PATTERNS OF DELAY AND NON-USE OF PRENATAL CARE SERVICES

AMONG UNDERCLASS WOMEN:

A SOCIAL PSYCHOLOGICAL ANALYSIS

by

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(ABSTRACT)

This study attempted to determine the relation between women's appreciation of Esteem-Threat, their level of satisfaction, and their utilization of prenatal care services in the public assistance setting. One-hundred twenty-six women completed a battery of questionnaires during an initial clinic visit. Measures of patient satisfaction were completed after a minimum of four clinic visits. Results showed a significant linear relation between women's appreciation of Esteem-Threat and satisfaction with services. No relations were found between Esteem-Threat and the timing of entry into prenatal care. A small, statistically significant relation was found between Esteem-Threat and the number of appointments kept. Results are discussed in the context of the limitations of the sample and the psychometric properties of the measures. Future applications of the Esteem-Threat model are also discussed.
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INTRODUCTION

Public policy makers have long been concerned with enhancing the public access and the quality of the health care delivery system. In spite of the fact that Americans spend more on health care than any other industrialized country in the world, about $2,700 per capita, we have some of the most dismal health statistics, such as in infant mortality. In an effort to cut costs of health care, Congress has recently passed legislation which further threatens access to health care for America's uninsured working and nonworking poor. The recent introduction of diagnosis-related groups (DRGs) limits Medicare expenditures for the elderly. Stricter eligibility requirements for Medicaid payments have increased the numbers of uninsured poor. Finally, the introduction of Gramm-Rudman-Hollings has reduced federal support for a variety of health and human service agencies. In a time when government statistics show need for greater access to health care, the current trend of budget slashing only heightens existing concerns that persons of lower socio-economic status (SES) may be deprived of access to needed care (Andersen, Aday & Chen, 1986).
The effects of inadequate care may be most evident for young, uneducated, poor women of child-bearing age. For a variety of reasons, these women are not seeking and/or receiving timely prenatal care. Consequently, the incidence of low birthweight and infant mortality has reached alarming proportions in the United States.

**Low Birthweight**

Each year approximately 11,000 infants are born who are considered at-risk due to low birthweights (LBW); weights of less than 5 and 1/2 pounds at birth (2500 grams or less). These Low birthweight (LBW) infants are 40 times more likely than normal-weight infants to die during the first 28 days of life (Institute of Medicine, 1985). Of those infants who survive into childhood, many can expect long-term disabilities that result from their compromised condition. Sequelae related to LBW, including congenital malformation, neurodevelopmental handicaps, learning disorders, behavioral problems, mental retardation, and low intellectual and educational achievement (Illsley & Mitchell, 1984), decrease the likelihood that these children will lead independent, productive lives.
Infant Mortality

Approximately 40,000 infants die each year before reaching the age of one. In more immediate terms, approximately five infants die every hour of every day. Yet in spite of these alarming statistics, the American public remains largely unaware of the magnitude of this problem (The National Commission to Prevent Infant Mortality, 1988). This is particularly disturbing in light of the Commission's prediction that approximately 440,000 infants can be expected to die between now and the year 2000 unless those factors which contribute to the infant mortality rate are effectively identified and addressed.

The cost of these infants' care is borne by society. The current "saving after the fact" approach to infant health care has become prohibitively expensive. Costs of neonatal intensive care currently approach $2.5 billion per year (The National Commission to Prevent Infant Mortality, 1990). It is estimated that every dollar spent on prenatal care saves approximately $3.38 in reduced neonatal intensive care costs during the first year of life (Institute of Medicine, 1985). Four hundred dollars spent on prenatal care can save an estimated four hundred thousand dollars in lifetime costs of caring for a LBW infant (The National Commission to Prevent Infant Mortality, 1988).
Brief History of the Problem

The rate of infants born preterm and LBW has remained virtually unchanged in 35 years (Brecht, 1989). In 1950, low birthweight infants accounted for 7.5% of all live births in the United States. In 1985, LBW infants comprise some 6.8% of all live births (Brecht, 1989). Despite an increase in the proportion of women who began prenatal care in the first trimester during the 1970s, there has been a steady decrease in this percentage in the 1980s. However, between 1985 and 1987, the low birthweight rate showed an increase from 6.8 to 6.9 percent of all births. This increase is most evident in the black community resulting in a widening of the existing black-white infant mortality gap. Among blacks, the number of women who have begun prenatal care in their third trimester or not at all has increased from 8.8% in 1980 to 10.3% in 1985 (Brown, 1988). Today, black women are twice as likely as white women to have a low birthweight infant. Consequently, black infants are much more likely to die of preventable causes than white, asian or hispanic infants.

Between 1980 and 1987 the percentage of women receiving late or otherwise inadequate prenatal care increased 26 percent for blacks and 17 percent for whites (National Commission to Prevent Infant Mortality, 1990). In the last
30 years the United States has dropped in rank, among 20 industrialized nations, from having had one of the lowest infant mortality rates, to having one of the highest (Brecht, 1989). These trends are particularly disturbing in light of expert consensus regarding the effectiveness of early prenatal care in preventing the incidence of infant mortality and LBW (Murray & Bernfield, 1988). Data from the National Center for Health Statistics show that infants born to women who receive no prenatal care are three times more likely to be born low birthweight and four times as likely to die as those born to mothers with first trimester care. This is corroborated by evidence from existing prevention programs in other industrialized nations. Overall, it is estimated that many of the 40,000 infants who die each year in the U.S. could be saved if pregnant women received proper prenatal care and understood the importance of good health and dietary habits (The National Commission to Prevent Infant Mortality, 1988).

Numerous studies indicate that timely and adequate prenatal care reduces the risk of infant mortality (Harris, 1982) low birthweight (Rozenzweig & Schultz, 1982; Showstack, Budetti & Minkler, 1984) and other poor pregnancy outcomes (Gortmaker, 1979; Murray & Bernfield, 1988).
However, many barriers to receiving timely and sufficient prenatal care remain, especially for women of the underclasses. There is ample evidence documenting the inhibiting influence of external/system barriers such as lack of insurance (McKinlay, 1972), geographic isolation (Kalmuss, Darabi, Lopez, Caro, Marshall & Carter 1987), lack of transportation (U.S. General Accounting Office, 1987), a decrease in the numbers of obstetricians willing to take medicaid patients (Committee on Health Care for Underserved Women, 1988), inadequate dissemination of information regarding availability of services (The National Commission to Prevent Infant Mortality, 1988), and poor coordination of existing services (Toomey, 1985). Person-related barriers including women's attitudes toward preventive care and valuation of prenatal services (Brown, 1988), substance abuse, (Poland, Ager, & Olson, 1987) etc., may also serve as barriers to the initiation of timely and sufficient care. Yet, even in the absence of many of the known system and person-related barriers to care, certain segments of the population are not receiving timely or adequate prenatal services. Further research is needed to explore those factors which may contribute to or otherwise maintain existing gaps in the prenatal care system.
A Public Health Perspective

Researchers have employed a variety of approaches to explain and predict patterns of health care utilization among various populations. Several of these approaches have also been applied to the study of the utilization of prenatal services.

The Public Health Perspective is the model most often applied to the problems of low birth-weight and subsequent infant mortality. Interventions based on the Public Health model target populations rather than individuals. Target populations are identified by obtaining demographic profiles of those who are currently outside the service delivery system as well as a high-risk profile for others who are likely to be underserved in the future. With a more accurate understanding of women who are likely to be at risk, these women may be targeted for secondary prevention programs.

This approach is particularly useful in addressing the question, "Who is most likely to exhibit patterns of delay or non-use of prenatal services?" Central to the Public Health approach to understanding patterns of health-care utilization is the assumption that demographic information (e.g., age, ethnicity, level of education, number of children, marital status, etc.,) derived from one sample
with a particular service utilization pattern is useful in predicting the usage patterns of other samples or populations with similar demographic characteristics.

In recent years, researchers have examined a variety of factors which aid in predicting patterns of service utilization. In general, women who are young, undereducated, of lower-socioeconomic status and/or of ethnic minority status are most likely to remain outside the formal health care delivery system. Epidemiological studies show that individuals who are at greatest risk for poor pregnancy outcomes are also among the least likely to receive sufficient, timely prenatal care. For example,, young adolescents, women over 40, unmarried, black and undereducated women are most likely to give birth to low-birthweight infants (National Center for Health Statistics, 1978). Conversely, women who make appropriate use of health care services tend to be young, white, educated and middle class (Katz & Bender, 1976). Among demographic variables, ethnicity (Zola, 1966), age (Blackwell, 1963; Neighbors & Jackson, 1984; Morris, 1967), marital status (The National Commission to Prevent Infant Mortality, 1990), educational level (Bullough, 1972) and economic status (McKinlay, 1973; Neighbors & Jackson, 1984), have most consistently shown to discriminate between utilizers and non-utilizers of prenatal
health-care services.

**Ethnic Origin and Utilization of Prenatal Services**

Significant differences in the utilization of prenatal care services have been found among different racial and ethnic subgroups. Patterns of prenatal service utilization are reflected in a number of recent statistics on infant mortality. For example, in comparison to white infants, black infants are half as likely to live beyond their first year. The National Commission to Prevent Infant Mortality (1988) reported that, "A child born in Czechoslovakia or Bulgaria has a better chance of celebrating its first birthday than a black child born in America" (p.26). In the United States, black women are twice as likely as white women to have a very low birthweight infant (under 3.5 pounds) (National Commission to Prevent Infant Mortality, 1990). These statistics graphically illustrate the importance of timely initiation of prenatal services.

**Age and Utilization of Prenatal Services**

Maternal age has also been found useful in predicting the timing of entry into prenatal care. Young teens are most likely to show patterns of late or non-entry into the prenatal care system (Hughes, Johnson, Rosenbour, Simons & Butler, 1988). In 1987, 182,902 infants were born to girls under the age of 17, 10,311 of which were under the age of
15 (National Commission to Prevent Infant Mortality, 1990). In 1987, only 53 percent of pregnant teens received prenatal care in their first three months of pregnancy, compared to 79 percent of all 20 to 39 year-olds (National Center for Health Statistics, 1988). According to researchers at the Alan Guttmacher Institute (1987) pregnant women under 20 years of age were 2 times as likely to have inadequate care as were women between the ages of 20 and 24.

Mothers over the age of 40 show similar prenatal care patterns (Brown, 1988). This pattern has been well documented among ethnic and low-income populations in particular (Neighbors & Jackson, 1984). For example, the decline of timely initiation of prenatal care with age has been found to be much greater in black than in white populations (Baker, 1977). Because of the increasing numbers of older women having children, this trend may ultimately present a greater challenge to prenatal care providers than the delayed or non-use patterns of young teen mothers (ages 15 to 19).

Marital Status and Utilization of Prenatal Care

Marital status has also been shown to discriminate use of prenatal services. Unmarried women, often teens, are 3 times more likely than married women to receive late or no prenatal care (Brown, 1988). One survey found that compared
to unmarried teens, married teens were more likely to begin care early in pregnancy (Ventura & Hendershot, 1984). Marital status has received increased attention as a demographic "marker" in light of a recent finding that approximately 22 percent of all births in the United States are to unmarried women (National Center for Health Statistics, 1985). The relation between marital status and delayed or non-use patterns of prenatal care diminishes somewhat with increasing age (Singh, Torres, & Forrest, 1980).

In their examination of characteristics of lower working class utilizers and undertuilizers of maternity care services, McKinlay and McKinlay (1972) found that the legal status (married versus unmarried) of the first pregnancy was the best discriminator between the two groups (underutilizers versus utilizers). Unmarried women who tended to undertutilize maternity services were also often transient (e.g., living with a series of relatives or engaged in other unstable housing patterns). Married women who typically underutilized maternity services were more likely to have husbands with unstable employment histories. Variables which interacted with marital status and were related to more appropriate use of prenatal services included stable housing patterns, securely employed spouses
and planned marriages and pregnancies. Overall, underutilizers of prenatal care are often unmarried and tended to lead crisis existences, characterized by lack of financial and geographic stability. Conversely, women who tended to utilize prenatal services were more apt to be future oriented and were more planful in the areas of marriage, pregnancy and finances.

Level of Education

Maternal education also correlates highly with the timely use of maternity services. College educated women are more likely to begin prenatal care earlier than women who never competed high school (National Center for Health Statistics, 1987). Among ethnic subgroups in the United States, Native American mothers are less likely than black mothers to have finished 12 years of formal education, whereas white mothers are twice as likely as Native American mothers to have completed high school (National Center for Health Statistics, 1987). Approximately 45 percent of Hispanic mothers giving birth in 1984 had completed high school (National Center for Health Statistics, 1988).

Summary of the Public Health Perspective

The Public Health approach is descriptive. Consequently, while it offers a credible method for identifying groups at risk for delayed or non-use patterns
of prenatal services, it offers little information regarding why such variations of usage of prenatal services exist. Additionally, as is evident from the above discussion, simple bivariate relationships between demographic factors utilization patterns of prenatal care are unable to account for the complexity of observed utilization patterns among low-income women. For example, in terms of the timing of prenatal care, the correlation between poverty and delayed or non-use of prenatal care appears to be mediated by level of education and marital status. Women who have a high school education and/or are married are more likely to initiate prenatal care earlier than unmarried women with less education, regardless of income level (Singh, Torres, & Forrest, 1985). Consequently, research focussing mainly upon characteristics thought to be prevalent among populations of underutilizers must examine numerous complex interactions among multiple factors in order to be of use in predicting utilization patterns of prenatal service.

A Social Psychological Analysis of Help-Seeking: An Analysis of Recipient Reactions to Aid

A social-psychological analysis focussing upon person, aid and context factors which inhibit help-seeking may augment our present understanding of the help-seeking patterns of pregnant women. In particular, research in the
area of the aid-recipient perceptions of, and subsequent reactions to, the public prenatal care service clinic may be particularly useful in broadening our understanding of delay and non-use patterns commonly found among low income and ethnic minority women.

Health-care researchers have employed a variety of measures to predict utilization and compliance/adherence to general medical protocols. Those instruments designed to assess patient perceptions of health services are of particular relevance here. Measures of patient satisfaction have been widely used as an index of patient perceptions of health care. However, both the conceptualization of satisfaction and its relation to utilization of health care remains somewhat ambiguous. For example, one common approach treats patient satisfaction as an outcome versus a predictor variable (see Starfield, 1973) dates back to Koos (1954). A more predominant conceptualization among health educators treats satisfaction as a predictor variable (see Suchman, 1964, and Anderson & Newman, 1973). These two conceptualizations need not be incompatible (Roghmann, Hengst & Zastowny, 1979). Some evidence suggests a reciprocal relationship between satisfaction and utilization (Strauss, 1969). Roghmann et al. (1979) conducted a regression analysis to assess the degree to which
satisfaction predicted utilization and vice versa. These authors found that while utilization predicted an average of only 1 percent of the variance in reported satisfaction, satisfaction predicted approximately 10 percent of the variance in utilization behavior.

An analysis of recipient reactions to aid, in particular a formalized threats to self-esteem model (Fisher, Nadler & Witcher-Alagna, 1982), may expand our understanding of (1) the perceived costs and barriers to care and (2) those factors which contribute to satisfaction with prenatal services. This information may provide additional information relevant for reaching women currently outside of the prenatal care delivery system.

Merton, Merton, and Barber (1983) coined the term "auxiliatropic paradox", that it is often as difficult to seek help as to provide it, to express the dilemma of the help-seeker. These authors suggest that while the benefits of receiving help are obvious, the personal and social costs of seeking help are often more powerful determinants in an individual’s decision of whether or not to seek help. A social psychological analysis of help-seeking suggests that a person’s willingness to seek help is related to their perception of the personal and social costs involved. The costs of seeking help may be perceived as particularly high
for individuals contemplating seeking public assistance (e.g., Medicaid clinics, welfare, etc.). Due to the structural similarity between prenatal care in the public assistance setting and the social welfare system, a social-psychological analysis may be particularly useful in augmenting our understanding of patterns of delayed and non-use of prenatal services among women of low socioeconomic and/or ethnic minority status.

In general, self-esteem theories posit that persons seek to maintain favorable attitudes regarding the self. Situations which challenge or threaten self-esteem create anxiety and are subsequently avoided. The model proposed by Fisher et al. (1982, 1983) assumes that receiving help presents a mixture of self-supporting and self-threatening elements. Recipient reactions to aid are thought to be a function of information and/or consequences related to the self which result from the helping interaction.

According to Fisher et al. (1982, 1983), factor analysis of previous research on recipient reactions to aid identified 2 clusters or responses. Cluster 1 is described as:

"essentially negative-defensive and includes negative affect, negative donor and aid evaluations, low positive and high negative
reciprocity, high subsequent self-help, low help-seeking and low acceptance of aid. Cluster 2 is essentially positive non-defensive and includes positive affect, positive donor and aid evaluations, high positive and low negative reciprocity, low subsequent self-help and high aid acceptance" (p. 71).

These authors found that when aid is perceived as threatening, recipients are likely to experience cluster 1 responses, whereas when aid is perceived as non-threatening/supportive aid recipients are likely to experience cluster 2 responses. Research indicates that items within clusters tend to co-occur while items across clusters do not (Fisher & Nadler, 1976; Stokes & Bickman, 1974).

The formalized esteem-threat model proposed by Fisher and colleagues incorporates and extends several other less comprehensive social psychological theories regarding recipient reactions to aid. These "component" theories are based upon the concepts of reactance, equity and social comparison processes.

Reactance and equity theories are embedded in the larger context of social exchange theory. Broadly defined, social exchange theory views human interaction as a cost-
reward transaction. In the context of helping interactions, the power and influence of the help-giver is augmented as a consequence of help giving. Conversely, the help-recipient experiences a corresponding decrease in power and influence (Worschel, 1984). Consequently, helping exchanges from the aid-recipient's point of view are likely to evoke feelings of inferiority, indebtedness and reactance (i.e., loss of autonomy) and subsequently esteem-threat.

In settings such as public assistance clinics where helping has been institutionalized, the role expectations of the help-seeker are contrary to the societal values of autonomy and independence. Consequently, the threats to esteem experienced by persons seeking prenatal care in the public assistance setting may be particularly acute. For example, it is often expected that when assuming the patient role in a publicly funded clinic, the aid-recipient should demonstrate her gratitude by yielding to the authority and prescriptions of a variety of medical and social service personnel. These expectations foster a sense of dependency wherein the patient often feels a loss of control over services. Further, she is unable to regain control or assert herself without jeopardizing her prescribed role as greatful recipient.
Another expectation governing the helping transaction is that the aid recipient acknowledge their indebtedness to the help-giver. This expectation may effectively force the help-seeker to carry out the help-giver’s advice, prescriptions, etc., often against the help-seekers’ wishes or better judgment. In one study of welfare families the majority of respondents reported that they would not openly object to a caseworker visiting their home in the middle of the night. Sixty-seven percent of these families also reported that they would feel obliged to carry out recommendations of the caseworker regarding family/marital counseling (Briar, 1966). In this case, the autonomy of the aid-recipient is limited and is likely to foster ambivalence regarding seeking help in the future. These situations often precipitate negative recipient reactions (e.g., psychological reactance) which may manifest itself cognitively, as dissatisfaction with and/or derogation of health-care providers, or behaviorally, as noncompliance with treatment recommendations and delay or avoidance of future help-seeking.

Due to the deeply ingrained social belief that recipients of aid should respond with gratitude and indebtedness to the helper, psychological reactance may be aroused even in the absence of the threats to freedom, thus
increasing the ambivalence of the help-seeker towards the source of help and the activity of help-seeking in general. Because potential aid-recipients can anticipate possible obligations and/or threats to freedom they may be less likely to seek help in the future (Brehm & Brehm, 1981).

Perceived threat to the help-seeker's autonomy may also stem from the instrumental qualities of the aid (Saxe & Dougherty, 1983; Wilcox & Birkel, 1983). In social service settings, aid is most often given in the form of a handout (Saxe & Dougherty, 1983). Recipients are discouraged from contributing to their own support, under threat of ineligibility. The overall effect is that public assistance recipients are placed in the classical dilemma of the help-seeker. That is, in order to receive needed help, recipients must become dependent.

Recipients of public assistance programs are not provided with a socially accepted means of relieving themselves of the obligation incurred as a consequence of accepting help. Consequently, the likelihood that aid-recipients will experience the esteem associated with equitable exchanges in the context of the public assistance health clinics is remote.

Research suggests that when opportunities for equitable exchanges are blocked, individuals may seek to relieve
equity distress through alteration of cognitions. For example, if denied the opportunity to restore equity behaviorally (e.g., through reciprocal exchange), individuals may resort to cognitive strategies such as derogating the donor (Castro, 1974) or asserting that the donor has a responsibility to provide help (thereby lessening feelings of obligation) (Gergen & Gergen, 1971). Given our current understanding of how the ecology of the social service delivery system may arouse inequity distress and reactance, it is not unreasonable to predict that recipients will exhibit both behavioral and cognitive attempts to reduce the distress associated with reactance and inequity. Regarding the behavioral level, individuals who do not anticipate opportunities for reciprocity will often delay or not seek help at all (Castro, 1974; DePaulo, 1978). Further, since patient ambivalence (due to inequity and reactance) regarding a professional contact is 1) often generalized from one encounter to attitudes about the profession as a whole, and 2) these attitudes are often shared with those in the informal network, patient ambivalence may be diffused throughout the informal social network, thereby encouraging others to limit, if not avoid altogether, their encounters with helping professionals (Merton et al., 1983). A more cognitive response would be
suggested by help recipients who express entitlement and/or
derogate both the providers and the services.

Overall, the reluctance to seek professional help may
be due to a variety of reasons. Included among them are the
increased dependence and loss of autonomy inherent in the
inequitable exchanges between donor and recipient in the
public assistance clinic.

Attributions of Help-givers

As proposed by Fisher et al. (1982), the help-seeker is
also concerned with the self-relevant messages contained
within the aid (helping exchange) itself. Consequently,
attributions made by the potential help-givers become
important as they may influence the help-seeker's reaction
to the donor, aid and by association, the helping context.

Negative attitudes towards those receiving public
assistance have been well documented (Morris & Williamson,
1982). In one survey almost two-thirds of the respondents
agreed with the statement that public relief roles are
"loaded with chiselers" (Free & Cantrill, 1967). Another
national survey (Feagin, 1975) which evaluated the perceived
importance of 11 causes for poverty found that the four
reasons cited as most important were dispositional variables
such as low effort, drunkenness, loose morals and lack of
thrift.
These findings corroborate findings from an earlier study of 354 adults (Huber & Form, 1973). In this study, respondents were asked the following questions: "Why are rich people rich?", and "Why are poor people poor?". These questions were asked in reference to aid-recipients during the 1930's (the great depression era), and in reference to current aid-recipients. Only four percent of the respondents attributed the needs of aid-recipients in the 1930's to dispositional attributes. On the other hand, 54% of the respondents made dispositional attributions for the needs of current recipients of government assistance. Further, in explaining why the poor are poor, 36% of the respondents cited "negative personal traits" of the poor (e.g., "don't work as hard," or "don't want to get ahead"). The rich were thought to be rich because of favorable traits. "Huber and Form term this dominant ideology: wealth results from hard work, ability, and motivation. Poverty results from laziness, stupidity and lack of ambition" (p. 277)

The tendency of the non-poor to favor internal attributions (and downplay situational explanations) to explain the plight of the poor is an example of the fundamental attribution error (Ross, 1977) where situational and societal pressures and influences are underestimated and
individual dispositions are overestimated. This tendency to "blame the victim" has negative consequences for the potential help-seeker. For example, a study by Wills (1976) suggests that the negative dispositional attributions towards the poor may be augmented by help-seeking. The results of this study suggested that persons who receive help will be perceived as lower in ability than those who do not receive help. Additionally, this perception generalized to the help-seekers abilities in other areas. In sum, help-seekers are often evaluated less favorably by helpers than others who achieve similar functioning/results without help.

As is suggested by the results of a more recent study by DePaulo and Fisher (1980), help-seekers are well aware of the potential for dispositional bias and subsequent negative evaluation from others. Additionally, they are more likely to experience subtle rejection from helpers as helpers more often reject help-seekers when their problems are perceived to be internally caused (e.g., personality or disposition) than when perceived to be externally caused (situational) (Calhoun, Pierce, Walters & Dawes, 1974). It is probable that this rejection may also be experienced by women seeking prenatal care in the public assistance setting as seeking timely and regular prenatal care is viewed as an event that is within the individual's control.
Dispositional attributions regarding the responsibility of the pregnant help-seeker for her level of involvement in prenatal care may have important implications for recipient reactions to aid and subsequent willingness to seek timely and adequate prenatal services. In anticipation of being perceived negatively by providers, individuals who must turn to public assistance settings for help may experience a variety of responses from ranging from fear of negative evaluation and helplessness to a general distrust of the public assistance prenatal care system.

*Person and System Costs and Barriers: How They Relate to Esteem-Threat*

Other structural characteristics of the social services delivery system may also be interpreted in light of the esteem-threat model. For example, unlike privately insured patients, persons seeking care from public clinics cannot expect to choose their physician, or to have continuity with their health care providers or have input regarding the timing and/or course of treatment. This lack of choice concerning the quality, quantity, and continuity of care may also heighten ambivalence about seeking help through the public assistance health care delivery system.

Additionally, public assistance clinics often seek to maximize use of their physicians' time. Visits are usually
brief, especially when compared to waiting times of 2 to 4 hours. Due to time constraints, physicians are unable to take time to answer questions or explain diagnoses and recommended procedures, show compassion or establish good relationships with their clients (Whitcher-Alagna, 1983). These system characteristics impact on patient perceptions of care as well as levels of expressed satisfaction with prenatal care. For example, one study involving gynecological patients (Needle & Murray, 1977) found that information given in a caring manner was more important in determining patient satisfaction than the race or sex of the practitioner or the nature of the setting in which care was given. Additionally, research on patient satisfaction demonstrates that the correlation between positive medical outcome and patient satisfaction is only modest (Woolley, Kane, Hughs, & Wright, 1978). Ware (1977) found that patient evaluation of physician interpersonal skills accounted for a greater amount of the variance in overall patient satisfaction (41%) than did availability of services or continuity of care (both of which are limited in the public assistance clinic). This finding may have particular relevance for interventions based on traditional notions of costs and barriers. It suggests that merely removing structural barriers to prenatal care will not eliminate
other perceived barriers and costs associated with seeking prenatal services in the public assistance setting. The organization (e.g., timing and quality) of the physician-patient contacts in the clinic create additional costs and barriers leading to less patient satisfaction and subsequently less timely use of services.

Related to the perception of esteem-threat and its association with satisfaction are recipient levels of self-esteem. An individual's level of self-esteem has been considered to be a major determinant in recipient reactions to aid (Berkowitz, 1983). However, there are two opposite predictions with regards to how persons with high and low self-esteem respond to the receipt of aid (Nadler & Mayselles, 1983). The "consistency" prediction assumes "negative information about self is disturbing only when it is inconsistent with one's existing self-cognitions" (p. 170). According to this view, persons high in self-esteem would be more likely to be threatened by receiving help (especially under conditions which accentuate their relative dependence and inferiority) than persons low in self-esteem, who would be more likely to view aid as a positive self supporting experience.

Conversely, the "vulnerability" prediction assumes that persons low in self-esteem are more vulnerable to the
potential for self-threat posed by receiving aid. Because persons with low self-esteem have relatively few positive self-cognitions (compared to persons with high self-esteem), the threat value of the negative self-relevant information inherent in the role of aid-recipient is especially burdensome.

Research (mostly analog) has supported the consistency prediction (DePaulo, Brown, Ishii and Fisher, 1981; Nadler, Altman & Fisher, 1979; Nadler & Kolker, 1983; Nadler, Mayselles & Perri, 1982; Tessler & Schwartz, 1972) and to a lesser extent, the vulnerability prediction (Nadler, Sheinberg, & Jaffee, 1981). However, these two predictions can be integrated when the dimension of "psychological relevance" is considered. Psychological relevance refers to the significance assigned to a particular domain or activity in an individual's overall self-concept. This suggests that a persons' perception of threat as an aid-recipient in a helping exchange is proportional to the psychological relevance of the activity with which help is sought. The more psychologically relevant a domain or activity is for an individual, the greater the threat. For example, a mechanic might experience greater threat in asking someone to help fix his car than would a florist. Conversely, a florist might greater threat in asking someone for help in designing
a floral arrangement than would a mechanic. Further study is required in order to determine the relation of self-esteem to the experience of esteem-threat and patterns of delay and involvement in prenatal care.

Benefits of Applying the Esteem-Threat Model to the Public Assistance Setting

Unlike structural analyses of delivery systems, application of the esteem-threat model to the public assistance setting will permit an examination of the aid-recipient's perceptions of the costs and barriers to care inherent in the transactions between society's helping agents and persons in need. Further, application of this model will provide an opportunity to examine how recipient-perceptions and reactions may feed back to influence future contacts with the service provider (Whitcher-Alagna, 1983). Use of this setting also will provide an opportunity to examine the relations between self-esteem, recipients' perceptions of esteem-threat related to receiving services and recipient evaluation of the caregiver/aid (satisfaction). Finally, much of the existing social psychological research on recipient reactions to aid has been carried out in the laboratory setting, often with undergraduate populations. An investigation in a natural setting would allow a test of the conditions and the extent
to which the esteem-threat model of help-seeking applies to the unique circumstances of women seeking prenatal care in the public health-care setting. This applied focus may also provide the information necessary to make the existing structures and procedures of the formal delivery system more user friendly. Ultimately, progress in these areas may aid in the development of interventions designed to minimize pregnancy-related health risks in underserved populations.

**Summary and Questions for Research**

The costs of seeking help may vary from one context to another (e.g., from formal to informal networks or from one agency to another). As discussed above, agency and person-related variables present one aspect of the costs and barriers commonly associated with help-seeking. Factors such as lack of insurance, uneven distribution of prenatal care providers, lack of valuation of prenatal care and inconvenience often deter timely initiation of prenatal care. I have argued that existing cost/barrier models of help-seeking which consider agency (e.g., delivery system variables) or person-related variables (e.g., attitudes, beliefs, etc.) in isolation are limited. A third approach which examines how aid and structural variables may elicit person-related variables (i.e., perceptions of esteem-threat), may augment existing conceptualizations of the
costs and barriers related to help seeking.

This perspective is not addressed in traditional approaches to conceptualizing delay or untimely use of prenatal services. In public assistance settings where helping has been institutionalized, the potential for esteem-threat may be particularly acute. A focus on those processes which drive recipient perceptions of and subsequent reactions to aid may enhance our ability to predict and explain delay and non-use patterns of prenatal care among underclass women. In the long run, this type of approach may augment efforts to develop a more efficient, effective and humane plan for delivering prenatal services.

The basic purpose of this study is to assess the utility of the "esteem-threat" model proposed by Fisher and colleagues (1982, 1983) in guiding our questions about the relation between recipient perceptions of the public assistance prenatal health care system and subsequent usage patterns of that system. Specifically, this study will test the utility of a variety of domain specific (specific to the prenatal care setting) measures, conceptually related to the esteem-threat hypothesis, in predicting the timing of entry into prenatal care and the level of appointment keeping subsequent to the initiation of prenatal care. It is anticipated that compared to women who perceive a lower
threat value in seeking prenatal care in the public assistance setting, women who perceive a higher threat value of seeking prenatal care in this setting will be more likely to evidence patterns of delayed entry into prenatal care and lower levels of appointment keeping during the course of their prenatal care. The predictive utility of the esteem-threat construct and a global measure of self-esteem (Rosenberg, 1965) will also be compared. Finally, the extent to which measures of the esteem-threat construct are able to predict patient satisfaction will also be assessed.

Hypotheses

Hypothesis #1: Women who evidence greater delay in seeking prenatal care (as determined by trimester of entry into prenatal care) will differ from women who seek early care on the measures chosen to reflect the esteem-threat construct (Reactance, Autonomy, Fear of Negative Evaluation and Expected of Impact of services subscale of the R-GSSSSS). Scores on measures of esteem-threat for women who delay entry into prenatal care are expected to reflect greater levels of anticipated esteem-threat than the scores of women who initiate prenatal care earlier in their pregnancy.

Women in the low appointment keeping group will differ from women in the high appointment keeping group on the measures chosen to reflect the esteem-threat construct.
Specifically, scores on the measures of esteem-threat for women in the low appointment keeping group will reflect greater levels of anticipated esteem-threat than the scores of women in the high appointment keeping group.

Scores on measures of esteem-threat are expected to reflect greater anticipated esteem-threat for women in the delayed entry/low appointment keeping group, than scores of women in the early entry/high appointment keeping group. The scores of the remaining two groups are expected to fall in the intermediate range.

**Hypothesis #2:** Scores on measures chosen to reflect the esteem-threat construct will significantly contribute to the correct classification of group status (trimester of entry and level of appointment keeping) when entered into a stepwise discriminant function analysis with the socio-demographic variables of age, number of children, level of education, marital status and race.

**Hypothesis #3:** Scores on measures chosen to reflect the esteem-threat construct will account for a significant portion of the variance over and above that which is accounted for by the subjects' age and number of children, level of education, marital status and race in the prediction of the trimester of entry, timing of initial prenatal visit (gestational age at first clinic visit) and
the level of appointment keeping during follow-up record review.

**Hypothesis #4:** Scores on measures chosen to reflect the esteem-threat construct will account for a significant portion of the variance of a global measure of self-esteem (Rosenberg, 1965) when included in a regression equation with the subjects' age and number of children, level of education, marital status and race. Specifically, compared to women with lower levels of self-esteem, women with higher levels of self-esteem are expected to show higher levels of esteem-threat.

**Hypothesis #5:** Scores on measures chosen to reflect the esteem-threat construct will account for a significant portion of the variance, when included in a regression equation with the subjects' age and number of children, level of education, marital status and race in the prediction of subjects' satisfaction with services. Specifically, women with higher levels of esteem-threat are expected to express lower levels of patient satisfaction.
Method

Subjects

One hundred and forty-five pregnant women were invited to participate in the study. All women were from a low-socioeconomic status group as determined by their participation in prenatal care services at an urban hospital Health Care clinic located in Southwestern Virginia. Women who were considered high risk due either to their medical status (e.g., gestational diabetes, history of preterm delivery, etc.) or to their age (< 18 years old) were excluded from the study. Of the 145 women who were asked to take part in the study, 139 agreed to participate and subsequently completed the initial packet of measures during the initial clinic visit. Of these 139 subjects, 13 were excluded from the final analysis due to their designation as high-risk pregnancies by the clinic staff. Of these 13 women, 4 were designated as high-risk due to their age (< 18 years of age). The remaining 9 women were transferred to the high risk clinic at some point in their care. The data from the remaining 126 women were included in the final analysis. Table 1 lists relevant demographic characteristics of the final sample.
Procedure

All participants were recruited by the principal investigator during one of two weekly OBGYN clinics offered by the health facility. The day of the patient's first appointment for prenatal care (a nursing assessment interview) was scheduled in advance. Upon arrival, women signed in at the nurses station and were seen on a first come, first served basis. Contacts with potential subjects were initiated in the clinic waiting room. Upon initial contact, the principal investigator introduced himself as a student conducting a survey of women receiving prenatal care at the clinic. Each woman was then given a general verbal overview of the purposes of the study (i.e., that we are interested in women's perceptions of prenatal care), and given an estimate of the total amount of time required to complete measures. Participants were also advised that (1) all information would be used for research purposes only, (2) all identifying information would be kept strictly confidential, and (3) that no one affiliated with the clinic would have access to their individual completed measures. Additionally, all subjects were informed that following a minimum of three clinic visits with physician contact, each would receive a follow-up mailing requesting that they complete and return a measure of patient satisfaction with
prenatal care. Return of the completed assessment would conclude their participation in the study. Women who agreed to participate in the study read and signed a consent form (See Appendix A). The six women who did not agree to participate were thanked for their time.

To further increase the likelihood that the subjects would return the satisfaction measure, the follow-up mailing included the following: (1) a cover-letter expressing appreciation for their earlier participation and a reminder of the importance of their cooperation in completing and returning the enclosed questionnaire (see Appendix B), (2) a return addressed, stamped envelope, and (3) several coupons for infant related products. Subjects were told that the coupons, while in no way intended as compensation for their time, were offered as a gesture of appreciation for the subjects’ willingness to invest the time and effort to complete the study. Of the 126 follow-up mailings sent out, eight were returned to the experimenter indicating that the participant had moved and left no forwarding address.

Approximately 10 days after the follow-up mailing, a second mailing (a post card) was sent to all subjects who had not yet responded to the first mailing. The post card informed each subject that we had not received the completed assessment recently mailed to them and a number to call for
questions or an additional copy of the questionnaire (See Appendix C). Both follow-up mailings were sent to the most recent addresses found in patient records at the time of each mailing.

Record Review

In addition to data gathered as a result of the subjects' completion of the domain specific measures of the esteem-threat construct, record review was also employed to access relevant socio-demographic information (e.g., age, race, education, number of children and marital status) (see Appendix D). Access to records also enabled us to determine (1) the timing of the first prenatal clinic visit and (2) the level of appointment keeping subsequent to the initial nursing interview, for the purposes of later analyses.

To insure confidentiality, all participants were assigned a code number, with data stored on computer by number. The list with names to match code numbers, and all measures with participants' names were kept in locked files.
**Measures**

Participants' levels of reactance were assessed using a domain specific version of The Revised Reactance Scale (Byers & Tucker, 1990). Items in this measure assessed the patients' perceived threats to freedom as a result of accepting public assistance (e.g., "I usually don't like it when doctors/nurses try to give me unwanted advice"). Initial research with this 10-item scale showed split-half reliabilities of 0.84 and test-retest reliability of 0.86 (Merz, 1983). Pilot work using a sample of 20 women in a prenatal care clinic setting, the domain specific version of the Revised Reactance Scale achieved a Cronbach's alpha of 0.70. Our final sample of 126 women, an 8-item domain specific version of the Revised Reactance Scale achieved a Cronbach's alpha of 0.59 (see Appendix E).

Participants' levels of autonomy were assessed using a domain specific version of the Autonomy subscale of the Personality Research Form (Form E) (Jackson, 1987). Items in this measure assessed the patient's desire for autonomy (e.g., "I want to do whatever the clinic tells me is right" or "I would prefer not having to answer to anyone"). The original 16-item inventory has been shown to have adequate test-retest reliability, ranging from 0.61 in psychiatric samples to 0.66 in college samples. Split-half reliability...
for the original Autonomy subscale is reported to range from 0.69 to 0.86 depending upon the number of items used to assess the construct. This subscale has also been shown to have good convergent validity with behavioral ratings of peers. Data from pilot work using a sample of 20 women in a prenatal care clinic setting yielded a Cronbach's alpha of 0.58. Using the final sample of 126 women, a 14-item domain specific version of the Autonomy subscale of the Personality Research Form (Form E) (Jackson, 1987) achieved a Cronbach's alpha of 0.61 (see Appendix E).

Participants' awareness and sensitivity to negative evaluation was assessed using a domain specific version of the brief version of the Fear of Negative Evaluation (FNE) scale (Watson & Friend, 1969). This scale include items such as "I think that people at the clinic will find fault with me", and "The doctors'and nurses' opinions of me don't bother me". The Brief FNE has a reported internal consistency of 0.90 using Cronbach's alpha. Criterion-related validity has been demonstrated with scores on the Brief FNE correlating with anxiety, avoidance and the degree to which respondents are bothered by an unfavorable evaluation from others. Pilot work with the domain specific version of the Brief FNE scale with a sample of 20 women in a prenatal care clinic yielded a Cronbach's alpha of 0.72.
Using the final sample of 126 women, the 10-item domain specific version of the Fear of Negative Evaluation (FNE) scale achieved a Cronbach's alpha of 0.73 (see Appendix E).

Participants' perception of (1) relevance (the extent to which a service corresponds to the client's perception of his or her problem and needs - "Overall, I expect the clinic will be very helpful to me"); (2) impact (the extent to which services reduce the problem - "I expect things will get better since I've come to the clinic"); and (3) gratification (the extent to which services enhance the client's self-esteem and contribute to a sense of power and integrity - "I expect I will feel well treated when I leave the clinic") was assessed using a domain specific version of the Reid-Gundlach Social Service Satisfaction Scale (R-GSSSS) (Reid & Gundlach, 1983). The R-GSSSS is a 34-item scale that provides an overall score plus three subscale scores dealing with consumers' reactions to social services. Internal consistency of the original scale shows a total alpha of 0.95; the three subscales had alphas ranging from 0.82 to 0.86. Validity information for the original scale is not reported. However, race, marital status and type of service utilized were significantly related to satisfaction in predictable ways. For example, African- and Mexican-Americans, single consumers and those receiving AFDC and
Medicaid reported lower satisfaction levels.

Pilot work with the domain-specific version with a sample of 20 women in a prenatal care clinic showed a total alpha (Cronbach's) of 0.90. Cronbach's Alphas for the Relevance, Impact and Esteem Enhancement subscales are 0.83, 0.76, and 0.76 respectively (see Appendix E).

Using the final sample of 126 women, the domain specific version of the R-GSSSS scale shows a total Cronbach's alpha of 0.90. Cronbach's Alphas for the Relevance, Impact, Esteem Enhancement and the combined Impact/Esteem Enhancement subscales were 0.75, 0.69, 0.81 and 0.86 respectively.

Participants' global level of self-esteem was assessed using the Rosenberg Self-Esteem Scale (e.g., "On the whole, I am satisfied with myself"; "I feel that I do not have much to be proud of") (Rosenberg, 1965). The author reports this 10-item scale to have a reliability coefficient of 0.92. Though originally normed on adolescent populations, this scale has been used widely in psychological research due to its ease of administration (minimal time and effort), unidimensionality and high face validity. Using the final sample of 126 women, the Rosenberg Self-Esteem Scale (Rosenberg, 1965) achieved a Cronbach's alpha of 0.87 (see Appendix E).
Patients' level of satisfaction with prenatal care was assessed using an instrument designed to assess patient satisfaction with an encounter with a physician or other primary care provider (e.g., "The doctors/nurses talked to me in a language that I could understand"); "I felt free to talk to my doctor about private thoughts") (Wolf, Putnam, James, & Stiles, 1978). Scale reliabilities for the original Medical Interview Satisfaction Scale (MISS) were determined using an adult clinic sample (62% female; 60% African-American; mean age of 36.6 years). The authors report that clinic patients were largely comprised of persons "from rural areas, who had not finished high school, and held semi-skilled or unskilled jobs" (p. 395). The original 26-item scale is reported to have an Cronbach's alpha of 0.93 for the total scale and 0.87, 0.86 and 0.87 for the cognitive, affective and behavioral subscales, respectively. A 20-item domain specific version of the Medical Interview Satisfaction Scale (MISS) was used to assess patient satisfaction with physician contact after a minimum of three visits to the clinic.

Like the original scale, the domain specific version of the MISS was categorized into 3 clinically relevant dimensions of satisfaction with patient-provider interaction: "cognitive," (8 items), "affective," (7 items)
and "behavioral" (4 items). According to Wolf, et al., (1978),

"Cognitive items referred to the doctor's giving explanations and information and the patient's understanding of the diagnosis, etiology, prognosis, and effects of treatment. Affective items referred to the patient's perception of the treatment relationship, including feelings of trust and confidence in the doctor, and perceptions of the doctor's positive regard for the patient and willingness to listen to his/her concerns. Behavioral items measured the patient's evaluation of the physician's professional behavior, physical exam, diagnostic procedures, treatments, and dispensation of advice."

Using a final sample of 48 (this relatively small number being determined by the number of completed measures of satisfaction mailed back to the principal investigator) the Cronbach's alpha coefficient was calculated to be 0.94 for the total scale (20 items), and 0.99 0.91 and 0.81 for the cognitive, affective, and behavioral subscales, respectively (see Appendix E). Table 2 shows the means, standard deviations and ranges of the above measures.
Data Analysis

The data were analyzed in the following steps: First, Pearson correlation coefficients between all measures used in the study were calculated to explore relationships between variables (see Table 3). To avoid problems with multicollinearity in subsequent analyses, highly correlated variables were entered selectively.

Insert Table 3 About Here.

Second, a factor analysis (Principal Components) was conducted on the measures chosen to represent the Esteem-Threat construct (Reactance, Autonomy, Fear of Negative Evaluation and the Anticipated Impact/Esteem Enhancement scale). Principal components analysis was chosen as it is the most appropriate method in exploratory work (e.g., in analyzing pools of items in the development of new scales or inventories) (Lindeman, Merenda, & Gold, 1980). This analysis enabled the determination of whether the correlations between measures could be described by a single underlying factor (Esteem-Threat). Factor loadings derived from a principal components analysis were employed to reduce the complexity of the data set and add statistical power (by reducing the number of variables entered to subjects ratio).
to subsequent multivariate analyses. All subsequent statistical procedures (i.e., MANOVA’s, discriminant functions and multiple regression) were conducted using factor score coefficients, derived using the regression method, to represent the values of the factors.

Third, multivariate procedures appropriate to individual hypotheses were conducted to assess the utility of the Esteem-Threat construct for the prediction of (a) trimester of entry (b) gestational age at time of entry into prenatal care, (c) the level of appointment keeping subsequent to the initiation of prenatal care, (d) level of global self-esteem, and (e) satisfaction with services rendered. All $R^2$ values reported in the Results section have been adjusted to reflect the expected performance of these variables in the population of interest (see appropriate tables for unadjusted $R^2$ values).

During individual analyses, all data were assessed using Box’s M test to determine the degree to which they conformed to the assumptions of normality and homogeneity of covariance matrices required for multivariate statistical procedures (MANOVA, discriminant function and multiple regression equations). Box’s M tests were non-significant except in the case of the MANOVA. Interpretation of this significant finding is discussed further in the discussion
section.

For the purposes of group analyses (MANOVA), level of appointment keeping was determined by a ratio of kept appointments to a predetermined number (6) of scheduled appointments. Women who kept from 0 to 3 of their first 6 appointments (≤ 50%) following the first 16 weeks of pregnancy (not including the initial nursing interview) were included in the low appointment keeping group. Women who kept 4 or more of their first 6 appointments (> 50%) following the first 16 weeks of pregnancy were included in the high appointment keeping group. The initial clinic visit upon which subjects were recruited was not counted as one of the six appointments.

Finally, due to the high correlation between the Anticipated Impact and Esteem Enhancement subscales of the R-GSSSS, these two subscales were collapsed into one 22-item scale before factor analysis. This strategy enabled us assess the utility of both constructs for the prediction and classification of trimester of entry into prenatal care, and level of appointment keeping subsequent to the initiation of prenatal care.
Results

Factor Analysis

A factor analysis was conducted on the esteem-threat variables of Reactance, Autonomy, Fear of Negative Evaluation, the Anticipated Impact/Esteem Enhancement scales and the Rosenberg measure of self-esteem. The purpose of this analysis was to determine the factor structure underlying these individual measures. If the variables chosen to represent the esteem-threat construct loaded under one factor, this would support the hypothesis that scores on the individual measures could be explained by the underlying construct, Esteem-Threat.

Two statistics, Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) a measure of sampling adequacy, were examined to determine the appropriateness of factor analysis on these data. Results of both Bartlett's ($X^2 = 64.19, p < .0001$) and the KMO ($p = 0.58241$) suggested that it was appropriate to proceed with factor analysis.

A principal components analysis extracted a 5 factors. Factors with an eigenvalue less than 1.0 were excluded from further analysis. This left a 3-factor solution accounting for 77.5 percent of the total variance (see Table 4).
Factors with eigenvalues of 1.0 or greater were retained for further analysis. Factor 1 was characterized by high loadings on Autonomy, Reactance and the Anticipated Impact/Esteem Enhancement measures and negligible loadings for Fear of Negative Evaluation and The Rosenberg measure of global self-esteem. Both Factor 2 and Factor 3 were characterized by high loadings on two single measures. Fear of Negative Evaluation loaded highly on Factor 2 and The Rosenberg self-esteem measure loaded highly on Factor 3. Each of these factors (2 & 3) had negligible loadings for Autonomy, Reactance and Anticipated Impact/Esteem Enhancement.

To achieve a simpler, more interpretable factor structure and to document independence of factors, factor matrices were rotated using both the Varimax (orthogonal) and the Oblique rotation procedures (see Tables 5 & 6).
The data in these tables show that the three factors are quite independent. The Anticipated Impact/Esteem Enhancement variable appears to be the most complex variable, having a loading of .36 on Factor 2 after Varimax Rotation. The oblique rotation resulted in the same grouping of variables as did the varimax rotation. Consequently, the interpretation of factors does not change based on these rotations. Estimates of communality were calculated to determine the proportion of variance in each variable predictable from the factor underlying it (See Table 4).

**Multivariate Analysis Of Variance**

**Hypothesis #1:** Scores on measures of esteem-threat for women who delay entry into prenatal care are expected to reflect greater levels of Anticipated Esteem-Threat than the scores of women who initiate prenatal care earlier in their pregnancy. Additionally, scores on measures of esteem-threat for women in the low appointment keeping group are expected to reflect greater levels of Anticipated Esteem-Threat than scores of women in the high appointment keeping group.

Comparability of the groups on the socio-demographic characteristics was assessed using a Chi-square for the categorical variables and a MANOVA for the continuous
variables. Chi-square analyses were conducted to compare differences in marital status (married versus not married) and race (black versus white) across groups (trimester of entry and level of appointment keeping). Results showed that the subjects' Race differed across trimester of entry, $X^2 (6 \text{ df}) = 32.61$, $p < .0001$, beyond that expected by chance. Specifically, a fewer black than white women entered prenatal care in the first trimester. None of the results were significant.

A 3 (trimester of entry) X 2 (high versus low appointment keeping) MANOVA including the socio-demographic measures of Age, Number of Children and Level of Education showed no reliable interactions (Trimester of Entry by Appointments Kept) $F = .931$, $p = .237$, or main effects (Appointments Kept) $F = .976$, $p = .451$ and (Trimester of Entry) $F = .931$, $p = .245$, at the multivariate level (Wilks Lambda). Table 7 shows the means and standard deviations of the above socio-demographic variables.

Insert Table 7 about here.

A 3 (trimester of entry) X 2 (high versus low appointment keeping) MANOVA including the factor scores from Factor 1 (Esteem-Threat), Factor 2 (Fear of Negative
Evaluation) and Factor 3 (Self-Esteem) showed no reliable interactions (Trimester of Entry by Appointments Kept) $F = .525, p = .789$, or main effects (Appointments Kept) $F = .695, p = .557$ and (Trimester of Entry) $F = .757, p = .605$, at the multivariate level (Wilks Lambda). Table 8 shows the means and standard deviations of the factor scores of the esteem-threat measures.

Insert Table 8 about here.

Discriminant Function Analyses

**Hypothesis #2**: Scores on measures chosen to reflect the esteem-threat construct will significantly contribute to the correct classification of group status (trimester of entry and level of appointment keeping) when entered into a stepwise discriminant function analysis with the socio-demographic variables of age, number of children, level of education, marital status and race.

This hypothesis was tested using stepwise Discriminant Function Analyses to determine those esteem-threat factors which most efficiently discriminate between groups (trimester of entry and high versus low appointment keeping). All three factors derived from the preceding
principal components analysis and the demographic variables of Age, Number of Children, Level of Education, Race and Marital Status were entered for possible inclusion into the discriminant function equation.

The first analysis involved determining which variables most efficiently discriminated among groups as defined by trimester of entry. This procedure generated a discriminant function which included (in the following order) the participants' Level of Education, Factor 1 (Esteem-threat), Factor 3 (Rosenberg measure of self-esteem) and Marital Status (see Table 9).

Insert Table 9 about here.

This function was not significant ($p = .055$). Classification analyses showed that approximately 65.3% of cases were correctly classified using this discriminant function (see Table 10). However, the level of correct classification was largely due to overprediction of subjects who entered prenatal care in the second trimester, who were overrepresented in the sample.

Insert Table 10 about here.
The second analysis was conducted to determine which variables most efficiently discriminated among groups as defined by the level of appointment keeping (high versus low). Results of this analysis generated a discriminant function which included (in the following order) the participants' Age, and Number of Children. None of the Esteem-Threat related factors were included in the derived function (see Table 11), which was not significant ($p = .15$).

Insert Table 11 about here.

Classification analysis showed that approximately 73.2 percent of the cases were correctly classified using this discriminant function (see Table 12). However, as in the preceding classification analysis, the relatively high degree of correct classification was largely due to overprediction of the high appointment keeping group (also overrepresented in the sample).

Insert Table 12 about here.
Regression Analyses

Hypothesis #3: Scores on measures chosen to reflect the esteem-threat construct will account for a significant portion of the variance over and above that which is accounted for by the subjects' age and number of children, level of education, marital status and race in the prediction of the trimester of entry, timing of initial prenatal visit (gestational age at first clinic visit) and the level of appointment keeping during follow-up record review.

Three regression analyses were conducted to test this hypothesis. In each analysis, the five socio-demographic variables were entered first as a block. This was followed by the successive, individual entry of each of the three factors (Esteem-Threat, Fear of Negative Evaluation and Self-Esteem) derived from factor analysis of the Esteem-Threat related measures. This strategy made it possible to assess the predictive utility of the Esteem-Threat Factors controlling for the impact of socio-demographic variables.

The first regression analysis assessed the utility of the esteem-threat factors to predict the trimester of entry into prenatal care (see Table 13).
Insert Table 13 about here.

Table 13 shows a significant linear relationship between the socio-demographic variables (entered as a block) and the criterion variable. The addition of all three Factors to the regression equation resulted in a small suppression effect, bringing the total variance accounted for to approximately 17 percent. The overall regression equation remained statistically significant.

A second regression analysis was conducted to assess the utility of the esteem-threat factors to predict gestational age at time of entry into prenatal care (see Table 14).

Insert Table 14 about here.

The five socio-demographic variables were entered first as a block. Together, these variables accounted for approximately 4 percent of the total variance in gestational age. The subsequent addition of Factor 1, Factor 2 and Factor 3 did not add to the total variance accounted for by the socio-demographic variables alone. These results suggest that there is no significant linear relation between
the Esteem-Threat related factors and the subjects' gestational age at the time of entry into prenatal care.

A third regression analysis was conducted to assess the utility of the esteem-threat factors to predict a predetermined number of appointments kept subsequent to the initiation of prenatal care (see Table 15).

Insert Table 15 about here.

The final regression equation showed a significant linear relationship with Esteem-Threat and included the patients' socio-demographic variables, Factors 1, 2 and 3. The participants' socio-demographic variables accounted for 7.3% of the total variance (adjusted $R^2$). The addition of Factor 1 increased the $R^2$ value to 10.2 percent ($F(6,119) = 3.36$, $p < .005$). The addition of Factor 2 increased the $R^2$ value to 11.9 percent. The addition of Factor 3 resulted in a small suppression effect, slightly decreasing the $R^2$ value to 11.2 percent.

**Hypothesis #4:** Scores on measures chosen to reflect the esteem-threat construct will account for a significant portion of the variance of a global measure of self-esteem (Rosenberg, 1965) when included in a regression equation with the subjects' age and number of children, level of
education, marital status and race. Specifically, compared to women with lower levels of self-esteem, women with higher levels of self-esteem are expected to show higher levels of esteem-threat.

Hypotheses 4 was tested using a multiple regression analysis to determine the degree of association between the individual subjects' socio-demographic characteristics, Factor 1 (Esteem-Threat), Factor 2 (Fear of Negative Evaluation), and a global measure of self-esteem. In keeping with the preceding analyses, the socio-demographic variables were entered as a block first. These variables showed no significant linear relation to the Rosenberg measure of global self-esteem accounting for only 2.3 percent of the total variance, $F(5,120) = 1.59$, $p = .168$. Corroborating the results of the preceding factor analysis, the subsequent addition of Esteem-Threat factors also showed no significant linear relations to self-esteem. The addition of Factor 1 (esteem-threat) resulted in an $R^2$ of .015 ($F(6,119) = 1.32$, $p = .25$). The $R^2$ decreased further to a value of .007 upon entry of Factor 2 (Fear of Negative Evaluation) into the equation ($F(7,118) = 1.14$, $p = .35$).

Hypothesis #5: Scores on measures chosen to reflect the esteem-threat construct will account for a significant portion of the variance, when included in a regression
equation with the subjects' age and number of children, level of education, marital status and race in the prediction of subjects' satisfaction with services. Specifically, women with higher levels of esteem-threat are expected to express lower levels of patient satisfaction.

Four stepwise regression procedures were conducted to explore the relationship between participants' anticipation of esteem-threat prior to the first prenatal care visit and a subsequent measure of overall satisfaction with services rendered. In all four analyses, the three Esteem-Threat related factors and participants' socio-demographic variables were entered as predictor (X) variables. The total score, followed by the three subscale scores were entered as the criterion (Y) variables.

Results showed that when predictor variables were regressed on the total MISS score (see Table 16), Factor 1 (Esteem Threat) entered first, accounting for 6.9 percent of the total variance in reported satisfaction.

---

Insert Table 16 about here.

---

The participants' Age entered next, accounting for an additional 9.6 percent of the total variance increasing the value of $R^2$ to 17 percent. No other variables were either
entered or removed from the equation.

The Cognitive, Affective and Behavioral subscale scores of the MISS were also entered as the criterion variables in order to further explore the relationship between participants' anticipation of esteem-threat prior to the first prenatal care visit and specific components of patient satisfaction with services rendered. Results of the first of these analyses showed no significant linear relationship between subjects' socio-demographic and/or Esteem-Threat related factor scores when the Cognitive subscale was entered as the criterion variable. No variables were entered into the regression equation. When the Affective subscale was specified as the criterion variable (see Table 17), the participants' Age was entered first accounting for approximately 11.5 percent of the total variance.

---

Insert Table 17 about here.

---

Factor 1 (Esteem-Threat) entered next, accounting for approximately 7.7 percent of the total variance increasing the value of $R^2$ 19.2 percent. Factor 2 (Fear of Negative Evaluation) entered third accounting for 8.4 percent of the variance, increasing the value of $R^2$ to 27.6 percent. No other variables were entered or removed. When the
Behavioral subscale was specified as the criterion variable, only Factor 1 (Esteem-Threat), entered the equation, accounting for approximately 10.2 percent of the total variance (see Table 18). No other variables were entered.

Insert Table 18 about here.

Independent t-tests and chi-square analyses were conducted to assess differences between groups (those who returned the satisfaction follow-up versus those who did not) on psychological (reactance, autonomy, fear of negative evaluation, impact/esteem enhancement, self-esteem) and socio-demographic measures (gravida, educational level, number of children, age and marital status). Results showed no differences beyond that expected by chance. Tables 19 and 20 show the means, standard deviations and ranges of both groups (those who returned the satisfaction follow-up versus those who did not).

Insert Tables 19 & 20 about here.
DISCUSSION

Brief Summary of Findings

In this study, we investigated several major questions regarding the relation of the Esteem-Threat construct to 1) the timing of entry into prenatal care, 2) the number of appointments kept, 3) reported satisfaction with care received and, 4) an overall measure of self-esteem. Factor analysis of the individual measures conceptually related to the Esteem-Threat construct generated an underlying factor structure comprised of three relatively distinct factors. Three of the four original measures loaded on a single factor (Factor 1). Fear of Negative Evaluation loaded on a separate factor (Factor 2). The Rosenberg global measure of self-esteem also loaded separately (Factor 3).

The esteem-threat factors showed promise as predictors of satisfaction with services. No significant linear relationships were found between esteem-threat factors and a measure of self-esteem (Rosenberg, 1965).

The performance of the esteem-threat factors was poor in the prediction of prenatal care utilization behaviors (trimester of entry and level of appointment keeping).

Group analyses (MANOVA) showed no significant findings at the multivariate or univariate levels. Finally, the
esteem-threat factors showed little discriminant validity in correctly classifying subjects into groups (trimester of entry and high versus low appointment keeping).

Factor Analysis

A factor analysis was conducted to summarize patterns of intercorrelations among variables in order to (1) assess construct validity through examination of the underlying factor structure and (2) explore the possibility of data reduction (i.e., reducing the ratio of the number of variables to the number of subjects) in order to enhance statistical power.

Generally, the obtained factor solution fit our expectations. We did expect that our measures of Esteem-Threat would load separately from the Rosenberg self-esteem measure. This suggests that in the sample, self-esteem does not covary with other measures which assess threats to esteem. This offers evidence that the constructs of self-esteem and Esteem-Threat are separate and distinct. We did not anticipate that Fear of Negative Evaluation would load separately (Factor 2) from the other three measures hypothesized to represent the Esteem-Threat construct (Factor 1). To the extent that these results are valid and reliable, these factor loadings suggest that the respondents' fear of negative evaluation is not highly
related to their experience of reactance, their need for autonomy, or their anticipation of impact and esteem enhancement of services. This finding supports that the Esteem-Threat construct is more appropriately conceptualized as a complex multi-dimensional construct than a unidimensional construct. These preliminary findings suggest a 2(high versus low Factor 1) X 2(high versus low Factor 2) matrix in which participants may be organized into groups along the dimensions represented by these two factors. For example, it is possible that women who experience high Esteem-Threat (Factor 1) but little or no fear of negative evaluation (Factor 2) may evidence a different pattern of prenatal care utilization behavior and/or levels of satisfaction than women with the opposite configuration. It is probable that women who are high on both axes would be more likely to evidence less optimal patterns of prenatal care utilization. Conversely, women who are low on both axes would be more likely to evidence more optimal patterns of prenatal care. More research is needed in order to empirically validate the utility of this typology.

A series of multiple regression analyses were conducted to explore the relation between the Esteem-Threat factors and reported satisfaction with prenatal care services.
Though the relation between Esteem-Threat and patient satisfaction was not a major focus in our study, the results are encouraging and strongly suggest a need for further study in this area. Overall, various combinations of factors 1 (Esteem-Threat) Factor 2 (Fear of Negative Evaluation) and the respondents' age were the best predictors of reported levels of satisfaction with services (as determined by the MISS). A more fine-grained analysis of the MISS subscales showed that the patient's satisfaction with the treatment relationship, including feelings of trust, confidence in the doctor, perceptions of the doctor's positive regard for the patient and willingness to listen to her concerns diminished with age, higher levels of anticipated esteem-threat (Factor 1) and fear of negative evaluation (Factor 2). Finally, greater anticipation of esteem-threat predicted a more negative evaluation of the physician's professional behavior, physical exam, diagnostic procedures, treatments and dispensation of advice.

Due to our small return rate of the MISS (n = 47), these results must be considered highly unstable and in need of replication with a larger sample size. However, they do merit comment here. A large body of literature documents the importance of a variety of variables related to patient satisfaction with medical care in general. A smaller,
though substantial, body of literature is focussed on patient satisfaction with prenatal care. A brief sample of the variables studied include the impact of continuity of care (Flynn, 1985), physicians verbal (Inui Carter, Kulull & Haigh, 1982; Sullivan and Beeman, 1982) and nonverbal communication skills (DiMatteo, Taranta Friedman & Prince, 1980), physician awareness of patient concerns (Hulka, Kupper, Cassel & Babineau, 1975), quality of previous childbearing experiences (Oakley, 1991), perinatal health beliefs (Wells, McDiarmid & Bayatpour, 1990), type and quality of information received during prenatal care (Lovell, Zander James, Foot Swan & Reynolds, 1987), psychosocial support as an integrated part of prenatal care (Larsson, Spangberg, Theorell & Wager, 1987), participation in alternative prenatal care (Littlefield & Adams, 1987), differing expectations between physician and patient regarding the type and quality of information to be exchanged (Shapiro, Najman, Chang, Keeping Morrison & Western, 1983), and perceived waiting time in the office (Flynn, 1985).

While many of these studies examine the quality of specific behaviors which characterize the interactions between the health care provider and the patient, they do not address (1) the prenatal care recipients’ experience of
prenatal care as either a predominantly self-supportive or self-threatening experience or (2) the relation of this experience to reported levels of satisfaction. By using the Esteem-Threat construct, we were able to investigate the importance of the patients' perceptions of the prenatal care experience. Our results suggest an inverse relationship between the Esteem-Threat construct/fear of negative evaluation and satisfaction with services. These results corroborate other findings suggesting that patient satisfaction is not highly correlated with outcome. Instead, patient satisfaction is related more to the patient's relationship with the health-care provider. In our sample, this is clearly evidenced by our participants' responses to the Affective and Behavioral subscales of the MISS. This suggests that the patient's perception of threat or support may be an integral part of the patients' evaluation of the prenatal care experience and serve as the basis for the patient's willingness to make appropriate use of prenatal care throughout the present and subsequent pregnancies.

Our results also suggest that the patients' anticipation of esteem-threat, prior to receiving services, is associated with their evaluation, negative (derogation) or positive, of the interpersonal and professional skills of
the caregiver, subsequent to having received care. This suggests that the patient's a-priori perceptions may color their actual experience of and subsequent satisfaction with care. To the extent that this is the case, it may be important for prenatal care centers to actively promote their services as "user friendly", in hopes that this information may inform potential consumers' expectations of their center and their services. Future research may be directed at the identification and manipulation of personal and/or contextual factors which may contribute to the malleability of patient perceptions and evaluations of prenatal care throughout the pregnancy.

One of the main questions of our study focused on the relation between our esteem-threat factors and several relevant prenatal care utilization behaviors. A series of multiple regression analyses were conducted in order to address this question. Results show that the esteem-threat factors were of little utility in the prediction of prenatal care utilization behaviors (trimester of entry, gestational age at time of entry into prenatal care and level of appointment keeping).

Regarding the relation between the Esteem-Threat factors and the timing of entry, neither the socio-demographic variables nor the factors derived from the
principal components analysis showed a significant, linear relation to gestational age at time of entry into prenatal care. The esteem-threat factors also did not account for any variance, over and above that accounted for by the socio-demographic variables, in the prediction of trimester of entry. These findings are contrary to expectations and offer no support for the utility of the esteem-threat construct (as measured in this study) for predicting timing of entry into prenatal care. This is particularly disappointing in light of the desirability of developing simple, easily administered measures which would aid in the identification of women who are likely to begin prenatal care in an untimely (or timely) fashion.

Regarding the relation between the Esteem-Threat factors and appointment keeping, factors 1 and 2 did add a small contribution (4.6%) to the total variance in appointment keeping, over and above that contributed by the socio-demographic variables. The addition of Factor 3 (Self-Esteem) to the equation resulted in a small suppression effect, suggesting that this variable appears to be linearly unrelated to the number of appointments kept.

To the extent that these findings are generalizable to our population of interest, $R^2$ values in the range of 4 to 5% suggest that the esteem-threat construct, as measured in
this study, is of little clinical value in predicting the three prenatal care utilization behaviors examined in this study (see Limitations of Research).

A third question addressed by our study concerned the utility of our measures to discriminate between groups based upon trimester of entry and level of appointment keeping. We approached this question using two multivariate strategies (MANOVA and discriminant function).

The fact that the group analysis (MANOVA) showed no significant interactions (trimester of entry by level of appointment keeping) or main effects at the multivariate or univariate levels is contrary to expectations. Hypothesis #1 was not supported. On the face of it, this suggests that to the extent that there are differences among women which may contribute to the timeliness of entry into prenatal care and level of appointment keeping subsequent to the initiation of care, they are not adequately assessed by our measures of the esteem-threat construct.

However, given the characteristics of the data set, this finding is difficult to interpret. Box's M, a multivariate statistic to test the equality of the group covariance matrices (also sensitive to violations of normality) for the MANOVA including the three Esteem-Threat Factors was significant ($p < .01$). It should be noted that
the assumption of homogeneity of covariance matrices is stringent to the point of being unlikely that the equal covariance matrices assumption is ever literally satisfied in practice (Kerlinger, 1973). However, since there is a likelihood (based on Box's M statistic) that one or both of these assumptions are violated, it is important to consider how these violations may affect error rates (see Appendix F).

Our second strategy to address this question focused on the question of discriminant validity. A stepwise discriminant function and classification analyses conducted to differentiate subjects based on trimester of entry produced a non-significant function (see Table 9). Consequently, the hypothesis that these variables would be useful in discriminating subjects into groups (based on trimester of entry) was not supported.

Classification results show that 65.3 percent of the subjects' group membership was correctly classified (33.3 percent being chance alone). While this percentage of correct classification (twice chance levels) may appear encouraging at first, a closer look reveals that these levels of correct classification were achieved at the expense of sensitivity to those who entered prenatal care in either the first or third trimester. Results of
classification analyses were largely the result of overclassification of subjects into groups which were overrepresented in the sample.

A second discriminant function and classification analysis conducted to discriminate subjects based on the level of appointment keeping (high versus low) generated a non-significant function, which did not include any of the three esteem-threat factors (see Table 11). Consequently, the hypothesis that these variables would be useful in discriminating levels of appointment keeping between groups was also not supported.

Classification results show that 73.2% of the subjects' group membership was correctly classified (50 percent being chance alone). As in the preceding classification analysis (trimester of entry), this relatively high percentage of correct classification (1.5 times chance levels) was achieved due to the overprediction of subjects who kept greater than fifty percent of their scheduled appointments during the follow-up period.

One consequence of this pattern of overclassification evidenced in the preceding two classification analyses was the misclassification of those subjects who entered prenatal care early (first trimester) or late (third trimester) and those who kept 50 percent or less of their first six
appointments (not including the nursing interview) beyond 16 weeks of gestational age. We had hoped that the discriminant functions and classification analyses would identify a subgroup of variables which would be able to accurately and consistently predict subjects falling into these categories. Conceptually, it would have been of particular interest to find that our measures were of use in discriminating those subjects who were at risk for poor pregnancy outcome due to late (third trimester) entry into prenatal care or due to low levels of appointment keeping.

Finally, we were interested in determining the relation between a global measure of self-esteem and our esteem-threat construct. A multiple regression procedure was conducted to explore this relation.

An individual's level of self-esteem has been considered to be a major determinant in recipient reactions to aid (Berkowitz, 1983). This analysis explored whether or not this may also be the case for recipient perceptions of aid. There are two opposite predictions in the literature (see above, p. 16 ff.) regarding how persons with high and low self-esteem respond to the receipt of aid (Nadler & Mayselles, 1983).

Our finding that the socio-demographic variables and Factors 1 (esteem-threat) and 2 (Fear of Negative
Evaluation) show no significant linear relation to reported levels of self-esteem is corroborated by the factor analysis in which the Rosenberg self-esteem measure loaded on its own factor (Factor 3), separate from the other four measures conceptually related to the Esteem-Threat construct (as represented by Factors 1 and 2).

These results suggest that an individual's level of self-esteem, as determined by the Rosenberg, is not related to the degree of anticipated esteem-threat associated with the receipt of prenatal care services in the public assistance setting. Regarding the relation between self-esteem and esteem-threat, these findings support neither a "consistency model" (which proposes that persons high in esteem would be more likely to anticipate greater esteem-threat than persons low in self-esteem) nor a "vulnerability model" (which proposes the opposite).

Limitations of Research

Our results generate as many questions as answers regarding the utility of the Esteem-Threat construct for the prediction of prenatal care utilization behaviors. Our failure to find significant results for the main questions of the study should be interpreted in the light of the characteristics of both the data set and the measures used in this study.
Characteristics of the Data Set:

**Sampling Adequacy.** First, it should be noted that the results of this research are based on a sample of convenience, both in terms of site and participants. In terms of convenience of site, subjects included in the study were recruited from the one area clinic that was accessible and had a sufficient volume of obstetrical patients to attain a large enough sample. A large N size was deemed important not only to increase statistical power (given the small effect commonly associated with variables in behavioral research) but also to increase the probability of attaining equality of cell sizes for the MANOVA procedures. If the sample is truly representative of the population in terms of probabilities for first, second and third trimester entry, or low ($\leq 50\%$) versus high ($> 50\%$) appointment keeping, our sample would need to be between two to four times larger to insure interpretability of MANOVA results. Limits of time and resources made this prospect untenable.

Although prospective participants were approached and invited to participate on an as-entered-the-clinic basis, the subjects included in the final sample were ultimately self-selected (1) by their willingness to take time to read and respond to a fairly lengthy (4 pages) questionnaire, and
(2) by their motivation to fill out and return the follow-up mailing (MISS). Though relatively few (6) women approached for inclusion in the study refused to participate, we have no way of knowing if these women would have responded differently from a random sample of six women chosen from our larger sample of participants. Additionally, we were unable to sample many women who may have been of the greatest interest to us; those who did not come into the clinic at all. Theoretically, these women would be expected to report the greatest amount of Esteem-Threat. Inclusion of these women also would have helped to normalize the distribution of women across trimester of entry and level of appointment keeping.

Esteem-Threat Measures. The psychometric properties of two of the original domain-specific esteem-threat measures also suggest caution in interpretation of the utility of the esteem-threat construct. Specifically, the Cronbach's alpha coefficients achieved only marginally acceptable levels on the original Reactance (alpha = .59) and Autonomy (alpha = .61) measures; both of which loaded on Factor 1. These marginal internal consistency coefficients make it difficult to assert with confidence the relation of this Esteem-Threat factor to any of the criterion variables. Further study is required to clarify this relationship subsequent to
refinement (internal consistency) of these measures. Ultimately, we would like to see these Cronbach’s coefficients increase to .85 or better in future research. Additionally, the response set of the Autonomy scale differed from the other five measures used in this study. The original Autonomy scale, from which the domain-specific version was adapted, employed a dichotomous response set (true or false). The remaining five measures used in our study employed Likert-type scales. The dichotomous format was chosen largely based upon pilot work which yielded significantly greater Cronbach’s alpha coefficients using the dichotomous (versus the likert-type) response set. A consequence of choosing a dichotomous response set on the Autonomy scale was a reduction in range of responses (compared to the likert-type scale), and a subsequent reduction in the likelihood of finding significant relations between predictor and criterion variables. Use of this scale in the future should be predicated upon the inclusion of a Likert-type response set.

Another area of concern regards the content validity of the domain specific Autonomy measure. While the researcher attempted to construct measures specific to the context of prenatal care, a question remains as to the degree to which this was achieved. A review of individual items shows that
while some of the items are specific to the prenatal care context (e.g., "I would usually try to share my personal problems with someone at the clinic who could help me.")], a number of the items appear to be more general, stable and trait-like (e.g., "People who try to regulate my conduct with rules bother me."). Further refinement in the direction of domain specificity is indicated.

Conclusions

To the extent that these analyses allow us to make generalizations concerning the relevance and utility of our Esteem-Threat measures in the prediction of prenatal care utilization patterns, these results suggest that the hypothesized threats to esteem one experiences in the public assistance setting may not transfer into the arena of medical care. Perhaps any threat to esteem that is anticipated or evoked in the context of the prenatal care clinic is eclipsed by the general acceptance in our society that the acquisition of good medical care is a socially desirable activity during pregnancy. Consequently, the impact of the Esteem-Threat construct is diminished in this setting.

However, given the complexity of the behavior under study, further study would be required in order to make more definitive comments regarding the utility of this construct
for predicting utilization patterns of prenatal care in the public assistance setting. In particular, the generalizability of our results to a population of pregnant adolescents is questionable. The literature suggests that this population is at particularly high risk for receipt of inadequate prenatal care. Given the developmental agenda of the adolescent, it is feasible that this population may be particularly susceptible to evaluation apprehension (fear of negative evaluation) and to the processes of psychological reactance (threats to autonomy) presented by entry into the public assistance prenatal care setting.

Future Directions

Given the limitations discussed above, it is clear that a primary task for future research in this area is to improve upon the psychometric properties of the Autonomy and Reactance measures (especially the internal consistency as measured by Cronbach's Alpha) and refinement of the other Esteem-Threat measures designed for this study.

Second, further study is needed to replicate the findings regarding the relation of our Esteem-Threat factors and patient satisfaction. Additionally, it may be useful to determine the relation of our esteem-threat factors with other variables which may impact prenatal care utilization patterns. For example, it is possible that a "third
variable", related to both esteem-threat and fear of negative evaluation, may be operating to mediate the perception of care received. For example, patients with greater anxiety may report lower levels of satisfaction (or vice-versa). However, the relation between anxiety and esteem-threat remains to be determined. In this case, it would be interesting to investigate (1) the extent to which anxiety is operative in this context and (2) the relation between anxiety and our esteem-threat measures. It is possible that our esteem-threat construct provides a more fine-grained analysis of patients' anxiety related to obtaining prenatal care. Alternatively, the value of the Esteem-Threat variables as they interact with other perceived barriers to care cited in the literature (e.g., lack of transportation, geographic isolation, long waiting periods) remains to be determined. It is possible that women who perceive greater numbers of other barriers to care and who also perceive that receiving prenatal care in the public assistance setting would threaten esteem, may be less likely to seek timely and adequate care than women whose perception of barriers to care do not include a threat to esteem.
The lack of linear relation between self-esteem and help-seeking behaviors in the prenatal care context is surprising. Future studies might also seek to replicate this finding.

Third, previous research has demonstrated clear preferences for help-seeking within the informal network; among family, friends and other more casual daily contacts. However, this preference does not necessarily translate into non-use of formalized helping services. Most individuals rely on both formal and informal sources for help. Because persons usually begin their search for help within the informal network, it may be important to examine those characteristics of the informal network which facilitate or inhibit timely initiation of prenatal care in the formal delivery system. Specifically, an examination of the levels of anticipated threat and support in the social environment of the informal network would be of particular relevance.

The question of respective roles that the informal and formal networks play in the mother's perception/anticipation of Esteem-Threat also remains to be explored. Does the prospect of Esteem-Threat in the informal network inform the decision whether or not to seek timely and adequate prenatal care (i.e., if a person fears negative evaluation, from whom do the fear it? Peers, clinic personnel, or both?)
An investigation of the perception of esteem-threat among recipients of other service delivery programs which are successfully reaching targeted populations would also be of value. Pursuing this line of inquiry, Coates (1990) recently reported some success in Black and Hispanic populations with seeking out and convincing fathers (versus mothers) of the necessity for timely prenatal care. This suggests that researchers may need to identify and incorporate certain elements of the power structure of the informal network (e.g., machismo) and ascertain the meaning of prenatal services within these existing structures.

Further research is also needed to determine the relative importance of structural, person and process (e.g. protocols for the helping process) variables in generating self-supportive or non-supportive information and subsequent recipient reactions to aid and the extent to which this self relevant information impacts upon health care utilization patterns.

Finally, women who avoid prenatal care services may also be likely to avoid postnatal services. Consequently, women who are at-risk for poor pregnancy outcomes are also likely to be at greater risk for poor parenting. Research
pertaining to the role of esteem-threat (self-relevant information) in facilitating or inhibiting postnatal support services would also be of value.
References


Table 1.  

Subject Characteristics  

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Mean 10.586
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<td>22-25</td>
<td>39</td>
<td>30.4</td>
<td>78.8</td>
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<tr>
<td>26-29</td>
<td>15</td>
<td>11.6</td>
<td>90.4</td>
</tr>
<tr>
<td>30-33</td>
<td>10</td>
<td>8.8</td>
<td>99.2</td>
</tr>
<tr>
<td>&gt; 33</td>
<td>1</td>
<td>.8</td>
<td>100.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>127</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean 22.5 
Std Dev 4.458 

(Table Continued)
Table 1.

**MARITAL STATUS**

<table>
<thead>
<tr>
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<th>Value</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cum Percent</th>
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<td>Never Married</td>
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<td>56.9</td>
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<td>48</td>
<td>37.6</td>
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<td>2</td>
<td>1.6</td>
<td>96.1</td>
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<td>Divorced</td>
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<td>3</td>
<td>2.3</td>
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<td>Cohabitation</td>
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<td>1.6</td>
<td>100.0</td>
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<tr>
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<td>100.0</td>
<td></td>
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</tbody>
</table>

**RACE**

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<th>Percent</th>
<th>Cum Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Non-Hispanic</td>
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<td>74.6</td>
<td>74.6</td>
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<td>African American</td>
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<td>25.4</td>
<td>100.0</td>
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<tr>
<td><strong>TOTAL</strong></td>
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<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
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</table>
Table 2.
Means, Standard Deviations and Ranges of Esteem-Threat Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>Reactance</td>
<td>31.4</td>
<td>11.3</td>
<td>28</td>
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<td>28.4</td>
<td>8.9</td>
<td>40</td>
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<td>FNE</td>
<td>28.3</td>
<td>6.8</td>
<td>38</td>
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<tr>
<td>Impact/Esteem Enhancement</td>
<td>53.3</td>
<td>11.3</td>
<td>73</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>50.7</td>
<td>16.3</td>
<td>68</td>
</tr>
<tr>
<td>Self Esteem</td>
<td>18.9</td>
<td>5.2</td>
<td>28</td>
</tr>
</tbody>
</table>
Table 3.
Correlations Between Individual Measures of Esteem Threat

<table>
<thead>
<tr>
<th></th>
<th>Reactance</th>
<th>Autonomy</th>
<th>FNE</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactance</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autonomy</td>
<td>.52**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FNE</td>
<td>-.06</td>
<td>-.08</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Relevance</td>
<td>.17</td>
<td>.31**</td>
<td>-.19</td>
<td>1.00</td>
</tr>
<tr>
<td>Impact</td>
<td>.27**</td>
<td>.33**</td>
<td>.03</td>
<td>.72**</td>
</tr>
<tr>
<td>Gratification</td>
<td>.25*</td>
<td>.35**</td>
<td>.12</td>
<td>.66**</td>
</tr>
<tr>
<td>R-G Total</td>
<td>.27*</td>
<td>.37**</td>
<td>.05</td>
<td>.34**</td>
</tr>
<tr>
<td>Rosenberg</td>
<td>-.01</td>
<td>.07</td>
<td>-.00</td>
<td>-.03</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Impact</th>
<th>Gratification</th>
<th>R-G Scale</th>
<th>Rosenberg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gratification</td>
<td>.74**</td>
<td>1.00</td>
<td></td>
<td></td>
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<tr>
<td>R-G Total</td>
<td>.30**</td>
<td>.93**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Rosenberg</td>
<td>-.04</td>
<td>-.09</td>
<td>-.07</td>
<td>1.00</td>
</tr>
</tbody>
</table>

N = 126
* p < .01
** p < .001
+ = included in factor analysis
Table 4.

**Principal Component Analysis**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Percent of Variance</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.79025</td>
<td>35.8</td>
<td>35.8</td>
</tr>
<tr>
<td>2</td>
<td>1.07321</td>
<td>21.5</td>
<td>57.3</td>
</tr>
<tr>
<td>3</td>
<td>1.00928</td>
<td>20.2</td>
<td>77.5</td>
</tr>
<tr>
<td>4</td>
<td>.67465</td>
<td>13.5</td>
<td>90.9</td>
</tr>
<tr>
<td>5</td>
<td>.45261</td>
<td>9.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Final Estimates of Communality**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Communality</th>
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</thead>
<tbody>
<tr>
<td>Reactance</td>
<td>.65301</td>
</tr>
<tr>
<td>Autonomy</td>
<td>.73584</td>
</tr>
<tr>
<td>Fear of Negative Evaluation</td>
<td>.90763</td>
</tr>
<tr>
<td>Perceived Impact and Esteem</td>
<td>.61104</td>
</tr>
<tr>
<td>Enhancement</td>
<td></td>
</tr>
<tr>
<td>Rosenberg</td>
<td>.96522</td>
</tr>
</tbody>
</table>
Table 5.

**Varimax Rotation Pattern Matrix**

<table>
<thead>
<tr>
<th></th>
<th>FACTOR1</th>
<th>FACTOR2</th>
<th>FACTOR3</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTONOMY</td>
<td>.84511</td>
<td>-.08828</td>
<td>.11763</td>
</tr>
<tr>
<td>REACTANCE</td>
<td>.79827</td>
<td>-.12494</td>
<td>.01300</td>
</tr>
<tr>
<td>IMPACT/ESTEEM</td>
<td>.65853</td>
<td>.36058</td>
<td>-.21762</td>
</tr>
<tr>
<td>F.N.E.</td>
<td>-.06604</td>
<td>.94960</td>
<td>.03919</td>
</tr>
<tr>
<td>ROSENBERG</td>
<td>.01711</td>
<td>.02522</td>
<td>.98198</td>
</tr>
</tbody>
</table>
Table 6.

**Oblique Rotation Pattern Matrix**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>.85026</td>
<td>-.09140</td>
<td>.12830</td>
</tr>
<tr>
<td>Reactance</td>
<td>.80075</td>
<td>-.13402</td>
<td>.02050</td>
</tr>
<tr>
<td>Impact/Esteem</td>
<td>.64874</td>
<td>.34125</td>
<td>-.19017</td>
</tr>
<tr>
<td>F.N.E</td>
<td>-.07562</td>
<td>.94566</td>
<td>-.01651</td>
</tr>
<tr>
<td>Rosenberg</td>
<td>.04536</td>
<td>.08472</td>
<td>.98914</td>
</tr>
</tbody>
</table>
Table 7.

Means and (Standard Deviations) for 6 Groups Defined by Trimester of Entry and Level of Appointment Keeping on 3 Socio-demographic Variables.

| VARIABLE | 
| --- | --- | --- | --- | --- |
| | Appointments Kept | \( n \) | **AGE** | **CHILDREN** | **LAST GRADE** |
| Trimester 1 | Low | 5 | 23.20 (5.81) | 9.40 (0.55) | 10.60 (1.14) |
| | High | 18 | 23.56 (3.55) | 0.89 (0.63) | 9.61 (1.24) |
| Trimester 2 | Low | 19 | 23.37 (4.80) | 1.05 (0.97) | 10.63 (2.06) |
| | High | 56 | 22.33 (4.37) | 0.62 (0.90) | 10.91 (1.65) |
| Trimester 3 | Low | 7 | 23.43 (5.13) | 1.57 (1.13) | 10.00 (1.41) |
| | High | 11 | 19.91 (1.51) | 0.75 (0.92) | 10.56 (1.69) |
Table 8.

Means and (Standard Deviations) for 6 Groups Defined by Trimester of Entry and Level of Appointment Keeping on 3 Esteem-Threat Factors

<table>
<thead>
<tr>
<th>Appointments Kept</th>
<th>Factor 1 (n)</th>
<th>Factor 2 (SD)</th>
<th>Factor 3 (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimester 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>5</td>
<td>-.36 (1.04)</td>
<td>.31 (0.18)</td>
</tr>
<tr>
<td>High</td>
<td>18</td>
<td>-.19 (1.05)</td>
<td>-.08 (0.74)</td>
</tr>
<tr>
<td>Trimester 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>19</td>
<td>.07 (1.02)</td>
<td>.07 (0.71)</td>
</tr>
<tr>
<td>High</td>
<td>56</td>
<td>-.01 (0.95)</td>
<td>.91 (1.23)</td>
</tr>
<tr>
<td>Trimester 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>7</td>
<td>-.30 (1.52)</td>
<td>.20 (0.96)</td>
</tr>
<tr>
<td>High</td>
<td>11</td>
<td>.50 (0.70)</td>
<td>.29 (0.75)</td>
</tr>
</tbody>
</table>
Table 9.

**Discriminent Function: Trimester of Entry**

<table>
<thead>
<tr>
<th>VARIABLE ENTERED</th>
<th>F</th>
<th>DF</th>
<th>p</th>
<th>WILKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAST GRADE COMPLETED</td>
<td>3.14</td>
<td>2,118</td>
<td>0.047</td>
<td>0.94950</td>
</tr>
<tr>
<td>Factor 1 Esteem-Threat</td>
<td>2.36</td>
<td>4,234</td>
<td>0.054</td>
<td>0.92405</td>
</tr>
<tr>
<td>Factor 3 Self-Esteem</td>
<td>2.04</td>
<td>6,232</td>
<td>0.062</td>
<td>0.90244</td>
</tr>
<tr>
<td>Marital Status</td>
<td>1.87</td>
<td>8,230</td>
<td>0.067</td>
<td>0.88164</td>
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</table>
Table 10.

Classification Table: Trimester of Entry

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>n</th>
<th>Predicted Group</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>25</td>
<td>4</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>16.0%</td>
<td>84.0%</td>
<td>.0%</td>
<td></td>
</tr>
<tr>
<td>Group 2</td>
<td>78</td>
<td>1</td>
<td>75</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>1.3%</td>
<td>96.2%</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>Group 3</td>
<td>18</td>
<td>2</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>11.1%</td>
<td>88.9%</td>
<td>.0%</td>
<td></td>
</tr>
<tr>
<td>Ungrouped Cases</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>20.0%</td>
<td>80.0%</td>
<td>.0%</td>
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</tbody>
</table>

Percent of "grouped" cases correctly classified: 65.29%
Table 11.

Discriminant Function: Level of Involvement

<table>
<thead>
<tr>
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<th>( \lambda )</th>
<th>DF</th>
<th>( p )</th>
<th>WILKS</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1,119</td>
<td>.1032</td>
<td>.97784</td>
</tr>
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<td>NUMBER OF CHILDREN</td>
<td>1.96</td>
<td>2,118</td>
<td>.1450</td>
<td>.96781</td>
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</table>
Table 12.

**Classification Table: Level of Appointment Keeping**

<table>
<thead>
<tr>
<th>Actual Group</th>
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<th>Predicted Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Group 1</td>
<td>32</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td>Group 2</td>
<td>91</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>98.9%</td>
</tr>
<tr>
<td>Ungrouped Cases</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Percent of "grouped" cases correctly classified: 73.17%
Table 13.

Regression Table: Trimester of Entry

<table>
<thead>
<tr>
<th>Step</th>
<th>R²</th>
<th>Adj. R²</th>
<th>DF</th>
<th>F</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Demographics</td>
<td>.22</td>
<td>.18</td>
<td>5,120</td>
<td>6.58</td>
<td>.0001</td>
</tr>
<tr>
<td>Factor 1</td>
<td>.22</td>
<td>.18</td>
<td>6,119</td>
<td>5.48</td>
<td>.0001</td>
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<tr>
<td>Factor 2</td>
<td>.22</td>
<td>.17</td>
<td>7,118</td>
<td>4.77</td>
<td>.0001</td>
</tr>
<tr>
<td>Factor 3</td>
<td>.22</td>
<td>.17</td>
<td>8,117</td>
<td>4.21</td>
<td>.0002</td>
</tr>
</tbody>
</table>

Variables in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status</td>
<td>-.03</td>
<td>.07</td>
<td>-.03</td>
<td>-.375</td>
<td>.71</td>
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<td>Age</td>
<td>9.76-03</td>
<td>.03</td>
<td>.03</td>
<td>.313</td>
<td>.75</td>
</tr>
<tr>
<td>Grade</td>
<td>-8.51-03</td>
<td>.03</td>
<td>-.59</td>
<td>-.11</td>
<td>.91</td>
</tr>
<tr>
<td>Children</td>
<td>.18</td>
<td>.15</td>
<td>.14</td>
<td>1.20</td>
<td>.23</td>
</tr>
<tr>
<td>Race</td>
<td>.52</td>
<td>.20</td>
<td>.37</td>
<td>3.10</td>
<td>.002</td>
</tr>
<tr>
<td>Factor 1</td>
<td>-.06</td>
<td>.13</td>
<td>-.04</td>
<td>-.50</td>
<td>.62</td>
</tr>
<tr>
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<td>.13</td>
<td>-.07</td>
<td>-.82</td>
<td>.41</td>
</tr>
<tr>
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<td>.13</td>
<td>-.08</td>
<td>-.68</td>
<td>.50</td>
</tr>
<tr>
<td>Constant</td>
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<td>1.07</td>
<td></td>
<td>1.68</td>
<td>.10</td>
</tr>
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</table>
Table 14.

Regression Table: Gestational Age at Entry

<table>
<thead>
<tr>
<th>Step</th>
<th>R²</th>
<th>Adj. R²</th>
<th>DF</th>
<th>F</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Demographics</td>
<td>.08</td>
<td>.04</td>
<td>5,120</td>
<td>2.01</td>
<td>.08</td>
</tr>
<tr>
<td>Factor 1</td>
<td>.09</td>
<td>.04</td>
<td>6,119</td>
<td>1.92</td>
<td>.08</td>
</tr>
<tr>
<td>Factor 2</td>
<td>.10</td>
<td>.04</td>
<td>7,118</td>
<td>1.78</td>
<td>.09</td>
</tr>
<tr>
<td>Factor 3</td>
<td>.11</td>
<td>.05</td>
<td>8,117</td>
<td>1.75</td>
<td>.09</td>
</tr>
</tbody>
</table>

Variables in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status</td>
<td>-.04</td>
<td>.36</td>
<td>9.41-03</td>
<td>-.03</td>
<td>.92</td>
</tr>
<tr>
<td>Age</td>
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<td>.15</td>
<td>-.23</td>
<td>-2.31</td>
<td>.02</td>
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Table 15.

**Regression Table: Number of Appointments Kept**

<table>
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<tr>
<th>Step</th>
<th>R²</th>
<th>Adj. R²</th>
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<tr>
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<td>.07</td>
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**Variables in the Equation**

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<th>Beta</th>
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Table 16.

Regression Table: MISS (Total Score)

<table>
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<th>Step</th>
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<th>Adj. $R^2$</th>
<th>DF</th>
<th>$P$ Value</th>
<th>Sig. of $F$</th>
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<td>.07</td>
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<td>.04</td>
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<td>Age</td>
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<td>5.55</td>
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Variables in the Equation

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<th>SE B</th>
<th>Beta</th>
<th>t</th>
<th>Sig</th>
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<tbody>
<tr>
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Table 17.

**Regression Table: MISS (Affective Subscale)**

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<th>DF</th>
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<tbody>
<tr>
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**Variables in the Equation**

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Table 18.

*Regression Table: MISS (Behavior Subscale)*

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<th>DF</th>
<th>P Value</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.10</td>
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<td>.01</td>
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*Variables in the Equation*

<table>
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<th>Beta</th>
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</thead>
<tbody>
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<tr>
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</table>
Table 19.  
Means, Standard Deviations and Ranges of Follow-up and (non-Follow-up) Samples on Measures of Esteem-Threat

<table>
<thead>
<tr>
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<th>Mean</th>
<th>Std.Dev.</th>
<th>Range</th>
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<tr>
<td>Reactance</td>
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<td>11.5 (11.3)</td>
<td>24 (25)</td>
</tr>
<tr>
<td>Autonomy</td>
<td>29.6 (28.4)</td>
<td>11.1 (9.2)</td>
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<tr>
<td>FNE</td>
<td>27.7 (25.5)</td>
<td>7.2 (6.9)</td>
<td>41 (38)</td>
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<tr>
<td>Impact/Esteem</td>
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<td>10.7 (11.5)</td>
<td>68 (73)</td>
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<tr>
<td>Enhancement</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Self-Esteem</td>
<td>18.1 (18.8)</td>
<td>5.6 (5.0)</td>
<td>24 (28)</td>
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n = 47  
(n) = 79
Table 20.

Means, Standard Deviations and Ranges on Follow-up and
(non-Follow-up) Samples on Socio-Demographic Variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
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<th>Range</th>
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<td>Gravida</td>
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<td>2.0 (1.5)</td>
<td>4 (7)</td>
</tr>
<tr>
<td>Education Level</td>
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<td>1.2 (1.9)</td>
<td>5 (9)</td>
</tr>
<tr>
<td>Number of Children</td>
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<td>3 (5)</td>
</tr>
<tr>
<td>Age</td>
<td>21.7 (22.5)</td>
<td>4.9 (4.4)</td>
<td>12 (23)</td>
</tr>
</tbody>
</table>

n = 47  
(n) = 79
APPENDIX A

Letter of Informed Consent

WHAT IS THIS SURVEY ABOUT?
This survey is being conducted by Christopher M. Boyd, M.S. Our survey will ask you questions about what you expect your experience to be like as a pregnant woman receiving prenatal care at this clinic. Individual questions are designed to help us understand how you personally feel about this experience and how your attitudes may relate to your participation in prenatal care.

HOW LONG WILL THIS TAKE?
The entire survey should take about 20 to 30 minutes to complete. The person who gave you this sheet will be available to answer any questions during the time it takes to complete the survey. In about 3 to 5 clinic visits from now, you will be asked to fill out a shorter follow-up survey (about 10 minutes). This will complete your participation in the study.

WHAT IS GOING TO HAPPEN TO THIS INFORMATION?
Though the administrators of this clinic have approved this survey for distribution in this clinic, no one connected with the clinic will ever see your responses to these questions. Strict confidentiality will be maintained. We hope this will make it easier to be as honest as you can without worrying who will see this information.

WHY ARE WE ASKING YOU TO COMPLETE THIS SURVEY?
If you decide to complete our survey, your responses could help us understand how pregnant women feel about their prenatal care. This information may be used to design prenatal care programs which are more satisfying to the expectant mother.
You may discontinue your participation at any time without penalty.

This survey research has been approved by the Human Subjects Research Committee and the Institutional Review Board at Virginia Tech. Any questions about this project should be directed to Christopher M. Boyd, M.S. or Jack W. Finney, Ph.D. at (703) 231-6581. Additional questions may be directed to Helen J. Crawford, Ph.D., Chair, Human Subjects Committee or Ernest Stout, Ph.D., Chair, Institutional Review Board (703) 231-5281.
I HEREBY AGREE TO VOLUNTARILY PARTICIPATE IN THIS PROJECT DESCRIBED ABOVE AND UNDER THE CONDITIONS DESCRIBED ABOVE.

__________________________  ______________________________
(your name here)            Christopher M. Boyd, M.S.
                              Research Survey Coordinator
Dear Ms.____________

By the time you receive this letter, you have probably had several prenatal care visits at the Roanoke Memorial Hospital OBGYN clinic. Some of you have already had your babies. Congratulations! As I explained earlier, I would be sending all participants a brief, 20-item follow-up survey to find out how satisfied you've been with the care you've received at the clinic. I appreciate your doing me this favor by completing the survey and returning it to me immediately in the mail.

I would just like to remind you that it is very important to respond to all 20 statements. Just place the number (1 - 5) which most closely matches your response, in the blank beside each statement. Then place the completed survey and the signed Letter of Informed Consent (the two pages stapled together) in the enclosed, self-addressed, stamped envelope and drop it in the mail.

Please check for expiration dates on your coupons! I wish you all the best with your new babies!

Sincerely,

Christopher M. Boyd
*Please sign and return with enclosed survey. Thank you!

**Letter of Informed Consent**

I understand that the information I am providing by filling out this survey will complete my participation in this study.

I also understand that my responses to the questions in this survey will be kept strictly confidential and that none of this information will be seen by the physicians, nurses, support staff or administrators of the clinic.

This survey research has been approved by the Human Subjects Research Committee and the Institutional Review Board at Virginia Tech. Any questions about this project should be directed to Christopher M. Boyd, M.S. or Jack W. Finney, Ph.D. at (703) 231-6581. Additional questions may be directed to Helen J. Crawford, Ph.D., Chair, Human Subjects Committee at (703) 231-6581 or Ernest Stout, Ph.D., Chair, Institutional Review Board (703) 231-5281.

Thank you for your help and participation in this study.

I HEREBY AGREE TO VOLUNTARILY CONCLUDE MY PARTICIPATION IN THIS PROJECT AS DESCRIBED ABOVE AND UNDER THE CONDITIONS DESCRIBED ABOVE.

_________ (your name here) ________

Christopher M. Boyd, M.S.
Survey Coordinator
APPENDIX C

Table 4. Postcard Follow-up Mailing

Last week I sent you a 20-item satisfaction survey in the mail. When you complete this and return it in the self-addressed, stamped envelope provided, your participation in the prenatal care survey will be complete. At the date of this mailing, I have not received your survey back in the mail. If you have not completed it and returned it, please do so as soon as possible. If you have lost or misplaced it, please call Cindy Kozoil at (703) 231-8148. I value what you have to say about your prenatal care experience. Thanks again for your help.

Sincerely,

Christopher M. Boyd,
Survey Coordinator
APPENDIX D

PRENATAL HEALTH CARE SURVEY

Subject

#_________
Visit #_________
Date___/___/___

*(Information for items 1-8 can be obtained from record review.)*

1. Age_________  2. Number of children_________

3. Race
   _____Caucasian  _____Hispanic
   _____African-American  _____Other
   _____Asian

4. Marital Status
   _____never married  _____divorced
   _____married  _____widowed
   _____separated  _____living together

5. Last grade completed in school
   (College includes technical and vocational school)
   _____8th or below  _____1 yr. college
   _____9th  _____2 yrs. college
   _____10th  _____3 yrs. college
   _____11th  _____4 yrs. college
   _____12th/GED/HS Diploma  _____5 or more years

6. Main source of payment for prenatal health care
   _____Health insurance - employer paid
   _____Unable to Pay
   _____Health insurance - self-paid  _____Other
   _____Medicaid
   _____Personal or family income/savings/loan
   _____Free or low-cost Public Clinic

7. Number of weeks or months pregnant when patient received first prenatal care visit?
   _____weeks  _____ months  _____ don’t know

8. Date of first prenatal health care appointment
   _____/_____/_____
   month day year
APPENDIX E

*DOMAIN SPECIFIC R SCALE

*Please answer all questions as they relate to your pregnancy and/or your experience with prenatal care at this clinic.

1 = Strongly Agree
2 = Agree
3 = Neutral
4 = Disagree
5 = Strongly Disagree

_____1. I would be more likely to agree to do something when the doctors/nurses ask me rather than tell me to do it.

_____2. I usually don't like it when doctors/nurses try to give me unwanted advice.

_____3. It is not very important for me to decide for myself how I should eat, drink and exercise during my pregnancy.

_____4. I would not make changes in my life simply because people in the clinic expect me to.

_____5. I would like it if someone in the clinic told me how to live during my pregnancy.

_____6. I tend to want to do just the opposite when doctors/nurses give me unwanted advice.

_____7. It is not important for me to make my own choices about what (and how much) to eat, drink and do during my pregnancy.

_____8. I would not resist the attempts of the clinic staff to make me see or do things their way.

_____9. If someone at the clinic tried to force me to do something, I might say to myself: "Now that is exactly what I don't want to do."

_____10. I would like it if someone at the clinic just told me what I should or should not do during my pregnancy.
*Please answer all questions as they relate to your pregnancy and/or your experience with prenatal care at this clinic.

Please answer the following questions as either TRUE (T) or FALSE (F). It is important that you answer all questions.

_____11. During my pregnancy, I think I will be better off with the advice of others.

_____12. People who try to regulate my conduct with rules bother me.

_____13. I respect rules because they guide me.

_____14. I would be taking a risk with the health of my baby if I didn't come to the clinic regularly during my pregnancy.

_____15. I want to do whatever the clinic tells me is right.

_____16. I would prefer not having to answer to anyone.

_____17. I would usually try to share my personal problems with someone at the clinic who could help me.

_____18. I will make my own decisions independent of the opinions of others.

_____19. Good prenatal care means following all the rules and regulations of the clinic.

_____20. I would rather make my own decisions about how to care for myself during pregnancy than take advice from others.

_____21. Family obligations make me feel important.

_____22. I would feel lost and lonely if I didn't have good medical care during my pregnancy.

_____23. I am not dependent on the opinions of others.

_____24. I need the support and advice of others.
*Please answer all questions as they relate to your pregnancy and/or your experience with prenatal care at this clinic.

1 = Not at all like me
2 = Slightly me
3 = Moderately like me
4 = Much like me
5 = Very Much like me

25. I wouldn't care even if I think the clinic staff are forming a negative view of me.

26. I am sometimes afraid that providers at the clinic will notice my faults and shortcomings.

27. Sometimes I am afraid that the people at the clinic will not approve of my life-style (for example, my eating & drinking habits and my activities).

28. I think that people at the clinic will find fault with me.

29. The doctors' and nurses' opinions of me don't bother me.

30. I think that when I talk to the doctors and nurses, I might worry about what they think about me.

31. It wouldn't bother me if I knew the clinic were judging me.

32. When talking to the doctor/nurse, I can imagine myself worrying that I will say or do the wrong things.

33. I wouldn't bother me if I didn't please the doctors/nurses at the clinic.

34. I would become tense and jittery if I knew I was being judged by the clinic staff.
DOMAIN SPECIFIC R-G Scale

Using the scale from one to five described below, please indicate on the line at the left of each item the number that comes closest to how you feel.

*Please answer all questions as they relate to your pregnancy and/or your experience with prenatal care at this clinic.

1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

____35. I expect the doctors/nurses will take my problems and concerns very seriously.

____36. The doctors/nurses here could never understand anyone like me.

____37. Overall I expect the clinic will be very helpful to me.

____38. If a friend of mine had similar problems, I would tell them to go to this clinic.

____39. I expect I could always count on the doctor/nurse to help me if I were in trouble.

____40. I don't think the clinic can really help me.

____41. The doctors/nurses will probably try hard but won't be too helpful.

____42. Getting health care during my pregnancy is very important to me.

____43. I expect things will get better since I've come to the clinic.

____44. I think that coming to the clinic might mess my life up more than ever.
1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

45. I think the clinic doctors/nurses will always be available when I need them.
46. I expect to get from the clinic exactly what I want.
47. All the doctor's/nurse's advice won't really do anything for me.
48. I could imagine myself just telling the doctors/nurses what I think they want to hear.
49. I expect that the doctors/nurses will usually be in a hurry when I see them.
50. No one should have any trouble getting some help from this clinic.
51. Doctors/nurses sometimes says things I don't understand.
52. Doctors/nurses are always explaining things carefully.
53. I looked forward to my clinic visit today.
54. I hope I'll never have to go back to the clinic for help.
55. I feel relieved every time I talk to the doctors/nurses here.
56. I think I could tell the doctor/nurse here the truth without worrying.
57. I think I'll be nervous when I talk to the doctors/nurses here.
58. I think the doctors/nurses here may look for lies in what I tell them.
1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

59. When I enter the clinic, I feel very small and insignificant.

60. I expect the clinic staff to be very demanding.

61. Sometimes I think the doctors/nurses here might lie to me.

62. Generally, I think the doctors/nurses here want what is best for me.

63. I have the feeling that the doctors/nurses might talk to other people about me.

64. I expect I will feel well treated when I leave the clinic.
Rosenberg Scale

1 = Strongly Disagree
2 = Disagree
3 = Agree
4 = Strongly Agree

1.____ I feel that I'm a person of worth, at least on an equal plane with others.
2.____ On the whole, I am satisfied with myself.
3.____ I wish I could have more respect for myself.
4.____ I certainly feel useless at times.
5.____ At times I think I am no good at all.
6.____ I feel that I have a number of good qualities.
7.____ All in all, I am inclined to feel that I am a failure.
8.____ I am able to do things as well as most other people.
9.____ I feel that I do not have much to be proud of.
10.____ I take a positive attitude toward myself.
Domain Specific MISS

Please answer the following questions in a way that describes how you feel about your last several prenatal clinic visits.

1 = Strongly Agree
2 = Agree
3 = Uncertain
4 = Disagree
5 = Strongly Disagree

1.____ The doctors/nurses talked to me language that I could understand.

2.____ After talking to the doctor, I have a good idea of what changes to expect in my health over the course of my pregnancy.

3.____ The doctors/nurses told me all that I wanted to know about my pregnancy.

4.____ The doctors/nurses are very good at explaining the reasons for medical tests and procedures.

5.____ The doctors/nurses told me how being pregnant will affect my ability to work.

6.____ The doctors/nurses have relieved my worries about being pregnant.

7.____ The doctors/nurses talked to me about taking medicines during my pregnancy.

8.____ I feel I understand the doctor's plan for helping me.

9.____ The doctors/nurses gave me a chance to say what was on my mind.

10.____ I really felt understood by my doctor.

11.____ After talking to the doctors/nurses, I felt much better about my problems.

12.____ I felt free to talk to my doctor about private thoughts.
1 = Strongly Agree
2 = Agree
3 = Uncertain
4 = Disagree
5 = Strongly Disagree

13. ___ I felt my doctors accepted me as a person.

14. ___ I felt my doctors didn't take my problems very seriously.

15. ___ The doctors/nurses were not very friendly to me.

16. ___ The doctors gave me a complete checkup.

17. ___ The doctors were too rough when they examined me.

18. ___ The doctors looked into all the problems I mentioned.

19. ___ I feel the doctors did not spend enough time with me.

20. ___ The doctors seemed rushed during their examination of me.
Three major studies have examined the effect of unequal covariance matrices on error rates. Holloway and Dunn (1967) considered both equal and unequal group size and modeled moderate to extreme heterogeneity. Their results showed that an equal n size keeps the actual alpha very close to the nominal for all but extreme cases. Results showed that severely unequal group size can produce sizable distortions in Type I error rates even in cases of very mild heterogeneity (actual alpha = .117 versus nominal alpha = .05). Given that our n size across trimester of entry (1st trimester entry, n=23; 2nd trimester, n=75; 3rd trimester, n=18) and level of appointments kept vary sharply (> 50% of appointments kept, n=85; ≤ 50% of appointments kept), any violation of the homogeneity assumption could greatly effect our error rates, inflating the actual (versus nominal) alpha level. However, even if this were the case, the lack of significant results even more strongly suggests the lack of differences in mean scores between groups (main effects or interactions). On the other hand, Holloway and Dunn (1967) showed that even small heterogeneity results in a diminution of statistical power, even in cases where the group sizes
are equal. Consequently, it is difficult to determine if our lack of significant findings is more the result of diminished statistical power, a lack of differences among groups on Esteem-Threat scores, or both.

It is reasonable to expect that if the cell sizes were more equal, we would be able to interpret these data and draw conclusions with a greater degree of confidence.
APPENDIX G

Another issue concerns the restricted range characterizing certain demographic variables (Level of Education and Age). The lack of broader range on these variables in our final sample may help to explain why the socio-demographic variables did not perform better, either as a block, or when entered individually. Studies in which the subjects' educational level and/or age are shown to be significant predictors of prenatal care utilization behaviors, are typically based on samples in which these variables characterized by greater variances and distributions characterized by greater normality than observed in our final sample. Educational achievement often extends from pre-high school to college and beyond. The restricted range of educational level of women in our sample simply reflects the low numbers of women with college and graduate degrees receiving prenatal care in public assistance settings. Consequently, the likelihood of finding a linear relationship between this variable and criterion variables is diminished.

In the public health/socio-demographic literature, the ages of women studied often extend downward below age 18 (the cutoff in our sample), often into the early teens (12 or 13 years). The restricted age range in our sample is
partly the consequence of our decision not to include women below the age of 18 in our study. This decision was made early in the planning stages of the research in order to avoid problems associated with obtaining the parental permission of younger women necessary for participation in the study. A decision to include women less than 18 years old in our study may not have only increased the probability of finding significant linear relations with criterion variables, but also would have provided information about the role of anticipated/perceived esteem-threat in the decision of teens to seek timely and adequate care.

In spite of our lack of data on this group of younger women, our sample is still relatively young; 102 (79.7%) of which are 25 years old or younger. Only 26 (20.3%) of the women in our sample were older than 25.
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Honors: cum laude
Andover Newton Theological School, Newton Centre, Massachusetts

B.A. (1977) Dual major: Psychology/Sociology and Philosophy
Honors: summa cum laude
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Clinical Experience
1991-1992 September - August; Predoctoral Intern (Clinical Psychology), Brockton Veterans Administration Medical Center, and Clinical Fellow in Psychiatry, Harvard School of Medicine, Brockton Division VAMC, Brockton Massachusetts

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### Clinical Experience cont.

<table>
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<th>Year</th>
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<tr>
<td>1989-1990</td>
<td>Supervisor/Graduate Clinician, Psychological Services Center, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061</td>
</tr>
<tr>
<td>1988</td>
<td>May - August; Clinical Extern, Department of Psychiatry and Behavioral Sciences, The Medical University of South Carolina, Charleston, South Carolina 29425</td>
</tr>
<tr>
<td>1987-1990</td>
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<tr>
<td>1985-1987</td>
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### Theological Experience

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<td>1981-1984</td>
<td>Associate Minister, First Parish Church, Congregational, Dover, New Hampshire.</td>
</tr>
<tr>
<td>1979</td>
<td>June - August; Mental Health Chaplain, Clinical Pastoral Education (1 Unit ACPE) Hogan Regional Center, Danvers, Massachusetts.</td>
</tr>
</tbody>
</table>
1978
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Clinical Pastoral Education (ACPE) New Hampshire Hospital, Concord,
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Teaching Experience

1988-1991 Graduate Teaching Assistant,
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1987-1989 Graduate Teaching Assistant,
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Research

Masters Thesis (VPI&SU): The Behavioral Effects
of Nonnutritive Sucking on Infants of Differential
Fetal Growth

Doctoral Dissertation (VPI&SU): Patterns of
Delay and Non-use of Prenatal Care Services Among
Underclass Women: A Social Psychological Analysis

Publications

injury: A perspective on conceptualization and
intervention. Society of Pediatric Psychology,
Newsletter, 12, 14-18.

Professional Presentations

"Mental Health Issues with Infants, Toddlers, and their
Families". South Carolina Psychological

"The Behavioral Effects of Nonnutritive Sucking on
Infants of Differential Fetal Growth". The
Society for Research on Child Development (SRCD),
Seattle, WA, April, 1990.
Professional Affiliations

The American Psychological Association

References

Available upon request.

[Signature: Christopher M. Boyd]