for dichotomous variables. When the variable is multichotomous, Cramer's V (\(V\)) is employed (Cohen, 1992).

**Alpha Level (\(\alpha\))**

Statistical power decreases as the alpha level becomes more restrictive. As the odds of finding an incorrect significant effect decrease, so do the chances of correctly identifying significance when it occurs (Levin & Fox, 1994).
Sample Size

Regardless of the alpha level, sample sizes influence the power of statistical tests. If a sample size is too small, the test may be insensitive to differences in the dependent variable. If the sample size is too large, almost any variation in the dependent variable will be found significant (Levin & Fox, 1994).

According to Pedhazur and Schmelkin (1991), the most important role of power analysis is at the design stage for the purposes of determining sample size. "It could, however, also be invaluable after the fact as a means of assessing results" (p. 340). For example, one reason for failing to recognize significant differences in the dependent variable may be due to the fact that the research was not designed with sufficient power. Most often, they suggest, this is the result of a sample size that was too small. A power analysis conducted during the later stages of a study would indicate whether or not a lack of significant findings might be attributable to inadequate sample size. In this study, due to the exploratory nature of the research and the finding of few statistically significant relationships between subgroup membership and service outcomes, the appropriateness of the sample size was assessed post hoc.
Table 4.18. *N* for small, medium, and large effect size at power = .80 for α = .10

Table 4.18 illustrates Cohen's (1992) recommendations for sample sizes necessary for .80 power to detect significant effects utilizing chi-square*. Using Cohen's (1992) calculations, the number of subjects necessary to detect a small degree of association between the independent and dependent variables at α = .10 is *n* = 1,113 per subgroup. A medium degree of association requires *n* = 124 per subgroup. Large associations require *n* = 45 per subgroup. These figures translate into required total sample sizes of *n* = 7,791 to detect small differences, *n* = 868 to detect medium differences, or *n* = 315 to detect large differences among the seven subgroups identified in this study. Therefore, the study's actual sample size of *n* = 295 is potentially short of the minimum number of subjects necessary to detect difference.
Modal Types

Some researchers have suggested that it is time to move beyond "mere descriptions" of heterogeneity and examine how empirical research can help service providers plan and administrate treatment strategies that are matched to the particular needs of homogeneous groups of clients (Luke et al., 1996). Rubin (2000), however, cautions that even "...mere descriptions" of clients have been lacking (p. 8). He suggests that before services and clients can be effectively matched, better descriptions of the specific client populations being served and enhanced knowledge of specific subgroups of clients (p. 8) must be established. To do this, he recommends incorporating "natural, multi-dimensional categories" into the current knowledge base. Therefore, using descriptive statistics, enhanced descriptions, which are referred to as modal types, are provided for each cluster. Modal types are derived by identifying the most frequently occurring characteristics of each cluster.

Weak Support System Type (1)

A person in this cluster is probably a married Caucasian or African American female in her early forties. She is likely to be unemployed, in a long-term relationship with her abuser, and may or may not have dependent children. She believes that she should remain in the relationship in order to honor her marriage vows and may be likely to seek out advice from a religious or spiritual leader. If attempting to leave her abuser, she is likely to return because of advice from clergy, friends or relatives, counselors, or lawyers. If she leaves, she may be also be at risk for becoming homeless. Once involved in an intervention program, she is likely to attend educational groups. She
receives the least amount of advocacy, case management, and court outreach services. She will continue to have moderate to high environmental barriers at case closure, but will have a greater awareness of available resources and be likely to call for help if battered again. She is not likely to file civil charges, but may or may not file criminal charges. She will either remain with a batterer who is not participating in batterer treatment, or she will terminate her relationship.

Severe Abuse Type (2)

A person in this cluster is likely to be a 30-year-old Caucasian or African American female with one or more dependent children. Her abuser is either a current spouse or a former nonmarital partner. Because of the severity of her abuse, she is likely to come to the attention of shelter, medical, law enforcement, and court personnel. Attempts to leave her batterer result in increased threats and acts of violence against her. Her children are often abused or taken away from her by the abuser. If she leaves, she is likely to be stalked by him. Regardless of where she goes, he is able to find her. When he does so, he may attempt to kill her. If the batterer does not find her immediately, she may return because he apologizes and promises to change, the shelter in her area is full, she wants to remain with her children, and/or she feels safer knowing what her abuser is doing. She has little contact with external people or resources because the abuser controls her reading, work, and school decisions. He comes home unexpectedly in order to monitor her activities and phone conversations. She is likely to have been raped by her abuser. She is deprived of sleep, heat and electricity, and financial resources. She believes he will be successful in his attempts to kill her.
Although she will seek legal intervention, she is likely to be unable to gain adequate protection through law enforcement or the court. She is likely to attend support groups and receive case management services. She is likely to continue to have high environmental barriers and remain at high risk for recidivist victimization following intervention. She will probably file civil and/or criminal charges, and when doing so, is likely to follow through. She will most likely attempt to terminate her relationship, but may remain with her batterer with or without batterer treatment intervention.

**Highest Overall Barriers Type (3)**

A person categorized as having the highest overall barriers is approximately 30 to 31 years of age. She is Caucasian or African American, has two or more dependent children, and is probably employed. She is likely to be married to her abuser. However, her abuser may also be either a current or former nonmarital partner. She is yelled at, criticized, and humiliated by her abuser. She experiences high rates of threats, psychological, controlling/withholding, and physical/sexual violence, but is less likely to come to the attention of medical and police personnel than severe abuse types. She believes she should stay with her abuser in order to make her marriage vows work. Limited financial resources and an alternate place to stay may also play a role in whether or not she leaves her abuser. If she does attempt to leave, she may return due to fear of being alone and fear that she may not be able to survive without her partner. It is likely that she may also return to her abuser because she believes the dependent children will suffer without a father present in the home. She may attend support groups for a limited time or utilize available services for legal assistance and ongoing
support as well as crisis intervention. She will have low to moderate environmental barriers at case closure, and will likely increase her awareness of available resources. Following participation in services, she may or may not be safer from her abuser, but is likely to call for help if needed. She will likely file and follow through with criminal charges.

**Unemployed with Young Children Type (4)**

Employment and financial barriers distinguish unemployed with young children types. A woman in this subgroup is approximately 31 years of age. She is probably Caucasian, but may also be African American. Her abuser is either her current spouse or a current or former nonmarital partner. She has dependent children who may not be old enough to attend school. Her abuser may likely threaten and follow through on threats to harm the children. She may also be afraid that she will lose the children if she attempts to leave. Although she is unemployed and dependent on other financial sources, including her abusive partner, for income, she may be more likely to return to her abuser after leaving because she loves her partner and believes she should make her marriage vows work, rather than for financial reasons. Once in service, she will attend both education and support groups on a regular basis. She is also likely to receive advocacy, court outreach and legal support services. She may not be safe from her abuser following intervention and is not likely to file civil or criminal action against him. She will most likely attempt to terminate her relationship with her abuser, but may remain in the relationship without batterer treatment intervention.
Lowest Overall Barriers Type (5)

A woman typed as lowest overall barriers is a Caucasian or African American between the ages of 46 and 47. She is married with one pre-adolescent child. Although her abuser is probably her spouse, he may also be a family member other than a spouse or a nonmarital partner. She is employed and financially independent. She is at very low risk of having her financial or material resources controlled or manipulated. Although her abuser is physically violent, it is unlikely that she has been threatened with a weapon or has required hospitalization for her injuries. If she leaves her abuser, it is possible that he will stalk her. Generally, however, she does not fear for her life. She is not afraid to be alone and believes she can survive without her partner. She will follow through on agency referrals, although she probably will not participate in support or educational groups. She requires little direct intervention from the agency but utilizes court outreach and legal support services. She has few environmental barriers following service, is aware of available resources, and possesses insight into the dynamics of battering relationships. If filing civil or criminal charges, she is likely to follow through. She will most likely terminate her relationship with her abuser.

Young, Unemployed, Low Abuse Type (6)

An individual in this category is probably a 27-year old Caucasian or African American woman with one or two pre-school age children. She is unemployed and may be financially dependent on her abuser. It is also likely, however, that she lives with family, and/or has a strong support system in place to assist her financially or with material goods as needed. Although she may be married, her abuser is more likely to be
a current or former nonmarital partner from a short-term relationship. She is the least likely to experience threats, psychological, controlling/withholding, or physical/sexual abuse. If she wants to attend school, she denies any batterer interference in doing so. She reports that her abuser never threatens her children or makes fun of her. She is not sexually victimized by her batterer. She does not receive visible injuries nor does she require first aid after encounters with her abuser. A young, unemployed, low abuse type may not attempt to end her relationship with the batterer. However, if she does leave and then returns, it is primarily because she loves him, he apologized, and he promised to change. She has a low likelihood of acting on referrals or participating in education groups. She may, however, participate in support groups. She will receive court outreach services and likely will have low to moderate environmental barriers at case closure. She is not likely to increase her awareness of available resources or be safer following intervention. She may or may not be likely to call for help if battered again. Although she may terminate her relationship, she will most likely remain with her abuser, with or without batterer treatment intervention.

**Employed Type (7)**

An individual characterized as employed is probably a 30-year-old Caucasian or African American woman with one school-age child. She is likely to be married or in a current relationship with her abuser. Although she is employed, her income may not be sufficient to support her and her dependent child. She has experienced moderate threats, psychological, controlling/withholding, and physical/sexual abuse. Her batterer blames her for his problems and for the abuse within the relationship. She may require
emergency medical treatment for her injuries. She fears and loves her partner and is committed to making her marriage vows work. She is not advised by others to remain in an abusive relationship. However, she may return to him, or remain with him without attempting to leave, because her partner says he needs her and promises to change. She may also return due to concerns about her ability to survive financially without his assistance. She may attend support groups and will probably receive case management and court accompaniment services. She likely will have few environmental barriers that affect her safety, although her overall safety will not increase as a result of services. She is not likely to file civil charges, but may or may not file criminal charges. If she files, there is a strong likelihood that she will follow through with civil and legal action.

Summary

The purpose of this study was to derive empirically a more diverse and complete description of battered women than has been available in the domestic violence literature. Seven unique subgroups were identified according to the following criteria: age, dependent children, batterer behavior barriers, belief system barriers, type of abuse barriers, material resources barriers, support system barriers, and employment barriers. Post hoc analysis of cluster variables suggests that age, material resources barriers, and support system barriers are very strongly associated with subgroup membership. In contrast, there is a low association between number of dependent children and subgroup membership.
In the final phase of the study, associations between typology membership and service provision, service utilization, and service outcomes were analyzed. For these analyses, the independent variable was typology. Categorical dependent variables that were tested include: acted on referrals, received advocacy services, received case management services, received court accompaniment services, received court outreach services, received legal services, relationship status, awareness of resources, insight into battering dynamics, likelihood of calling for help if battered again, overall environmental barriers, safety status, filed civil charges, followed through on civil charges, filed criminal charges, and followed through on criminal charges. The relationship between each of these variables and the subgroups was assessed using cross tabs and the chi-square statistic. There were no significant associations between type of service received and subgroup membership. The relationship between subgroup membership and safety status at case closure was statistically significant ($p = .087$). A non-significant trend between subgroup membership and filing criminal charges was also identified.

Continuous variables tested included: number of education groups attended, number of support groups attended, and total number of service hours received. The relationship between each of these variables and the subgroups was assessed using one-way analysis of variance (ANOVA). The relationship between subgroup membership and number of education groups attended was statistically significant ($p = .10$).
Findings from post hoc analysis indicate that a minimum number $n = 868$ subjects is recommended to identify medium differences among subgroups within a seven subgroup sample.

Using descriptive statistics, seven modal types were derived by identifying the most frequently occurring characteristics of each cluster. These types were identified as: Weak Support System, Severe Abuse, Highest Overall Barriers, Unemployed with Young Children, Lowest Overall Barriers, Young Unemployed Low Abuse, and Employed.

This chapter was divided into seven sections. The first section summarized the sample demographics; the second reviewed the selection of variables for the study; the third described the selection of the clustering method and the decision-making process regarding the number of clusters retained in the final solution; the fourth provided a description of each cluster and post hoc analysis of cluster variables; the fifth compared service provision, service utilization, and service outcomes among the clusters; the sixth provided a post hoc power analysis; and the seventh described modal types for each cluster were described. Chapter 5 will compare the present study to existing research and report the summary and conclusions for this study. Implications and suggestions for future research will be presented.
CHAPTER 5

DISCUSSION

This chapter comprises five sections. The first section provides an overview of the study and discussion of significant findings; the second section compares study findings to existing domestic violence literature; the third section reviews study limitations; the fourth section highlights recommendations for future research; and the fifth section discusses the implications of this study for policy and practice.

Overview of Significant Findings

Deriving an Empirical Typology of Battered Women

Battered women have traditionally been perceived as a homogeneous group. Conventional domestic violence research studies have identified group differences between battered women and nonbattered women, but the differences within these groups have not been explored. Rubin (2000) suggests that before researchers can begin to assess accurately what works for whom, thorough descriptions of service recipients must be developed. According to Rubin, "...the best descriptions incorporate natural, multi-dimensional categories such as clusters" (pp. 8-9).
The most fundamental component of cluster analysis is the selection of relevant variables. With no existing typologies of battered women available to serve as a guide and few well-controlled experimental studies, it was imperative that the variables used in the development of this typology be within the context of a stated theory. Ecological and feminist perspectives provided the theoretical foundation for this research. A model premised on the ecological and feminist perspectives, the Barriers Model (Grigsby & Hartman, 1997), was applied to screen existing literature for the personal and environmental characteristics most frequently associated with battered women. The variables selected for the clustering process included age, number of dependent children, batterer behavior barriers, belief system barriers, threats abuse barriers, psychological abuse barriers, controlling/withholding of resources abuse barriers, physical/sexual abuse barriers, material resources barriers, and support system barriers. Seven unique groups were derived.

Following the development of a typology of battered women, the most frequently occurring characteristics of each cluster were identified. These modal types were subsequently labeled as follows: weak support system type, severe abuse type, highest overall barriers type, unemployed with young children type, lowest overall barriers type, young unemployed low abuse type, and employed type.

In post hoc analysis, the contribution of each cluster variable toward the final cluster solution was measured. Age was the variable most highly associated with cluster membership. Material resource barriers and support system barriers were also very strongly associated with cluster membership. The variable, employment status,
contributed substantially to the cluster solution. The type of abuse experienced by battered women and their belief systems about marriage and abuse were only moderately associated with group membership. The number of dependent children was the least likely variable to distinguish among groups of battered women.

Due to the lack of existing typologies of battered women, comparisons between previous domestic violence-based typology research and the present study could not be conducted. In spite of this limitation, however, findings from this research convey greater information about female victims of domestic violence than distinctions limited solely to comparisons between groups of battered women and groups of nonbattered women.

**Comparisons of Service Provision by Group**

After deriving clusters that differentiated battered women, a series of bivariate analyses was conducted to determine how groups differed according to service provision. The independent variable in this phase of analysis was group (cluster) membership. The dependent variables included received case advocacy, received case management, received court accompaniment, received court outreach, and received legal services.

Findings suggest that battered women who were employed received the same types of services as unemployed women. Women who were severely abused received services similar to those who were not severely abused. There were no differences found between service provision for women with access to strong support and material resources and service provision for women who had minimal support systems and
significant material resources barriers. Therefore, despite identifying fundamental differences between the groups according to age, employment status, type of abuse, and material and support system barriers, no significant differences between the groups were identified with respect to the services provided. The finding of no association between group membership and service provision is consistent with literature that suggests battered women who seek intervention services are often treated as a homogenous group (Wilson, 1997; Abel, 2000).

Comparisons of Service Utilization by Group

A series of bivariate analyses was conducted to determine how groups differed according to service utilization. The independent variable in this phase of analysis was group (cluster) membership. The dependent variables included acted on referrals, average number of education groups attended, average number of support groups attended, and average number of service hours received.

Group membership did not predict the likelihood of a client acting on referrals or attending support groups, or the number of service hours received. There was, however, a significant association identified for number of education groups attended. Persons identified as having weak support systems and those who were unemployed with young children were the most likely to attend education groups. This may suggest that persons who are isolated from social support networks may be more likely to attend education groups than persons with independent access to social support networks. Persons with lowest overall barriers and highest overall barriers are the least likely to attend education groups. An interpretation of this finding is that persons with low
overall barriers may have access to other types of services or may not perceive a need for specialized domestic violence intervention education. In contrast, persons with the highest overall barriers may have limited access to the services or may perceive that educational workshops will not address adequately the more immediate needs of shelter, employment, childcare, or safety from the abuser.

**Comparisons of Service Outcomes by Group**

A series of bivariate analyses was conducted to determine how groups differed according to service outcomes. The independent variable in this phase of analysis was group (cluster) membership. The dependent variables included relationship status at case closure, environmental barriers, awareness of resources, insight into battering dynamics, likely to call for help, safety increased, filed civil charges, followed through on civil charges, filed criminal charges, and followed through on criminal charges. Of the outcome variables, only safety status was significantly associated with group membership.

As discussed earlier, the cluster analysis process identified differences among groups according to several categories. The barrier variables that provided the greatest contribution toward the identification of seven distinct groups were material resources barriers, support systems barriers, and employment status. The outcome variables developed by the agency staff, however, do not specifically address these environmental issues. In fact, three of the agency's outcome variables, awareness of resources, insight into battering dynamics, and likelihood of calling for help, may be more closely
associated with knowledge or belief systems than they are with material or support resources. Belief systems, however, was a variable which was only moderately associated with group membership.

Although it is possible that the agency's interventions are directed at systemic change, the measures currently employed may be inadequate to reflect changes by group in these areas following intervention. This may provide one explanation for the finding of no significant differences among the groups on all but one of the outcome measures.

It is also possible that the uniformity of services provided to each group confounded the ability to discern real differences in service outcomes. Because every group received the same services regardless of need, group differences following intervention could not be measured.

With no differences identified in service provision among the groups, it seems likely that services may not yet be adequately addressing the environmental barriers that are specific to each cluster of battered women. Despite the agency's recognition of the role that environmental barriers play in the maintenance of domestic violence, it appears that well-operationalized measures and interventions that specifically address these barriers have yet to be standardized.

Findings of significant differences in overall safety at case closure seem consistent with the identification of significant differences among the women prior to participation in services. Persons typed as weak support system and unemployed with young children were perceived by staff as having the highest increase in safety as a
result of services. Persons typed as severe abuse, young unemployed low abuse, and employed were perceived as having the lowest increase in safety as a result of services. An explanation for this trend might be that conventional services do not adequately or specifically address the unique safety needs of severely abused battered women. Conventional treatments and measures may also be inadequate to detect the nature and degree of change in battered women who are already at the lower range of the violence and barrier continuum.

According to the domestic violence literature (Bograd, 1984; Schewe & Donahue, 1993), safety is the ultimate goal of clinical interventions with battered women. Comparisons of overall increased safety scores and individual scores for relationship terminated, environmental barriers, awareness of community resources, insight into battering dynamics, likelihood of calling for help if battered again, filing/following through on civil charges, and filing/following through on criminal charges suggest that persons typed as highest overall barriers (3) and lowest overall barriers (5) may be most likely to benefit from participation in intervention services. Persons typed as young/unemployed/low abuse (6) appear to demonstrate the lowest benefit from intervention services.

Based on the empirical typology derived and subsequent comparative analyses, it appears that battered women in this sample were differentiated by (1) the nature and extent of their personal and environmental barriers at intake, (2) participation in
education groups during service, and (3) increased safety following participation in intervention services. Battered women were not differentiated by the types of services they received.

**Participation in Legal Proceedings**

With the passage of House Bill 335 in 1994, mandatory arrest and no-drop/prosecution policies became standard practice for domestic violence cases throughout the United States. Because the data in this study include only cases that were processed between the years of 1995 and 1999, it was anticipated that no differences between the groups would be found in regard to the filing of criminal charges. However, of the four variables included in the study that measured participation in legal proceedings (filing of civil charges, following through on civil charges, filing of criminal charges, and following through on criminal charges), only filing of criminal charges approached statistical significance. Further research is required to determine if groups are indeed differentiated by the filing of criminal charges. However, if this trend is replicated, it may suggest that despite changes in the law, mandatory arrest and no-drop/prosecution policies are still not uniformly applied.

An explanation that was explored was the possibility that groups that report low rates of violence may be less likely to file criminal charges or to have their cases brought to the attention of the police. However, groups that reported the least amounts of violence were often the most likely to have filed criminal charges. Upon further examination, it was noted that the groups least likely to file criminal charges were characterized by high unemployment rates and high material and support system
resource barriers. Therefore, it is possible that access to the court and the filing of
criminal charges may be more associated with the resources of the client than with the
crime of domestic violence that has been committed against her. It was also noted that
once civil or criminal charges have been filed, the follow through rates for both types of
cases is similar. This is despite the fact that follow through of criminal charges is now
mandated by law, while follow through on civil charges remains at the discretion of the
client. Because so little is known about the influence of pro-prosecution policies on
battered women, further examination is warranted.

Post Hoc Analysis of Power

Because of the exploratory nature of this research and the lack of an a priori
basis for determining the appropriate number of subjects to include in the sample, a
ratio of 30 subjects to one variable was applied to derive the study sample size. Post
hoc analysis was conducted to assess the power of the statistical tests used in the study
to determine the probability that if present, statistical significance would be indicated.
In this study, the actual sample size of \( n = 295 \), falls short of the minimum number of
subjects necessary to detect difference. It is possible, therefore, that due to limitations
in the size of the sample and statistical power, meaningful and interpretable differences
between the groups were not identified.

Comparison of Current Study to Existing Literature

The domestic violence literature supports many of the characteristics associated
with battered women groups in this sample, including age, number of dependent
children, age of dependent children, batterer behaviors, and belief systems. This study’s

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sample age range of 16 to 70 supports earlier work (Berk et al., 1986) that identified the vast age heterogeneity among battered women study participants. Persons typed as lowest overall barriers (5) were the oldest and least likely to experience batterer behavior barriers if attempting to leave. Gelles (1993), Suitor, Pillemar, and Straus (1990) and Hotaling and Sugarman (1986) have reported that older respondents may be at a lower risk for violence.

Also consistent with previous research (Davis & Srinivisan, 1995), the vast majority of subjects (75%) had at least one dependent child. Of the groups with the highest percentage of members with dependent children, two of these, highest overall barriers type (3) and young, unemployed, low abuse type (6) were also two of the least likely groups to terminate an abusive relationship and two of the most likely to reconcile/remain intact without batterer treatment. This supports Smillie (1991) and Totty's (1993) suggestion that for battered women who return to their abuser, dependent children may be a primary factor.

Literature indicating that batterer behavior is the most fundamental consideration in safety planning for battered women (Holiman & Schilit, 1991) was also supported by the current study. The group with the highest batterer behavior barriers (2) was one of the least likely to report moderate to high increases in safety following participation in services. In contrast, lowest overall barriers types (5), characterized by the lowest average of batterer behavior barriers, were the most likely to follow through on civil and criminal charges once filed.
The group with the highest belief system barriers (3) was the most likely to benefit from education regarding the dynamics of battering behavior and relationships. In contrast, persons with one of the lowest group belief system barrier scores, young, unemployed, low abuse types (6), attended slightly more education groups than persons in highest belief system barriers (3). Persons in young unemployed low abuse (6), however, were nearly 30% less likely to report increased insight into battering dynamics. This supports Grigsby and Harman's (1997) suggestion that belief system barriers must be considered when developing individual service plans. This finding also lends support to the benefits of matching specific services to specific clients, rather than matching services to generalized categories of problems or illnesses (Rubin, 2000).

Despite similarities found between this study and the existing literature, inconsistencies in regard to age, support systems, material resources, and race were also identified. For example, the youngest group (6) reported the lowest rates of threats abuse, psychological abuse, controlling/withholding or resources abuse, and physical/sexual abuse. This is inconsistent with studies that suggest younger subjects are more likely to experience higher rates of abuse than their older counterparts (Suitor, Pillemer, & Straus, 1990; Hotaling & Sugarman, 1986). Further examination of the data, however, indicates that persons in the next three youngest clusters (2, 7 and 3) have the highest rates of abuse compared to the other groups. This is consistent with the findings of Suitor, Pillemer, and Straus (1990) and Gelles (1993), who reported that persons at or below 30 years of age were more likely than persons over age 30 to experience higher rates of violence.
Regarding the influence of support systems on service outcomes, subjects with stronger support systems at intake appear slightly less likely to terminate their relationship with their abuser. These persons also had slightly higher environmental barriers at case closure. In contrast, persons with weak support systems tended to have more favorable outcome scores on insight into battering dynamics, awareness of community resources, increased safety, and likelihood of following through on civil and criminal charges than persons with stronger support systems.

In general, these findings are not consistent with the present literature (Davis & Srinivisan, 1995; Skolnick, 1995; Grigsby & Hartman, 1997) that suggests battered women with strong support systems are likely to be safer than battered women with limited social support. It should be noted, however, that social support does appear to play a role in whether or not a woman elects to file civil or criminal charges. Persons typed as having weak support systems were some of the least likely to pursue legal action. This is consistent with present literature (Grigsby & Hartman, 1997).

Deschner (1984) and Sullivan (1991) reported that material resources may influence whether or not a woman leaves her abuser. In this study, however, relationship termination rates were nearly equal for persons with and without material resources. It is not known if access to material resources may be associated with differences in other outcomes. For example, are subjects with greater material resources more likely to be involved with abusers who participate in batterer treatment services? Do subjects with fewer material resources experience lower percentages of partner participation in batterer treatment? Are persons with fewer material resources more...
likely to report high environmental barriers at case closure, less likely to file criminal charges, and less likely to follow through on civil and criminal charges than those with access to more material resources? Further research is warranted.

The findings in regard to race were also mixed. Similar to previous reports (Gondolf, Fisher, & McFerron, 1991; Bonilla-Santiago, 1996), White subjects represented the vast majority (70.5%) of the sample. Although the seven clusters in this study were not differentiated by race, differences in service provision, service utilization, and service outcomes according to race were noted. For example, contrary to concerns identified in the literature (Coley & Beckett, 1988; Hampton, Gelles, & Harrop, 1991), Black subjects received more advocacy, case management, court accompaniment, and court outreach services than White subjects. One plausible explanation for this may be that because the services were community based, Blacks were more receptive to receiving services than if they had been offered through a formal counseling organization (Coley & Beckett, 1988).

Black subjects were more likely to attend education groups, terminate their relationships at case closure, report low environmental barriers, report being safer, and call for help if battered again. Although they were also more likely to file civil and criminal charges, however, Black subjects appear less likely to follow through with civil or criminal charges than White subjects. This may support previous literature (Coley & Beckett, 1988) that suggests Black women may cope with their distrust of a majority-focused system by isolating themselves or declining to participate in other intervention services.
Limitations of the Study

Several limitations relevant to the findings of the study were identified. First, the subjects in this study were battered women who participated in a non-shelter based domestic violence intervention program located in an urban city in Ohio. Therefore, the subjects in this study may not be representative of battered women from other settings or geographical regions. Second, because all subjects in this study were female victims of male-perpetrated violence, the subjects in this study may neither be representative of male domestic victims nor of male or female domestic victims of female assailants. Third, this study is cross-sectional, rather than longitudinal. Research has suggested that significant changes in service outcomes for battered women can occur between the initial discharge from service intervention and two months post-intervention (Snyder & Scheer, 1981). Consequently, in this study, a long-term association between group membership and service outcomes cannot be determined. Fourth, no comparable typology of battered women was found in the existing literature. Therefore, no comparisons could be conducted between the typology derived in this study and other typologies. Fifth, post hoc analysis suggests that one of the cluster variables identified in the literature, number of dependent children, has a low association with group membership. It is possible that more appropriate variables for differentiating groups of battered women were excluded from the cluster solution. Sixth, due to limitations in statistical power, additional substantive differences between groups may not have been
detected. Seventh, the outcomes data for this study were derived solely from staff reports. If agency staff have a vested interest in the service outcomes that are reported, real differences in service outcomes among the subgroups may be masked.

**Recommendations for Future Research**

The most important recommendation relative to this research is replication. According to Rubin and Babbie (1993), replication is one of the key tools available to scientists to guard against overgeneralization. This requires repeating the study to determine if similar results are produced each time. Replication is specifically recommended for cluster analysis-based research (Aldenderfer & Blashfield, 1984). Similar findings across this and other samples of battered women would suggest that the solution identified in this study has some generality. Solutions that are not stable across other samples will lack utility in both practice and policy.

To improve generalizability, it is also recommended that this study be implemented under slightly varied conditions (Rubin & Babbie, 1993). This would include examining the groups and associated outcomes derived from a population of shelter-based or fee-for-services subjects and expanding the scope of study to include male victims and victims of female perpetrators.

Based on post hoc analyses of the present study, a minimum of \( n = 315 \) subjects would be required to detect large associations between variables. To detect medium associations between group membership and service outcomes, \( n = 868 \) subjects would be required. Replications of this study should, therefore, employ a sample size of no fewer than 315 subjects. Sample sizes approaching \( n = 868 \) are strongly recommended.
Repeated replications with larger and more diverse groups of battered women are needed before meaningful findings for policy and practice can be determined conclusively.

Although there have been few outcomes-based studies conducted in the area of domestic violence, the studies that have been conducted have focused primarily on measuring the belief systems or personal characteristics of battered women. To evaluate systemic changes, outcome measures dedicated to identifying changes in environmental barriers must be developed and operationalized.

There is an overall lack of consistency in battered women's research. Dependent variables and the scales used to assess changes in the dependent measure vary from study to study. Identifying and operationalizing standard scales for outcome measures will aid in the replication and comparison of similar outcome-based studies.

More specific treatment interventions must be established in order to evaluate the effectiveness of different treatments according to group. Although it would be unethical to withhold services to abused women, other methods for controlling and measuring the association between treatment and service outcomes are feasible. For example, differentiating the types of services provided and the order in which the services are delivered to each group would allow for more comparative studies.

It could not be determined from this study if women who participated in criminal and civil proceedings experience more positive service outcomes than women who did not. Therefore, it is not yet known if House Bill 335 is effective. Because so few investigations have been conducted in this area, further examination is warranted.
Finally, follow-up of battered women has traditionally represented ethical and financial challenges. To measure the effectiveness of interventions, however, long term associations between group membership and service outcomes should be investigated. Subsequent research should attempt to employ both cross-sectional and longitudinal analyses.

Implications for Policy and Practice

Increased pressure has been placed on social workers and social scientists to become more accountable regarding the efficacy of domestic violence intervention programs for battered women. Findings from the present study that suggest a majority of battered women subjects benefited positively from participation in intervention services may begin to address concerns expressed by various stakeholders. These and subsequent, replicated studies may provide the foundation for maintaining or increasing economic support for domestic violence intervention programs in the future.

The intent of this research was to derive empirically a more diverse characterization of battered women than has been available in the domestic violence literature. The typology derived in this study appears to have resulted in a functional characterization of battered women who utilize community-based domestic violence intervention services in the state of Ohio. Comparative analyses, however, suggest that despite substantive pre-service differences among battered women, groups were not differentiated by the services provided. This suggests that intervention services for battered women still adhere to a one-size-fits-all approach to implementation.
Effective and efficient service provision may require offering individualized intervention plans that more specifically take into account a client's goals, strengths, and barriers.

In addition, based on the prevalence of client pathology-based outcome measures in domestic violence practice and research, it appears that practitioners and researchers may still be more focused on the limitations of the client than on the limitations and barriers in her environment. Continuing to ask "why does a battered woman stay?" instead of "what prevents a battered woman from being safe?" unwittingly transfers accountability from the abuser and society to the domestic violence victim.

In closing, the findings of this study are a preliminary step toward addressing the question of "what works for whom?" By deriving a reliable and valid typology of battered women, researchers, practitioners, and policy makers may be able to predict better each group's service needs, resource utilization, service outcomes, and service costs. Once replicated, these typologies may subsequently demonstrate utility in identifying individualized treatment goals and objectives, as well as efficient, effective, benchmark service models for victims of domestic violence.
APPENDIX A

CASE CLOSURE FORM

Client #____________________

Name__________________________ Staff_________________________ Date____________

First Date Served_____/_____/_____ Last Date Served_____/_____/______ Total Hours Served____

Client Received _____ Individual Sessions Totaling_____/Hours WWRV Client? __Yes __No

CLIENT RECEIVED

__ Advocacy Services
__ Case Management Services
__ Court Outreach Services
__ Court Accompaniment
__ Legal Services

RELATIONSHIP STATUS AS OF CASE CLOSURE

__ Remained intact during services without batterer treatment
__ Remained intact during services with batterer treatment
__ Reconciled without batterer treatment
__ Reconciled with batterer treatment
__ Unknown
__ Separated
__ Terminated

Batterer Treatment Source __PATH __FSA __STV __TBG __OTHER________________________

COMMUNITY EXPERIENCE DURING OPEN CASE

1 = EXTREMELY POSITIVE
2 = MODERATELY POSITIVE
3 = NEUTRAL
4 = MODERATELY NEGATIVE
5 = EXTREMELY NEGATIVE

__ Client’s experience with court was positive
__ Client’s experience with police was positive
__ Client’s experience with health workers was positive

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Client's experience with attorney was positive
Client's experience with mental health workers was positive
Client's experience with clergy positive

CLIENT OUTCOMES

Client filed criminal charges  
If yes, client followed through with criminal prosecution

Client filed civil domestic violence case  
Client followed through with civil case

Client has children who witnessed domestic violence  
Children were referred to children's program  
Client followed through with services for children  
Client saw child therapist at intake

Client was referred to education group  
Client was referred to support group  
Client acted on referrals received from agency

Client was financially dependent upon mate at intake  
Client was financially dependent upon mate at case closure

Client was able to increase safety through other measures  
Client completed services per service/work plan  
Client accomplished ____of____ DV objectives in service work plan

INTERFERENCE WITH SAFETY

1 = None/Almost None
2 = Minimal Barriers
3 = Moderate Barriers
4 = Significant Barriers
5 = Extreme Barriers

Client experienced/reported environmental barriers to safety  
Client experienced/reported family/social/role barriers to safety  
Client experienced/reported beliefs/thoughts/feelings barriers to safety  
Client experienced/reported childhood abuse/neglect barriers to safety

1 = Not True
2 = Minimally True
3 = Somewhat True
4 = Very True
5 = Extremely True

Client's safety increased as a result of services  
Client is likely to call for help if battered again  
Client's insight into battering dynamics increased as a result of services  
Client's awareness of community resources increased as a result of services  
Client began processing psychological and/or emotional consequences of trauma
APPENDIX B

INTAKE QUESTIONNAIRE

This questionnaire is designed to gather information about your experiences. If a question is unclear or upsetting to you, feel free to skip it and talk with your Advocate about it.

NAME: ______________________________________ DATE: _________________________

ADDRESS: _________________________________________ PHONE: ________________

1. Check the relationship that you have with your abuser. ABUSER IS MY....
   __Boyfriend __Girlfriend __Husband __Wife __Child __Parent __Sister
   __Ex-Boyfriend __Ex-Girlfriend __Ex-Husband __Ex-Wife __Other________

2. How long have you been in this relationship? ______________________________
   Please check the items below which have occurred with your partner:
   __ embarrassed me in front of friends family, or co-workers
   __ made promises but did not keep them
   __ did not care for me when I was sick
   __ threatened to abuse my pets
   __ abused my pets
   __ threatened to abuse my children
   __ threatened to harm my family or others close to me
   __ harmed my family or others close to me
   __ took my children without my okay
   __ destroyed/damaged household items
   __ denied incidents of abuse
   __ controlled all the big decision in our family/relationship
   __ criticized my friends, family, or co-workers
   __ controlled what I was allowed to read
   __ kept me from sleeping
   __ controlled all the money
   __ stole my money
   __ kept us from having food

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made fun of me
lied to me
turned off the heat, electric, or phone
humiliated me in front of my children
blamed me for his/her problems
blamed me for the abuse
tried to control who I talked to or saw
blamed me for bad things that happened to me
tried to control where I went
kept me from getting or keeping a job
tried to keep me from going to school
yelled at me
called me names like whore, slut, or bitch
told me no one would ever want me
told me I was crazy
told me I could not survive without him/her
told me he/she would find me and kill me if I ever left him/her
threatened that I would never see my kids again
locked me out of the house
threatened to hit me
threatened me with a weapon
pushed, shoved, or grabbed me
punched or kicked me
choked me
hit me with an object
was violent to me in front of my children
threw objects at me
beat me
tied me
stabbed me
shot me
caused visible injuries
caused injuries that required first aid
caused injuries that required emergency medical treatment
caused injuries that required I stay at the hospital
tried to kill me
was sexual with me when I did not want sex
made me fear for my life
was possessive of me
invaded my privacy
tried to control me
called home often to check on me
came home unexpectedly to check on me
would not let me use the phone

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__ would not let me see my friends, family, etc...
__ other__________________________________________________________

3. When did the abuse start? (including verbal abuse, emotional abuse, physical abuse, and/or sexual abuse?)___________________________________________

4. How often does the abuse happen?________________________________________

5. Is the abuse escalating? __Yes __No

6. If the abuse is physical, how do the assaults usually begin?__________________________
   How long do assaults last?________________________________________
   How do assaults usually end?________________________________________
   What usually happens after the assault is over?__________________________

7. Have you (or you and your partner together) ever seen a counselor to talk about the abuse? __Yes __No

8. Have you ever called or gone to a shelter? __Yes __No

9. What is the longest period of time in your relationship that has been free of abuse?________________________________________

10. How many assaults have you experienced from this partner?______________

11. Have you told friends/family/others about the abuse? __Yes __No

12. Have you ever called the police about an assault? __Yes __No

13. Have you ever filed charges against your partner? __Yes __No

14. If you filed charges, did you withdraw the complaint? __Yes __No

15. If you never left your partner or returned to your partner after separating, please check those factors that affected your decision:
   __ became homeless
   __ continually stalked me
   __ felt safer with partner because I knew what he/she was doing
   __ fear of partner
__ love
__ fear of being alone
__ fear of not being able to survive without partner
__ lack of money
__ belief that I should try to make my marriage vows work
__ fear that I might lose my children
__ belief that the children would suffer without partner
__ threats from partner to find me and kill me
__ threats from partner to kill self
__ threats from partner to harm my family
__ advice from priest, preacher, rabbi, spiritual leader
__ could not get a lawyer
__ medical people (doctors, nurses, etc.) did not give me help I needed
__ advice from friends or relatives
__ advice from counselor
__ advice from lawyer
__ nowhere to go/stay
__ shelter was full
__ courts would not give me the help I needed to make partner stop
__ partner found me
__ missed my partner
__ partner apologized
__ partner promised to change
__ partner needed me
__ children wanted to go back
__ partner took children from me
__ professionals did not understand my culture
__ police did not help me
__ other_____________________________________________________

16. If you have ever been pregnant, please check any of the following which have happened to you:

__ abused during pregnancy
__ abused first time during pregnancy
__ abused soon after delivery
__ physical abuse got worse
__ sexual abuse
__ sexual abuse got worse
__ emotional abuse
__ emotional abuse got worse
__ had complications with pregnancy because of abuse
__ other________________________________________________________
17. Does your partner abuse alcohol or drugs?  __Yes  __No  If yes, please check those substances your partner has used or uses now:

__ alcohol
__ marijuana
__ amphetamines (speed)
__ crack
__ barbiturates (downers)
__ cocaine
__ hallucinogens ("acid")
__ solvents (paint thinners, glue, etc.)
__ heroin
__ crystal methamphetamine
__ other______________________________

18. Please check if you have incurred any financial costs resulting from the abuse from your partner, against you or your children. If you check an item, please estimate what the bill was and how much you were expected to pay (even if you have not payed the bill):

__ Medical Costs  Total bill $________  Amount due from you $________
__ Therapy Costs  Total bill $________  Amount due from you $________
__ Time off work  Total bill $________  Wages lost $________
__ Lost employment  Total bill $________  Wages lost $________
__ Legal fees  Total bill $________  Amount due from you $________
__ Property repairs  Total bill $________  Amount due from you $________
__ Lost housing  Total bill $________  Deposit lost $________
__ Other costs____________________________________

19. If you have used the hotline, was the response you received helpful?
__Yes  __No

20. What is the most important thing we can do to help you right now?
________________________________________________________________________

Thank you for completing this questionnaire. Please return it to a worker. Someone will be with you shortly.
APPENDIX C

PERSONAL INFORMATION SHEET

Please note all questions regarding race/ethnicity, income, and gender are for statistical purposes only

SECTION I: YOU/CLIENT

TODAY'S DATE__________________

NAME________________________________________

OTHER NAME__________________________________

(prior married name)

BIRTHDATE____/____/____ SOCIAL SECURITY #____-____-_____

ADDRESS_____________________________________________________________________________

CITY________________________________________ COUNTY_______________________________

HOME PHONE____________________________ WORK PHONE__________________________

RACE   ________________________________

__Black/African American

__White/Caucasian (Non Appalachian)

__White/Caucasian (Appalachian)

__Inter-Racial

__Asian/Pacific Islander

__Latina/Hispanic

__American Indian/Native American

__Other________________________________________

DO YOU HAVE A DISABILITY _Yes  _No  IF YES, WHAT IS YOUR DISABILITY?________________

GENDER____  HEIGHT____  WEIGHT____  HAIR COLOR____  EYE COLOR____

INSURANCE COMPANY_______________________________________________________________

PREVIOUS OR CURRENT MILITARY SERVICE? _Yes  _No

WHO REFERRED YOU TO ARTEMIS?______________________________________________________

EMERGENCY CONTACT_________________________ RELATIONSHIP TO YOU______________

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SECTION 2: CHILDREN

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<th>BIRTH DATE/AGE</th>
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SECTION 3: YOUR INCOME

EMPLOYER _____________________________________

ARE YOU A SINGLE HEAD OF HOUSEHOLD? __Yes  __No

YOUR INCOME LEVEL:

- __0-$10,000
- __$10,000-$14,999
- __$15,000-$19,999
- __$20,000-$29,000
- __$30,000-$39,999
- __$40,000-$49,999
- __Above $50,000

YOUR INCOME SOURCE:

- __ No Income
- __ Job
- __ TANF
- __ SSI
- __ Workers Compensation
- __ Child Support/Alimony
- __ Other______________________________

SECTION 4: YOUR MATE/PARTNER/THE ABUSER

NAME___________________________________________

BIRTHDATE____/____/_____  SOCIAL SECURITY #_____ - _____ - ________

ADDRESS__________________________________________________________

CITY________________________________________  COUNTY________________

HOME PHONE________________________  WORK PHONE_____________________

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RACE  __Black/African American
      __White/Caucasian (Non Appalachian)
      __White/Caucasian (Appalachian)
      __Inter-Racial
      __Asian/Pacific Islander
      __Latina/Hispanic
      __American Indian/Native American
      __Other ____________________________

GENDER____  HEIGHT____  WEIGHT____  HAIR COLOR____  EYE COLOR____

PREVIOUS OR CURRENT MILITARY SERVICE?  __Yes  __No

CURRENT WARRANTS?  __Yes  __No  IF YES, WARRANT FOR______________

PRIOR ARRESTS?  __Yes  __No  IF YES, ARRESTED FOR______________

PRIOR CONVICTIONS?  __Yes  __No  IF YES, CONVICTED FOR______________

ON PROBATION/PAROLE?  __Yes  __No  FOR_________________________________

PAROLE OFFICER'S NAME_____________________________________________________

WEAPONS OWNED? Please list_________________________________________________

SECTION 5: YOUR MATE/PARTNER/ABUSER'S INCOME

EMPLOYER___________________________________________

ABUSER'S INCOME LEVEL:

   __0-$10,000
   __$10,000-$14,999
   __$15,000-$19,999
   __$20,000-$29,000
   __$30,000-$39,999
   __$40,000-$49,999
   __Above $50,000

ABUSER'S INCOME SOURCE:

   __ No Income
   __ Job
   __ TANF
   __ SSI
   __ Workers Compensation
   __ Child Support/Alimony
   __ Other_____________________________
APPENDIX D

WARD METHOD DENDROGRAM

Rescaled Distance

Case 81 81
Case 95 95
Case 106 106
Case 245 245
Case 50 50
Case 227 227
Case 159 159
Case 175 175
Case 22 22
Case 49 49
Case 71 71
Case 60 60
Case 57 57
Case 121 121
Case 148 148
Case 202 202
Case 128 128
Case 198 198
Case 221 221
Case 266 266
Case 51 51
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APPENDIX E
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Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
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LIST OF REFERENCES


Alliance for Cooperative Justice (1998). House Bill 335: Domestic violence preferred arrest policy. Executive Summary from the Alliance for Cooperative Justice, Columbus, Oh.


Columbus Area Rape Treatment Program (1996). Domestic violence module: Volunteer advocate/hospital accompaniment training manual. Columbus, OH: Columbus Area Rape Treatment Program.


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