THE INFLUENCE OF DOMESTIC VIOLENCE ON THE REPRODUCTIVE HEALTH OF WOMEN: A STUDY FROM INDIA

by

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Dedications

This work is dedicated to my parents, Mr. Ramesh K. Acharya and Mrs. Mamta Acharya. Thank you for your consistent love and support.

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Abstract

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The holistic understanding of concepts such as domestic violence, women's oppression, gender inequality and antenatal health seeking behavior continues to remain somewhat vague and intangible. The pressing need for effective interventions demand a better conceptualization the relationships among these issues.

Against the backdrop of domestic violence, this study focuses on the reproductive health seeking behaviors among pregnant women in India with the emphasis on various socioeconomic and ecological correlates. The data is utilized from the National Family Health Survey (NFHS) which was conducted in 2005-2006. Multiple regression analysis of some key concepts within the study partially support the proposed model, while other hypothesis remain negated.

Superior understanding of these concepts allows for a comprehensive description of the possible experiences and outcome of domestic violence among of oppressed and marginal populations including backward classes and pregnant women within India. Limitations and implications to social workers with these populations discussed.

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Chapter 1

Introduction

India is a diverse nation and has a unique social structure, religious orientation, economy and political experience. Even within India, a multitude of distinct communities with differences in regards to its geography, language and culture is seen ("UNDP", 2011). Many academic studies have been devoted in an attempt to understand these issues, yet many facets of these issues have remained elusive.

One such issue that has yet to be thoroughly explicated in the review of scholarly articles is the association between domestic violence and reproductive health among pregnant women in India. A thorough understanding of the influences and consequences of domestic violence can only be elucidated when viewed under the lens of cultural and traditional influences. This study will examine the influences of domestic violence in India on the reproductive health among pregnant women, while assessing for regional disparities and differences in ecological setting.

For the purpose of this study, reproductive health is conceptualized primarily in terms of health seeking behaviors including access to various resources among pregnant women.

Statement of the Problem and Significance of the Study

According to the United Nations Development Programme (UNDP), India is challenged with a poverty rate of 37.2% ("UNDP", 2011). Although, an overall poverty rate decline is reported for India in the past years, this decline is confronted by an increase in regional inequalities. Reports of consistently high per capital expenditure in the southern and eastern regions have been met with minimal poverty reduction in the northern and eastern states (Deaton & Dreze, 2002).

In addition to a high poverty rate and regional inequalities, India encounters a large gender gap in education level attainment. The census bureau report of 2012 indicates that the overall literacy rate totals to merely 64.8% among which the male literacy is 75.3% and women stand at 53.7% (“Educational level and age groups”, 2012). Hence, a significant number of women in India remain illiterate and a major gap in education levels between men and women at the national level are noted.

In India, education and knowledge remain important anchors of social development and overall growth. A gender gap in educational attainment may have far reaching negative implications in regards to social status and empowerment among women. High rates of poverty and illiteracy along with lack of awareness and knowledge among women expose them to domestic violence (Haq, 2013). It has been found that women's socio-economic and gender disadvantage subjects them to a plethora of negative health and social issues including malnutrition, early marriage and motherhood and domestic/sexual violence (Sarkar, 2008).

Indian women are socialized from a young age to believe that they are subordinate to men and taught to believe that daughters are merely a guest in their maternal home and they rightfully belong in their husband’s family (Fernandez, 1997). A clear message on gender specific roles along with the significance of marriage to a woman is placed at a young age, without much emphasis on the importance of education attainment. This in turn can have multiple deleterious outcomes leading to the marginalization among women causing them to be exposed to domestic violence (Haq, 2013; Sarkar, 2008).

To summarize, overall poverty and inequality, lack of a formal education/awareness and culture specific gender norms may place women at a subservient position in comparison to men in India, making them vulnerable to domestic

violence. The purpose of this study is to further investigate these influences along with other risk factors of domestic violence and its effect on reproductive health of women in India.

Although the topic of domestic violence has been extensively researched in the past, this issue has not been traditionally viewed in terms of reproductive health among the Indian population while accounting for regional variances along with socio-economic factors. This study gathered data concerning factors and indicators of reproductive health as such that reproductive health has been conceptualized as a composite variable consisting of numerous health seeking behaviors along with access to resources during pregnancy.

In India, abuse during pregnancy has been identified as a significant problem with major consequences for maternal reproductive health. The major physical health difference between an abused and a non-abused woman is their physical health difference - more specifically gynecological health difference (Stephenson, Koenig, & Ahmed, 2006). Women exposed to domestic violence are at elevated risks of many reproductive disorders, including chronic pelvic pain and sexually transmitted infections, including HIV (Campbell, 2002). Hence, a history of gynecologic problems may indicate that the patient may have been a victim of domestic violence.

This implicates that screening in healthcare settings could potentially serve as standard platform for the identification, assessment and intervention with the victims and perpetrators of domestic violence. However, this may not be an efficient means within the Indian population due to certain cultural barriers as outlined below.

Although domestic violence during pregnancy has been linked with deleterious health outcomes including low birth weight of the infant, miscarriage and pre-term birth, studies among Indian women indicate that there is a low association between domestic

violence during pregnancy and health seeking behaviors. It has been found that women are less likely to seek prenatal care, maternal immunizations and postnatal care (Campbell, Garcia-Moreno, & Sharps, 2004; Ahmed, Koenig, & Stephenson, 2006; Koski, Stephenson, & Koenig, 2011; Mahapatro, R.N. Gupta, V. Gupta, & Kundu, 2011). This suggests that screening for domestic violence at healthcare settings in India may not serve as a sufficient measure to identify abuse experienced by women during pregnancy. Instead, these studies highlight the significance of examining the health seeking behaviors among women in order to better identify domestic violence.

As outlined previously, this study assesses reproductive health in terms of antenatal health seeking behaviors and access to health resources among pregnant women in India. Hence, information disseminated from this study may better educate health professionals, social workers and policy makers by drawing attention to the actuality of the complex relationship of domestic violence and reproductive health among pregnant women in India.

Research Questions

It appears that various elements of the relationship between domestic violence and its repercussions on antenatal health seeking behavior along with access to health resources among pregnant women from different contexts encompassing differences in regional residency and socio-economic strata have remained unclear.

Is domestic violence an important factor in altering reproductive health seeking behavior among pregnant women in India?

How does domestic violence and socio-economic status impact antenatal health seeking behavior among pregnant women in India?

Does the place of residency influence domestic violence and antenatal health seeking behavior among the Indian population?

Chapter 2

Literature Review

The increase in the level and magnitude of domestic violence in India has led to the recognition of domestic violence as a public health issue (Babu & Kar, 2009). Domestic violence can take many forms and encompasses all types of violence from subtle violence that may go unrecognized to overt violence leading to serious injury or death. Intimate partner violence (IPV) is primarily characterized by acts of violence intended to control another person's behavior (Simmons, Lehmann, & Collier-Tenison, 2008). Domestic Violence can be defined as a criminal aggression which comprises of physical, sexual or psychological/emotional abuse.

A plethora of studies are available that concern violence against women in developed and developing countries. Uncovering these issues can be crucial in understanding and elevating women's health and empowerment. Although, many of these influences on domestic violence in developed and developing nations may overlap, there are certain context-specific risk factors of domestic violence that are distinctive to India which will be explored in detail in this section of the study.

Even with the multitude of studies undertaken, there continues to be a lack in understanding and awareness regarding the causes and implications of domestic violence. In developed nations, many believe that the causes of domestic violence are imbedded in the individual and family and very few studies have attributed domestic violence as a product of tradition and culture.

To explicate, in a study that recruited 124 masters level social work (MSW) students from an public university indicated that they sometimes lacked training in this subject matter as such that they blame victims by attributing domestic violence to mental health and substance abuse issues. In this study, most students failed to make the

appropriate interventions and recommended a general form of counseling while disregarding domestic violence specific counseling. Additionally, these students also sanctioned substance abuse treatment and conflict management treatment further indicating their predisposition to individual level factors as the primarily influence on domestic violence (Black, Weisz, & Bennett, 2010).

On the other hand, the influence of domestic violence in developed nations is well understood to be embedded in socio-cultural traditions. In developing nations domestic violence continues to be masked from public awareness due to various socio-cultural norms. It is also reported that women here are exposed to numerous types of violence but domestic violence continues to remain of utmost prevalence (Koenig, Stephenson, Ahmed, Jejeebhoy, & Campbell, 2006). Additionally, domestic violence rates during pregnancy among the developing nations are generally reported to have a higher overall prevalence rate when compared to developed nations (Campbell et al., 2004). This study will focus on domestic violence and reproductive health factors among the Indian population.

Domestic Violence during Pregnancy in India

In a review of the most pertinent journals after the year 2000, prevalence rates of domestic violence during pregnancy in India were found to be wide ranging which spans from about 13% to about 48% with significant differences across various settings (Muthal-Rathore et al., 2002; Peedicayil et al., 2004; Krishnan, 2005; Koski et al., 2011; Khosla, Dua, Devi & Sud, 2005; Ahmed et al., 2006; Chhabra, 2007). The study with the highest prevalence rate used a sample of women living in rural areas of India used semi-structured interviews where a majority of women were illiterate. On the other hand, the lowest prevalence rate was noted among a cross sectional household survey from

various locations in India including Bhopal, Chennai, Delhi, Lucknow, Nagpur, Trivandrum & Vellore.

Prevalence rate of Intimate Partner Violence not only fluctuate between various populations, rather a fluctuation is noted even between various studies when similar parameters of violence and populations are studied. To explicate, a few studies from India and are reviewed below.

In a study conducted to assess the prevalence of domestic violence, 168 pregnant women who lived in urban areas were interviewed from an urban Hospital postnatal ward in Delhi. About 24% of women reported abuse on a 3 question abuse assessment screen assessing for domestic violence (Muthal-Rathore et al., 2002). However, domestic violence during pregnancy was reported to be 47.6 percent in a study conducted by Chhabra (2007), which is significantly higher than the first study.

This difference may be attributed to various factors. In the study conducted by Chhabra (2007) a large sample size consisting of 2000 women was recruited from the rural area among which most women indicated lower levels of education. Additionally, a detailed semi-structured, open ended questionnaire was employed to identify domestic violence among this population, which may in turn have captured a higher rate of violence as compared to the first study.

A detailed review of these studies allows for some clarification in understanding the cause of the fluctuating domestic violence prevalence rates across various settings. It is evident that these studies vary in their design and asses varied characteristics and employ different methodologies. Hence, the prevalence rate for domestic violence across the various studies may be difficult to compare.

Although uncovering evidence for causation of intimate partner violence may not be feasible, the review of literature suggests that abuse is a product of the interplay

among personal, situational and sociocultural aspects, as explained in the next few sections of this study. Based on the current literature, only some degree of clarity can be achieved to understand and differentiate those at high risk for domestic violence during pregnancy. There are a few specific social and demographic characteristics that are associated with domestic violence during pregnancy in India and some of these indicators include – Rigid gender roles, Poverty and unemployment, alcohol use/aggression, belonging to 'backward' castes, lower levels of education, unplanned pregnancy, acceptance of physical chastisement etc. The most pertinent influences on domestic violence during pregnancy in India are discussed in the next few sections of this study.

The review of scholarly articles indicate that domestic violence during pregnancy in India is a product of various macro level variables including the broad culture and tradition, geographical and political differences along with micro level variables including demographical differences.

Caste System – 'Backward Castes'

Domestic violence patterns in India have a set of unique risk factors that sprout from cultural distinctiveness including belonging to a 'backward caste', traditional family structure and traditional gender roles.

The Hindu caste system marginalizes certain sub populations as the tribals (Scheduled Caste/Scheduled Tribes) and limits their access to resources from the mainstream society. This social exclusion has a negative ripple effect on various socio-economic aspects including reproductive health, educational attainment and healthcare (Ray, 2000).

These groups of people have historically suffered social discrimination and many individuals from these groups continue living in lower socio-economic strata and indicate

lower levels education (Ray, 2000). In order to counteract for this deprivation, the constitution of India confers certain rights for these groups as such that they are given preferential treatment in education and employment among other developmental opportunities.

Women belonging to these backward castes report significantly higher prevalence of domestic violence. It is also identified that women belonging to these groups also report higher level of overall violence suggesting that the association of elevated domestic violence among backward castes is apparent (Babu & Kar, 2009).

Gender Hierarchy, Gender Roles & Reproductive Health in India

The subjugation of women is evident on multitude of areas within the Indian society. The extensive preference for a male child over a female child is seen across the country as such that this has continually skewed the sex ratio in favor of the male population. As per the 1901 census, the ratio of females per 1,000 males was 972 and in 2001 the ratio of females per 1,000 males had further dropped to 933. Primary factors contributing to such the imbalance can be attributed to various factors including female infanticide and neglect of health and nutrition of female children (Varma, 2002).

The rationale for the not preferring a female child is embedded in the cultural traditions and belief that women bring upon financial burden to the birth family. The role of a woman is viewed within the bounds of her home. Her status is linked to a mother, daughter and a wife, without any expectations of her being capable of financially independence (Fernandez, 1997). Perhaps, due to this perceived lack of economic utility, parents in India view their daughters as a liability and a source of financial strain.

The traditional Indian family hierarchy implicates that women are bound by the authority of the men within the household. Additionally, the younger women work domestically under the direction of the older women of the house. Given that women after

marriage typically live with the husband and his parents in India, the young daughter-in-law is subjugated to the superior position held of the mother-in-law. This structure of family hierarchy and gender inequality predispose young women to domestic violence by additional members of the family than just the husband alone. Hence, domestic violence experienced by women in the North America where usually the male partner is the sole perpetrator may not be comparable to that experienced in India (Fernandez, 1997).

In India, tradition dictates that at the time of marriage the bride's family pays a customary gift in the form of wealth, goods or estate known as 'dowry' which is passed on to the groom's family. After the woman is married, her allegiance is transferred from her natal kin to the family she gets married in (Fernandez, 1997). The system of dowry has existed for a very long time and continues to plague the Indian society. A strong association between dowry and domestic violence has been reported (Jeyaseelan et al., 2007; Fernandez, 1997). Typically, family harassment and violence may begin when dowry demands made by the groom's family are unmet which consequently threatens the bride's marital life, health and wellbeing.

In India, despite the tremendous issue of domestic violence along with its negative impact on various socio-economic variables, interpersonal violence in India continues to be a "crime of silence" (Pillai, 2001). This issue remains relatively private in nature, primarily because of the notion and importance of the sacredness of the family. Reporting domestic violence is associated with feelings of negativity including dishonor and humiliation. Hence, women fail to report domestic violence in order to maintain the family integrity.

In India, cultural traditions engender socially accepted gender roles. Gender roles can be defined as the social behavior that is implicitly expected to be exhibited by men and women along with other personality characteristics (Pradhan & Ram, 2010). Women

of India are expected to submit to the patriarchal power structure that dictates that the woman is a homemaker and the husband is the wage earner of the family. Consequently, domestic violence may originate from a husband's desire to enforce preconceived gender roles. This type of asymmetric power structure could pose as a major determinant of Intimate Partner violence in India (Stephenson, Koenig, Acharya, & Roy, 2008).

Gender discrimination leads to women being systematically devalued which in turn contributes to a health disparity and reproductive mortality among women. Societal beliefs regarding appropriate gender specific roles imply that women remain disadvantaged with regards to healthcare. During pregnancy women are more likely to be malnourished, have a lower food intake and receive minimal antenatal care (Fikree & Pasha, 2004).

Contrary to the research from North America, Studies from India indicates that wage earning women are at a higher risk of domestic violence (Verma & Collumbien, 2003; Krishnan, 2005; Raj et al., 2011). Having greater economic autonomy via employment outside the home is viewed to be threatening to the male centered culture which exacerbates domestic violence. This is particularly noted in the context of socio-economic deprivation, where financial contribution made by the women is viewed as undermining the male authority and socially accepted gender roles.

Poverty

A synthesis of the literature suggests a strong positive association between poverty and domestic violence. Although IPV occurs across socio-economic strata, research suggests that low income families in India are particularly more vulnerable to violence as outlined below.

Men of lower socio-economic stratus have an increased risk of engaging in domestic violence and are bound to commit more severe violence than men that are

financially stable (Riggs, Caulfield, & Street, 2000). It is argued that poverty is inherently stressful and this stress may cause domestic violence. In poor households, men have fewer resources at their disposal to deal with stress and this is the root cause of domestic violence. Hence, belonging to a lower socio-economic status is associated with stress which in turn leads to domestic violence.

Pregnancy may be identified as a source of stress in the family as pregnancy is a time of transition in the family structure and may stimulate financial stress. This in turn may further make women more vulnerable to intimate partner abuse. In fact, some studies among the Indian population indicate that the onset of domestic violence is during pregnancy. In a study that interviewed women using the abuse assessment screen, a total of 23.80% urban women from New Delhi, India identified pregnancy as the origin of domestic violence (Muthal-Rathore et al., 2002). These results were corroborated by other studies that indicated a substantial number of women facing violence during pregnancy in India (Koski et al., 2011; Peedicayil et al., 2004; Chhabra, 2007).

Other studies argue that Indian women from low socio-economic strata that have experienced violence in the past are seen to have expounded negative reproductive health outcomes when compared to women who belong to a higher socio economic group but have experienced violence (Kishor & Johnson, 2006). Research suggests that adverse reproductive health outcomes are more likely in poverty-stricken settings. This would imply that poverty acts as a mediating variable between domestic violence and reproductive health among women. Hence, the financial standing of the women is strongly associated with their reproductive health.

Other research pertaining to the Indian population focuses on the effect of poverty on masculinity and male identity. It is theorized that belonging to a lower socio-economic strata causes men to feel vulnerable since their identity as providers for the

family is as stake. This vulnerability inclines men to become violent toward their wife in order to exert power and control over women (Stephenson, Koenig, Acharya, & Roy, 2008). Hence, violence may also be associated with the product of gender inequality and poverty (Jewkes, 2002).

Moreover, other research speculates that incidence rate and prevalence of domestic violence during pregnancy among the poor may be caused due to bias in data gathering methodology. People that belong to high socio-economic strata are better able to guard their privacy than the rest of the population. It is theorized that women from a higher socio-economic strata may chose not to talk about their victimization and IPV may go officially unreported (Pillai, 2001).

Alcohol Abuse

The positive co-relation of alcohol consumption and domestic abuse is noteworthy. Abuse of alcohol has been highlighted as a precipitating factor for domestic violence across numerous studies in the past. This association is of particular significance to the Indian population.

Traditionally, alcohol consumption in India has primarily been a masculine activity and most women do not consume alcohol. Alcohol consumption is socially acceptable among men, but it is not the norm for women to drink. It is reported that men that drink alcohol spend a significant amount of their monthly household expenses on alcohol. Studies indicate that the poor often drink more than they earn (Rao, 1997; Sundaram, Mohan, Advani, Sharma, & Bajaj, 1984). This could have a ripple effect within the households which ultimately triggers domestic violence. Hefty expenditure on alcohol infers that alcohol consumption may generate a financial crisis within the household. Financial crisis may lead to stress, which ultimately exposes women to being more vulnerable to domestic violence.

In a qualitative interview conducted with men from Chennai slums, respondents explained how they drink to get away from work-related stress. However, they were well aware that drinking usually never calmed them down and in fact had the reverse effect. Alcohol increased their overall stress and made them vulnerable to outbreaks of violence (Go et al., 2003). Other than acting as a trigger for domestic violence, research indicates that alcohol may also intensify the severity of domestic violence. It is reported that men that drink often engage in violence at least five times higher towards women than men that do not drink (Koenig et al.,2003).

This connection between alcohol consumption by the husband and spousal violence is seen to be highly pronounced in India (Babu & Kar, 2009; Peedicayil et al., 2004; Krishnan, 2005; Khosla et al., 2005). According to Krishnan (2005), marital violence was seen to be reported almost three times higher among women whose husbands were habitual drunks when compared to husbands that did not consume alcohol. This association between alcohol and violence is found to be statistically significant regardless of caste and socio-economic status.

Additionally other studies report that husbands that were less educated (education level lower than 10th grade) and abused alcohol were at an expounded risk of engaging in domestic violence. When low education levels among men interacted with alcohol abuse, domestic violence was reported to increase 11 times (Khosla et al., 2005; Jeyaseelan et al., 2007).

The exact mechanism by which domestic violence is triggered with alcohol abuse is not very clear. Currently the association between alcohol and domestic violence is suggestive and not conclusive. However, research outlines that the link between alcohol consumption and violence may be interplay of biological and environmental factors (Jeyaseelan et al., 2007). It is reported that alcohol consumption is noted in a majority of

all domestic violence cases. Additionally, alcohol is also believed to be an instigating factor for domestic violence as alcohol consumption weakens inhibition which hinders judgment and makes men vulnerable to committing violence.

Education Level

Literacy and high education levels are significant anchors of a developing society. Education is associated with growth and modernization of a nation. Education spreads awareness and allows individuals to comprehend and respond to their social and cultural environment appropriately as such that higher level of education engenders an improvement in economic and social conditions.

Higher level of domestic violence can be directly attributed to lower levels of education. Numerous studies across India have consistently reported that a low formal education attainment poses as risk factors for domestic violence. It is reported that women with low education are more likely to fall victims of domestic violence whereas men with lower level of education are susceptible to committing domestic violence (Muthal-Rathore et al., 2002; Babu & Kar, 2009; Peedicayil et al., 2004; Koski et al., 2011; Khosla et al., 2005; Yoshikawa, Agrawal, Poudel, & Jimba, 2012; Chowdhary & Patel, 2008; Verma & Collumbien, 2003). The relationship between husband's education and violence retains a threshold effect as such that domestic abuse was noted to be 38.8% among men whose education level was below a tenth grade standard as compared to 23.5% when education levels were reported to be higher (Khosla et al., 2005).

Education is seen to be an indicator of empowerment. As noted previously, a significant number of women in India are illiterate and have lower overall educational attainment when compared to men in India. Due to the difference in educational levels

between the husband and wife in India, women remain at a disadvantage with regards to her ability to exercise power within the marriage.

Higher education levels among women would lead to an increase in bargaining power in relationships and this would serve as protective factors against domestic abuse for women. Additionally, education among men would lead to change in belief among the men in regards to justifying their violence towards women and would allow women greater autonomy within a marital relationship (Kishor & Gupta, 2004).

However, other studies report that the relationship between education and violence is intricate and is not a linear relationship but rather a curvilinear relationship. When women have attained higher level of education they revert back to an increased risk of domestic violence (Jewkes, 2002; Karamagi, Tumwine, Tylleskar, & Heggenhougen, 2006). Hence, the effect of education to a certain point will act as a protective factor against domestic violence before regressing back and operating as a risk factor. In India, having higher levels of education and empowerment may be viewed as nonconformity of gender roles and this would in turn threaten the patriarchal system causing women to be at elevated risk for violence.

Therefore it is evident that the relationship between education and domestic violence is multifaceted and context specific. However, given that a large number of women are uneducated in India, studies maintain that education would continue to uphold as a protective factor against domestic violence.

Chapter 3

Theoretical Framework

There are multitude of theories and causes of domestic violence that have been suggested in the past among which the most relevant theories for the Indian population arguably include the general system theory, social learning theory, feminist theory and ecological systems theory. For the purpose of this study, the focus of the theoretical framework will remain on ecological systems theory as this theoretical framework assists in understanding the association of domestic violence and reproductive health of women using a holistic approach while assessing for various micro, meso and macro level factors as explained below.

As the scholarly review in the previous chapter suggests, the relationship of domestic violence and reproductive health can be multifaceted and complex. Hence, to supplement the theoretical understanding of these variables, this chapter will also provide a brief explanation of the general systems theory, social learning theory and feminist theory.

General System Theory

The general system theorist view domestic abuse as a product of a system rather than an individual pathology. Violence is a homeostatic and/or a circular problem of interaction between maintaining balance between the couple and the family system (Moss & Taylor, 1991). As discussed previously, the Indian family structure exhibits a pre-set hierarchy of positional authority and gender specific norms. Hence, the general system theorist would argue that domestic violence may be attributed to maintaining the homeostatic balance of positional hierarchy within the family system.

Social Learning Theory

Social learning theory suggests that the violent and aggressive behavior is learned as such that domestic violence stems from an “intergenerational cycle of abuse” (Mihalic & Elliott, 1997). This theory argues that violence will be transferred from one generation to the next as behavior that receives positive reinforcement will be modeled. In India domestic violence is culturally endorsed as such that women have learned to submit to the violence (Pillai, 2001). Hence, this theory would propose that submissive behavior displayed by women when domestically abused would act as a positive reinforcement which is then modeled by others.

Feminist Theory

On the other hand, feminist researchers argue that violence is based on the unequal power relationship between partners. Feminist theory focuses on patriarchy, and suggests that women are subject to domestic violence as they are devalued while men continue to enjoy a dominant position in society (Moss & Taylor, 1991). As outlined previously, domestic violence in India is culturally sanctioned and this may be attributed to the gender based authority men command. Feminist theorist would argue that a lack of empowerment among the women along the superior gender authority enjoyed by men is the root cause of domestic violence.

Ecological System Theory

The ecological theory argues that domestic violence is ingrained in the cultural and religious traditions and individual issues are a product of the socio-cultural context (Heise, 1998). Hence, social issues including domestic violence is the result of the broad cultural setting and circumstances. The risk factors and repercussions of domestic violence can only be inferred when viewed from a broad socio-environmental setting.

Scholars from various fields have utilized the ecological systems theory to explain and define multitude of social problems. This approach recognizes that behavior cannot be defined solely based on intra-psychic forces. This theory emphasizes the unique socio-cultural contexts including the dynamics of the members within social groups and the historical background of the population. Hence, causality of human issues is examined as a product of culture and the broad environment (Cornell, 2006).

The ecological systems theory serves as an appropriate theoretical framework to examine domestic violence and reproductive health of women in India as a heuristic tool as this theory recognizes the interlacing of human problems, individual circumstances and social/environmental conditions (Heise, 1998). Macro level forces may influence domestic violence including poverty, stress, violence and socio-cultural conditioning. These influences are not preemptive of human behavior and these environmental constraints along with objective sociopolitical realities must be considered when assessing human behavior.

The scholarly review of articles completed earlier establishes that violence against women has a tremendous impact on reproductive health. A range of biomedical issues specifically gynecologic morbidity is associated with domestic violence. Domestic violence is allied with various factors including poverty, low education and cultural norms. The ecological system theory untangles these factors in order to better examine the relationship between domestic violence and reproductive health.

In India, information regarding regional data is limited and the study of regional demography gradually continues to emerge. As mentioned previously, studies indicate that an overall poverty rate decline has been charted for India in the past years. However, this decline continues to be challenged by an upsurge in regional inequalities, as such that the southern regions of India have an overall superior growth and higher per capital

expenditure when compared to the northern regions of India. Moreover it has been reported that the poverty reduction policies have primarily remained unsuccessful in North India (Deaton & Dreze, 2002).

This divide between the northern and southern regions of India are not only limited to economic growth rather studies indicate that this divide is evident in various socio-cultural differences. Marriage laws in North India engender varied cultural sanctions in terms of rightful property inheritance and ties to the birth family for males when compared to South India. In the North Indian region, marriages are endorsed outside the social and family unit leading to increased fertility levels and conformity to patriarchal ties (Pillai & Salehin, 2012). On the other hand, proactive polices have enhanced gender equality in South India leading to developments in social welfare including decreasing infant mortality rates and increasing literacy rates (Jeffrey, 1993).

Under the lens of the ecological system's theory it is can be hypothesized that women from North India would be at an increased risk of lower reproductive health when compared to the women of South India due to the economic and socio-cultural differences outlined. Within the scope of the ecological systems theory, gender equality and increasing literacy rates in South India serve as a protective factor against poor reproductive health.

As the literature review has previously outlined, the overall rate of poverty in India remains high and issues of chronic poverty and low income levels are common among the Indian population. The ecological system theory would endorse that adverse reproductive health is directly related to poverty. It can be conjectured that women who belong to a low socio-economic group are more vulnerable to poor reproductive health conditions regardless of domestic violence. Comparatively, these women have very limited access to health resources and lack institutional support as such that belonging to

low socio-economic strata forms a barrier for access to reproductive health for women. Unlike women belonging to the high socio-economic strata, these women are financially constrained and are unable to utilize the required resources to enhance reproductive health (Mohindra, 2009).

Additionally, the literature review outlined that families living in financially disadvantaged conditions are subject to higher levels of stress which would expose them to increased family violence ultimately leading to poor reproductive health. Therefore, due to lack of access to resources and increased exposure to domestic violence women living in impoverished conditions are subject to poor reproductive health.

On the other hand, domestically abused women that belong to the upper socio-economic strata who have access to multitude of resources may still be exposed to a unique risk of poor reproductive health when compared to the rest of the population. In India, a majority of married women believe that domestic violence is an ordinary practice and many believe that reporting domestic violence will hurt the family honor. Protecting family honor by defending husband's behavior is greatly emphasized among the women belonging to the upper socio-economic strata (Jeyaseelan et al., 2007). Domestic violence is disguised by the oppression of patriarchal norms as such that customary laws dictate that the women accept how her husband treats her. Tremendous importance is attached to the centrality and sanctity of the family unit as such that it triumphs individual rights and autonomy. Women take on the responsibility to uphold family traditions and family honor and may not report domestic violence within the family.

Additionally, women from the higher socio-economic strata may have limited social networks as they typically serve within the household domain. Hence, opportunities to extend their social network outside the house are limited. This allows families belonging to higher socio-economic strata to maintain privacy as such that issues of

domestic violence remain protected within the household. Although these domestically abused women may have various resources at their disposal which would allow them to enhance their reproductive health, they continue to remain at a unique risk of poor reproductive health due to the cultural connotation linked with domestic violence.

Table 3.1 Summary of Ecological perspective

Variables	Ecological Perspective	Hypothesized Effect on Reproductive Health
Place of residency – North	Conformity to patriarchal ties noted in North India leading to gender inequality making them more vulnerable to poor reproductive health.	Lower reproductive health compared to South India.
Place of residency – South	Gender equality and increasing literacy rates in South India serve as a protective factor against poor reproductive health.	Higher reproductive health compared to North India.
Lower socio economic strata	Women have very limited access to health resources and lack institutional support which forms a barrier for access to reproductive health for women.	Lower reproductive health compared to Higher socio-economic strata.
Higher socio economic strata	Women are financially stable and are able to utilize the required resources to enhance reproductive health.	Higher reproductive health compared to lower socio-economic strata
Domestically abused women belonging to higher Socio economic strata	Women believe that domestic violence is an ordinary practice and believe that reporting domestic violence will hurt the family honor.	Lower reproductive health compared to the rest of the population.

Table 3.2 Conceptual model of ecological systems theory

Level of influence	Constructs & Variables utilized
Macrosystem	Place of residency (North India vs. South India), Laws and policies.
Mesosystem	Socio-cultural conditioning including societal beliefs regarding domestic violence, gender inequality and patriarchal ties. Social network and institutional support.
Microsystem	Level of education, Income (Socio-economic strata), individual stress, access to reproductive health resources.

Hypothesis

The first hypothesis proposes that domestic violence negatively influences the overall access to antenatal health resources and antenatal healthcare among pregnant women in India, regardless of place of residency when compared to pregnant women who are have not been abused. This hypothesis suggests that the independent variable 'domestic violence' negatively influences the reproductive health of pregnant women in India.

The second hypothesis proposes that women residing in the northern region of India would be at an increased risk of poor reproductive health when compared to the women residing in the southern region of India. Hence, this hypothesis suggests that place of residency influences the level of access to antenatal healthcare and other antenatal health resources among pregnant women in India. As detailed in the theoretical framework, regional inequalities in terms of socio-cultural and economic differences among North India and South India would implicate regional variances in terms of reproductive health among pregnant women in India.

The third hypothesis proposes that women who belong to a low socio-economic group are more vulnerable to poor reproductive health conditions regardless of domestic violence, when compared to women from higher socio-economic groups who have not been exposed to domestic abuse.

The theoretical framework discusses how women from low socio-economic group, are challenged financially and this acts as a barrier to access antenatal healthcare and other pregnancy related resources. Hence, regardless of whether these women are domestically abused, they continue to be disadvantaged in terms of reproductive health.

The fourth hypothesis proposes that women exposed to domestic violence belonging to the upper socio-economic strata may be at an increased risk to poor reproductive health when compared to the rest of the population.

As explained previously, the culture of silence in regards to domestic violence is deep rooted in women belonging to the upper socio-economic group. These women are likely to protect the family honor by defending husband's abusive behavior. Hence, these women continue to experience abuse in a "protective" system leading to poor reproductive health. Although these women may have access to antenatal healthcare they are unable to utilize these resources as a result of various socio-cultural implications.

Chapter 4

Methodology

The objective of this study is to examine the effect of domestic violence along with socio-economic and ecological factors on reproductive health of women in India using a secondary data source. Domestic violence is inferred as a holistic component that is influenced by multitude of ecological and demographical factors. The variables include socio-economic status, domestic violence, reproductive health and place of residency. Data source and sampling, operationalization of dependent and independent variables will be discussed in this chapter.

The independent variables in this study include domestic violence, socio-economic status, region of residence whereas the dependent variable in this study is reproductive health. Data source and sampling, operationalization of dependent variable and independent variable, and data analysis will be discussed in this chapter.

Data Source and Sampling

The secondary source of data used in this study is from the National Family Health Survey (NFHS-3) of India. NFHS is a large-scale survey conducted in multi-rounds using representative household samples from all throughout India. These surveys have been conducted since the early 1990's with two definite goals of

a) delivering important data on health and family welfare as required by the Ministry of health and Family Welfare and other agencies to assist in policy and program purposes;

b) delivering important emerging health and family welfare issues ("About NFHS", 2009).

These surveys have effectively provided information on various arenas including reproductive health, domestic violence and utilization and quality of healthcare services.

The institute for Population Sciences (IIPS) has recognized the National Family Health Survey as a credible and valid source of socioeconomic and health related data. Additionally, varied international development organizations including UNICEF and United States Agency for International Development have fund in this survey series further signifying the credibility of the data set ("National family health survey (NFHS-3), 2005–06: India: Volume II. Mumbai: IIPS.", 2013).

Since 1992-93, three rounds of the survey have been conducted and the NFHS-3 was conducted in 2005-06 which has been used in this study. The NFHS-3 used a stratified, multistage, cluster sampling strategy to generate representative samples. A two-stage sample design in most rural areas and a three-stage sample design were utilized in most urban areas to ensure that all households in a ward were represented. The sample for this survey is nationally representative and covers 109,041 households living in all 29 states of India which includes 124,385 women between the ages of 15 to 49 and a total of 74,369 men between the ages of 15 to 54. This household questionnaire collected information on numerous topics some of which includes household income and expenditure, perpetration and experience of domestic violence, access and utilization of healthcare, education level and gender relations ("About NFHS", 2009).

Operationalization of the Variables

The independent variables for this study include – domestic violence, socio-economic strata and place of residency; whereas the dependent variable for this study is the reproductive health among pregnant women of India. These variables were carefully chosen in order to assess the relationships as outlined in the hypothesis.

As the literature review suggests, some key variables in assessing the relationship between domestic violence and reproductive health include socio-economic strata and place of residency. It is proposed that belonging to low socio-economic strata

may have a negative influence on reproductive health of women, regardless of domestic violence. Furthermore, when a high socio-economic stratum is coupled with domestic violence, it is proposed that this would also lead to low reproductive health. It is also hypothesized that place of residency has an effect on reproductive health of women due to the various socio-culture intricacies as outlined previously. Hence, for the purpose of this study these independent variables were selected to further examine to the relationship between domestic violence and reproductive health from an ecological perspective.

There are 3 control variables utilized for this study – Education attainment, Alcohol Consumption and belonging to a Scheduled Caste/Scheduled Tribe (SC/ST). The review of scholarly literature suggests that the relationships between these control variables and reproductive health have been detailed immensely in the past. In order to assess the effects of selected independent variables in this study on reproductive health, the well-known effects of variables such as education attainment have to be controlled. Hence, to test the proposed hypotheses, Education Attainment, Alcohol Consumption and SC/ST status have been chosen as control variables.

Independent Variables

Domestic violence

The NFHS-3 utilizes valid domestic violence measures by providing multiple opportunities for disclosure along with asking the specifics of the violence. Information regarding spousal physical, emotional and sexual violence has been collected. For the purpose of this study, domestic violence is defined as the perpetration of physically violent behaviors by the husband during the last 12 month period of the marriage. Various variables were selected from the NFHS-3 as indicators of acts of domestic

violence. Table 4.1 below presents information on domestic violence variables selected from the NFHS-3 data set.

Table 4.1 Measures of Domestic violence

Operationalization of Domestic Violence	
Spouse ever pushed, shook or threw something	0 = No 1 = Often during last 12 months 2 = Sometimes during last 12 months 3 = Not in last 12 months 4 = Yes, but currently a widow or timing missing
Spouse ever slapped	0 = No 1 = Often during last 12 months 2 = Sometimes during last 12 months 3 = Not in last 12 months 4 = Yes, but currently a widow or timing missing
Spouse ever punched with fist or something harmful	0 = No 1 = Often during last 12 months 2 = Sometimes during last 12 months 3 = Not in last 12 months 4 = Yes, but currently a widow or timing missing
Spouse ever kicked or dragged	0 = No 1 = Often during last 12 months 2 = Sometimes during last 12 months 3 = Not in last 12 months 4 = Yes, but currently a widow or timing missing
Spouse ever tried to strangle or burn	0 = No 1 = Often during last 12 months 2 = Sometimes during last 12 months 3 = Not in last 12 months 4 = Yes, but currently a widow or timing missing
Spouse ever threatened or attacked with knife/gun or other weapon	0 = No 1 = Often during last 12 months 2 = Sometimes during last 12 months 3 = Not in last 12 months 4 = Yes, but currently a widow or timing missing

Place of residency

The Indian mainland can be largely separated based on various geographical zones. These include the Himalayan region/Northern Mountains consisting of states like Jammu and Kashmir, Himachal Pradesh and Sikkim; the Deccan Peninsula includes South India in its entirety with states like Tamil Nadu, Karnataka and Kerala; and the coastal plains and Islands extend from the Western and Eastern Ghats including the islands in the Bay of Bengal (Pillai & Salehin, 2012).

For the purpose of our study, Table 4.2 below outlines the various states categorized as belonging to North India and South India. Data from the following states will be analyzed in order to assess the geographical differences in domestic violence.

Table 4.2 Categorization of North Indian and South Indian States

Geographical Division	States assessed
North India	Punjab, Delhi & Assam
South India	Kerala, Tamil Nadu, Karnataka & Goa
Reference category	Rest of India

Socio-economic status

NFHS-3 data set assessed for socio-economic status of the respondents by utilizing various key indicators along with numerous auxiliary indicators. The proxy indicators inquired about household appliances such as refrigerator, gas or electric stove, television, air conditioner. Categorization to a specific socio-economic status was based on the amount of possession of these items. In addition to these questions the NFHS-3 data set also inquired about the possession of other items including land, home, bank account and health insurance. These indicators were used to establish a more specific

classification of socio-economic strata. Table 4.3 below presents the information on variables from the NFHS-3 data set used in this study to categorize and operationalize socio-economic strata of the respondents.

Table 4.3 Measures of socio-economic strata

Operationalization of Socio-Economic Status	
Wealth Index	1 = Poorest 2 = Poorer 3 = Middle 4 = Richer 5 = Richest

Operationalization of Dependent Variable

Reproductive health

Reproductive health variables were selected from the NFHS-3 women's questionnaire. As discussed in the literature review, utilizing standard domestic violence screening methods in healthcare settings among the Indian population may not be an efficient method for screening for domestic violence and/or reproductive health. As an alternative, in this study reproductive health is conceptualized primarily in terms of health seeking behaviors along with access to health resources among pregnant women. Table 4.4 below details the variables utilized from the NFHS-3 women's questionnaire to assess reproductive health among pregnant women.

Table 4.4 Measures of reproductive health

Operationalization of Reproductive Health	
During last 3 mths, met with ANM, LHV, etc.	1 = Home only 2 = Elsewhere only 3 = Both home and elsewhere 4 = Did not meet
During pregnancy, receive any benefits	0 = "No" 1= "Yes"
During pregnancy, receive supplemental food	0 = "No" 1= "Yes"
During pregnancy, receive health check-ups	0 = "No" 1= "Yes"

Table 4.4—*Continued*

During pregnancy, receive health and nutrition education	0 = “No” 1= “Yes”
Told where to go for pregnancy complications	0 = “No” 1= “Yes” 8 = “Don't know”
During pregnancy - blood pressure taken	0 = “No” 1= “Yes”

Control Variables

The 3 control variables of this study are educational attainment, alcohol consumption and belonging to a Scheduled Caste/Scheduled Tribe.

Education attainment

Table 4.5 Education attainment

Operationalization of Education Attainment	
Education Attainment	0 = No education 1 = Primary 2 = Secondary 3 = Higher

Alcohol consumption

Table 4.6 Partner drinks alcohol

Operationalization of Alcohol Consumption	
Drinks Alcohol	0 = No 1 = Yes

Scheduled caste and scheduled tribe

Table 4.7 Type of caste or tribe of the household head

Operationalization of Scheduled Caste / Scheduled Tribe	
Type of caste or tribe of the household head	1 = Scheduled caste 2 = Scheduled tribe 3 = Other backward class 4 = None of above 8 = DK

Data Analysis

Multiple regression analysis will be used for the purpose of analyzing the effect of the three independent variables i.e. domestic violence, socio-economic strata and region of residency on the dependent variable – Reproductive health. Regression analysis is one of the most common methods to analyze effect of multiple independent variables on a dependent variable. To assist with the data analysis, Statistical Package for the Social Sciences (SPSS) will be utilized for conducting multiple regression analysis.

Chapter 5

Data Analysis

This chapter presents the results of the data analyses of the proposed model of reproductive health of women exposed to domestic violence in India. The study analyzed the effects of domestic violence, place of residency (North and South) and socio economic status on reproductive health of women of India.

The findings of this study are presented in this chapter along with the descriptive statistics and the data screening procedures that were utilized. The descriptive statistics discuss the distributional properties of the variables in question. The data screening procedures discuss the how the data is prepared for statistical analysis. Finally, the last section presents the results of the study using multiple regression analysis.

Transformation of Variables

Prior to running the frequencies and assessing the descriptive values of the variables, select variables were re-coded and dichotomized as required. This process was undertaken as it was possible to group the variables in question by defining high/low groups and inclusion/exclusion of belonging to a certain category. By dichotomizing the variables it is expected that the analyses and presentation of the results will be simplified. In this study, all necessary variables were recoded with the values of 0 and 1. Table 5.1 depicts how the variables were dichotomized.

Table 5.1 Dichotomized Variables

Original Variables	Dichotomized Variables
Socio-Economic Status 1=Poor 2=Poorer 3=Middle 4=Richer 5=Richest	Responses of 1, 2 & 3 coded as 0 (Low SES) Responses of 4 & 5 coded as 1 (High SES)

Table 5.1—*Continued*

Education Attainment 0 = No education 1 = Primary 2 = Secondary 3 = Higher	Responses of 0 & 1 coded as 0 (Low Education) Responses of 2 & 3 coded as 1 (High Education)
Type of caste or tribe of the household head 1 = Scheduled caste 2 = Scheduled tribe 3 = Other backward class 4 = None of above 8 = DK	Responses of 4 & 8 coded as 1 (Not Belonging to SC/ST) Responses of 1,2 & 3 coded as 0 (Belonging to SC/ST)

Additionally, composite values of variables were obtained where applicable by combining all the indicators into a single measure. In our study, there were six indicators of domestic violence and seven indicators of reproductive health. Each of these indicators was combined creating a composite variable of domestic violence and reproductive health respectively.

The composite value of domestic violence identifies the number of respondents that experience any form of domestic violence (as outlined in table 4.1), along with identifying how many of the indicators of domestic violence were experienced by respondents (ranging from none to all six).

Similarly, the composite value of reproductive health helps identify the number of respondents that seek reproductive health measures (as outlined in table 4.4) along with identifying how many of the indicators of reproductive health are utilized by these respondents (ranging from none to all seven).

Descriptive Statistics

The key statistics of demographic, economic and exposure to domestic violence of women are presented below in table 5.2. Findings from this descriptive analysis provide the background information of all the observed variables used in the model

related to the overall reproductive health conditions of the women exposed to domestic violence.

The distributional properties of all the variables in question were assessed to examine the extent of support for assumption of normal distribution. The required descriptive properties were assessed including the mean, median, mode and standard deviation after which applicable measures were utilized to minimize any deviations to achieve normality of distribution.

A high proportion of the sample indicated that they have not been exposed to any of the domestic violence indicators utilized in this study. A total of 3124 respondents, which account for 52.9% of the total sample, indicated that they had never experienced any domestic violence in the past. Whereas, 11.3% of the population indicated that they have been exposed to at least one indicator of the domestic violence measure. However, only 9 participants from the sample stated that they have experienced all six indicators of domestic violence in the past.

A substantial number of respondents indicated that they have never received any reproductive health services in the past. 60.4% of the sample which consisted of 3570 married women declined receiving any of the reproductive health indicators. 14.08% of the respondents acknowledged receiving at least 1 reproductive health service in the past. However, only 1.2% of the sample reported that they received all 7 indicators of the reproductive health measure utilized in this study.

7.9% of the respondents live in North India and 7.6% live in South India among which 54.9% of the sample belong to the lower socio economic strata and 45.1% belong to the higher socio economic strata. A total of 3992 participants belong to the Scheduled Caste/Scheduled Tribe and 29.2% belong to the upper caste. Finally, partner's alcohol

consumption was reported by only 24.4% of respondents as compared to 49.2% of the women reporting no alcohol consumption by their partner.

Table 5.2 Descriptive Statistics

Predictors	Statistics
Domestic Violence	
No Domestic Violence Experienced	3124 (52.9%)
At least 1 form of DV experienced	665(11.3%)
At least 2 forms of DV experienced	231(3.9%)
At least 3 forms of DV experienced	132(2.2%)
At least 4 forms of DV experienced	148(2.5%)
At least 5 forms of DV experienced	36(0.6%)
All 6 forms of DV experienced	9(0.2%)
Missing	1566(26.5%)
Reproductive Health	
No reproductive health services attained	3570 (60.4%)
At least 1 reproductive health services attained	877 (14.08%)
At least 2 reproductive health services attained	735 (12.4%)
At least 3 reproductive health services attained	313 (5.3%)
At least 4 reproductive health services attained	132 (2.2%)
At least 5 reproductive health services	130 (2.2%)

Table 5.2—*Continued*

attained	
At least 6 reproductive health services attained	83 (1.4%)
All 7 reproductive health services attained	71 (1.2%)
Place of residency	
North India	467 (7.9%)
South India	449 (7.6%)
Alcohol Consumption	
Partner drinks Alcohol	1440 (24.4%)
Partner does not drink Alcohol	2907 (49.2%)
Schedule Caste/Tribe	
Belonging to an upper caste	1726 (29.2%)
Belonging to SC/ST	3922 (66.4%)
Wealth Index	
Low Socio-Economic Strata	3243 (54.9%)
High Socio-Economic Strata	2668 (45.1%)

Dealing with Missing Values

The data set utilized in this study (NFHS-3) is a large scale national level survey consisting of over 124,385 cases. Since our study population consists of married women who have been exposed to domestic violence, a separate data set was created for convenience of analysis. By doing so the total number of cases was reduced to n=5911. When screening the data for missing values, it was noticed that several questions had

high proportions of missing values. Subsequently, a decision had to be made to resolve the missing data problem.

One solution would have been to predict a value of all the missing data cases using other variables within the data set. Just as we are predicting reproductive health in our model using a set of variables, we could have predicted expected values for all missing cases using indicators of that particular variable. However, this approach could not be utilized as we did not have enough variables that are appropriate for predicting the values in the place of missing data.

Another option would be to utilize alternative indicators of reproductive health that do not have missing data. However this was also not feasible as all the standard indicators of reproductive health have already been utilized in our current model. Hence, utilizing other variables would not be suitable to assess reproductive health.

Alternatively, another solution would be to delete all the missing cases and utilize only the cases with complete information. However, that option was ruled out as doing this would have reduced the sample size substantially.

Finally, a decision was made to create a substantive interpretation of the responses as such that missing data would indicate a negative response. The basic premise of this approach is that the knowledge of a value missing itself is a form of information. For example, if respondents had an education they are more likely to report this information than not respond. This approach was applied to all the missing variables in this study.

Correlation

A correlation test was conducted explore the relationships among the covariates. (See table 5.3) In this study, spearman correlation test was undertaken to check multicollinearity among the variables in question. A correlation between domestic

violence with residing in South India and Wealth index was found. However, the correlation coefficient between these variables is low.

Table 5.3 Correlation Coefficient – Domestic Violence, South India, North India and Wealth index

Variable	With	Rho	P value
Domestic Violence	North India	.02	.120
Domestic Violence	South India	-.065	<.0001
Domestic Violence	Wealth Index	-.214	<.0001

Multiple Regressions

Multiple regression is typically used when there are multiple independent variables in the model. This method allows us to predict the value of the dependent variable based on the value of two or more variables. Additionally, the relative contribution of all the predictors on the dependent variable can be assessed when using multiple regression.

In our study reproductive health is predicted based on the value of the independent and the control variables. For the purpose of this study, multiple regression analysis was utilized with backward selection method. Table 5.4 depicts the variables that emerged significant in our model when utilizing this analysis method using reproductive health as the dependent variable.

Table 5.4 Multiple Regression

Model	Unstandardized Coefficients - B	Unstandardized Coefficients – Std. Error	Standardized Coefficients – Beta	T	Sig.
(Constant)	.853	.037		23.330	.000
Wealth	-2.15	.045	.071	-4.768	.000

Table 5.4—*Continued*

Index					
Alcohol	.207	.046	.059	4.527	.000
SC/ST	-.115	.045	-.035	-2.581	.010
North	-.184	.073	-.033	-2.529	.011
South	.523	.075	.092	6.976	.000
Education	.199	.046	.064	4.357	.000

Results and Interpretations

Results from multiple regression indicate that domestic violence is insignificant after adjusting for all covariates in the model. Hence, the data utilized in this study indicate that domestic violence is not found to relate with reproductive health seeking.

Table 5.5 Domestic Violence and Insignificance

Model	Unstandardized Coefficients - B	Unstandardized Coefficients – Std. Error	Standardized Coefficients – Beta	T	Sig.
DV	.047	.020	.030	2.284	.022

For every unit increase in wealth index, we expect a -.215 unit decrease in reproductive health holding all other variables constant. As wealth index is coded 0/1 (0= low SES & 1=high SES), the interpretation is: for high socioeconomic strata the predicted reproductive health would be .2 points lower when compared to low socioeconomic strata.

For every unit increase in alcohol consumption, we expect a .207 increase in the reproductive health holding all other variables constant. As alcohol consumption is coded

0/1 (0=no &1=yes), the interpretation is: for no alcohol consumption, the predicted reproductive health would be .2 points higher than for alcohol consumption.

For every unit increase in belonging to Scheduled Tribe/Scheduled Caste, we expect a -.115 decrease in reproductive health holding all other variables constant. As Scheduled Caste Scheduled Tribe is coded 0/1 (0=belonging to SC/ST & 1= not belonging to SC/ST), the interpretation is: for belonging to SC/ST the predicted reproductive health would be .1 point lower than those not belonging to SC/ST.

For every unit increase in residing in North India, we expect a -.184 unit decrease in reproductive health holding all other variables constant. The interpretation is: residing in North India, the predicted reproductive health would be .1 point lower as compared to the all other Indian states.

For every unit increase in residing in South India, we expect a .523 unit increase in reproductive health holding all other variables constant. The interpretation is: residing in South India, the predicted reproductive health would be .5 points higher as compared to the all other Indian states.

For every unit increase in Education level, we expect a .199 increase in the reproductive health holding all other variables constant. As education level is coded 0/1 (0=low education &1=high education), the interpretation is: for high education level the predicted reproductive health would be .1 point higher than for low education level.

Outlined Hypothesis and Results of the Study

The first hypothesis that domestic violence negatively influences overall access to antenatal health resources and antenatal healthcare among pregnant women did not hold true. As the results indicate, domestic violence was not reported to be significant in our model.

The second hypothesis that women residing in the northern region of India would be at an increased risk of poor reproductive health when compared to the southern regions of India held true. As the results indicate, place of residency was expected to influence reproductive health of women.

The third hypothesis that women belonging to a low-socio economic group are more vulnerable to poor reproductive health when compared to women from higher socio-economic groups net of the effects of domestic abuse did not hold true. Although wealth index emerged as a significant variable in our study, the results indicate that wealth index has a reverse effect on reproductive health as proposed in the hypothesis.

Since domestic violence is not found to have an effect on reproductive health, the fourth hypothesis that domestically abused women belonging to the upper economic strata may be at an increased risk to poor reproductive health cannot be established. Although the results indicate that belonging to the upper socio-economic strata can have a negative effect on reproductive health, this association cannot be attributed to domestic violence.

To summarize, the results of this study partially support the proposed model endorsing the perspective of ecological systems theory utilised in this study while certain hypothesis of this study stand negated. Specifically, various macro and micro level variables including regional differences and education attainment as discussed in the theoretical model emerged as significant in influencing the relationship of domestic violence and reproductive health of women. On the other hand, other factors including domestic violence was not found to be related with reproductive health seeking. Also, the hypothesized effect of socio-economic status on reproductive health was found to be reversed in this study.

Hence, based on the results of this study it can be argued that domestic violence and socioeconomic status may in fact not have an effect on reproductive health as previously hypothesized. However, since the literature review has well documented the effect of these variables on reproductive health, it would appear that the results conflict with the hypothesis due to the inherit limitations of this study. The possible reasons for the negation of the hypothesis are discussed in the limitation section of the study.

Chapter 6

Limitations and Discussion

Limitations of the Study

Limitations of this current study can be primarily attributed to methodological process utilized along with the data manipulation undertaken for the study. Firstly, the sampling of NFHS-3 is not designed exclusively for assessing domestic violence and antenatal health seeking behaviour among pregnant women. Even though NFHS-3 inquired about these issues, it did not select these participants purposively. It is possible that many pregnant women were not surveyed. Hence, it is likely that the sample utilized in the NFHS-3 may not be representative of all the pregnant women of India.

Another limitation pertains to the survey instrument used in the NFHS-3 data set. The questionnaire utilized with the NFHS-3 was intended for the general population and was not created specifically for the purpose of this study. Therefore it is possible that the NSHS-3 has excluded vital information with respect to domestic violence and reproductive health among pregnant women in India. As this group of people would have a unique set of needs and issues, it is important to obtain information through a culturally sensitive instrument.

Also, the NFHS-3 relies on pre-existing self-report which engenders its own set of limitations including selective memory and attribution error. The primary concern for this study is that the responses cannot be independently verified and must be taken at face value. As the study discusses various sensitive issues, it is possible that the respondents may likely respond in a manner that upholds their cultural and societal norms. Hence, it can be speculated that some of the results of the study did not align with the hypothesis due to this very reason.

To explicate, it is likely that pregnant women did not acknowledge being exposed to domestic violence as this would be against the cultural norm of upholding the family honor. Similarly, the respondents may have refused to acknowledge the consumption of alcohol by their partners as alcohol consumption is taboo in India. Additionally, wealth index and family income could have been inflated by the respondents to avoid being socially stigmatized, which in turn biased the results of the study.

Although the selection of items to operationalize the variables in the study was based on the literature review, it might be possible that these constructs may have been limited to data availability and researchers personal preference. This in turn could pose a threat to objectivity and generalizability of results.

As the study indicates there were several questions with a substantial number of missing values. Consequently, a decision was made to resolve this issue by imputing values for missing information in this study and to treat missing information as a negative response. Although this was deemed necessary for the purpose of this study, it is important to note that this process would substantially bias the results negatively. For example, any missing information on domestic violence and alcohol consumption was coded as a negative response. Again, it is possible that due to this very reason, some of the results of the study did not support the hypothesis.

Implications to Social Work Practice

This study provides a holistic perspective on reproductive health and domestic violence and discusses how various factors influence women's access to antenatal health care as opposed to numerous studies that traditionally have focused on demographic variables. This study examines the influence of place of residency, income level, education attainment, level of domestic violence and alcohol consumption on

reproductive health among pregnant women in India using an ecological perspective which is ingrained in social work theories and practise methods.

This study serves as a pilot study to assess the relationship between domestic violence and reproductive health. The association between reproductive health and other variables outlined in this study demands professional interventions by social workers on micro, meso and macro levels.

To explicate, the current study advances the knowledge base of reproductive health for social workers in India by highlighting the need for various health and empowerment programs for Indian women including literacy programs. This study indicates a positive correlation between education attainment and reproductive health which implicates the need and importance of a comprehensive educational program within this population as this may encourage pregnant women to gain better access to antenatal health care.

Also, the findings of this study can assist social workers in India to reform legal policies as necessary in order to eliminate discrimination against disadvantaged individuals who have been traditionally marginalized in respect to reproductive health, scheduled caste/scheduled tribe and socio-economic conditions. It may also be valuable to reconsider and modify the current gender equality and educational policies to further enhance the status of women. The outcomes in this study can be used as evidence to formulate reproductive health policies among similar populations.

Additionally, results of this study draw attention to regional differences within India highlighting the importance of cultural sensitivity within social work practise. This study allows social workers in India to be better aware of the regional differences between North India and South India as region of residence emerged as significant within in study when assessing for reproductive health.

Finally, this study highlights the importance of the need of a comprehensive study using culturally sensitive survey instruments to assess the relationship of domestic violence and reproductive health in further detail. Also, this study allows for further research to advance social work methodologies such as designing a survey exclusively for pregnant women exposed to domestic violence.

6.3 Conclusion and Discussion

This study attempted to highlight the relationship of domestic violence and reproductive health of pregnant women in India using the ecological system theory while accounting for various non-traditional variables including the impact of social marginalization i.e. belonging to a schedule caste/tribe along with the impact of regional differences i.e. belonging to South India versus North India. In conclusion, this study validates the significance of ecological factors with respect to reproductive health and domestic violence among pregnant women of India.

Although this study is not free of limitations, it depicts the complex and multifaceted relationship of domestic violence and reproductive health among pregnant women. It is evident that the relationship between these variables may not be as overt and unconcealed as previously suggested given the results of this study only partially support the proposed hypothesis.

The concept of domestic violence and reproductive health continues to be a predominant concern among various professionals including social workers. To better understand the relationship between domestic violence and reproductive health, it is important that future studies develop methods that have minimal biases including the utilization of enhanced sampling methods along with culturally and regionally sensitive survey instruments.

Appendix A

Article Review

Table 0.1 Article Review

Title	Author & Details	Type of Violence primarily discussed	Sample Size & Data Collection	Key Factors addressed in Article
Domestic Violence against pregnant women interviewed at a hospital in New Delhi	Muthal-Rathore, Tripathi & Arora. International Journal of Gynecology and Obstetrics (2002)	Physical	Interview, Abuse Assessment Screen. 680 women interviewed over a period of 3 months. All women lived in urban areas in New Delhi.	Abuse higher with: unplanned pregnancy, little formal education. 23.80% reported abuse for the first-time during pregnancy. Higher pregnancy complication in the abused group as compared to the control group. (52 cases of pregnancy complications vs. 9 in the control group).
Domestic violence against women in eastern India: a population-based study on prevalence and related issues	Babu & Kar. BMC Public Health. (2009)	Physical, Psychological, and Sexual	Cross Sectional Sample Survey (Pre-piloted structured questionnaire). Population of the selected from Eastern states of India - Orissa, West Bengal & Jharkhand. 1715 men & 1718 women were selected.	Overall prevalence of violence in Orissa was reported to be 16%, West Bengal was reported as 52%, and Jharkhand reported a total of 56%. Protective factors against domestic violence: women having higher levels of education and family income. Risk factors for

Table 0.1—*Continued*

				domestic violence: husband's alcoholism & living in urban areas.
Spousal Physical Violence against Women during pregnancy	Peedicayil, Sadowski, Jeyaseelan, Shankar, Jain, Suresh & Bangdiwala. BJOG: An International Journal of Obstetrics and Gynecology. (2004)	Physical	Cross-sectional household survey. Rural, slum and urban non-slum areas of Bhopal, Chennai, Delhi, Lucknow, Nagpur, Trivandrum and Vellore, in India. A total of 9938 women selected.	Factors associated with violence during pregnancy were: Illiteracy of women. Employment among women. Low education of husband. Husband being regularly drunk. Dowry harassment after marriage. Absent or poor social support. The overall prevalence of moderate to severe violence during pregnancy was 13%.
Gender, Caste, and economic inequalities and marital violence in rural South India	Krishnan. Health Care for Women International. (2005)	Physical & Sexual	Cross-sectional survey of currently married women from Karnataka State, India. 410 women surveyed.	34.1% of women reported having ever been hit by their husbands. 18% reported that their husbands forced them to have sex. Women belonging to lower caste, poorer households, having greater economic autonomy, and whose husbands consumed

Table 0.1—*Continued*

				alcohol were more likely to report violence
Physical Violence by Partner during Pregnancy and Use of Prenatal Care in Rural India	Koski, Stephenson & Koenig. Journal of Health, Population and Nutrition. (2011)	Physical	1998/1999 Indian National Family Health Survey and 2002/03 follow-up Survey conducted. 89,199 (for initial Survey), and 6,243 (for follow-up).	A strong negative relationship between the physical violence and healthcare-seeking behavior among Indian women was noted: Women who experienced physical violence during pregnancy were less likely to receive/initiate prenatal care. The sample was largely uneducated (66.06%) & a majority of women belonged to backward castes (52.4%). Nearly a quarter (23%) of the sample women experienced physical violence during their most recent pregnancy.
Domestic Violence in Pregnancy in North Indian Women	Khosla, Dua, Devi & Sud . Indian Journal of Medical Sciences. (2005)	Physical, Sexual, and Emotional	991 pregnant women admitted to the antenatal ward were interviewed. Sample collected from Medical College and Hospital, Chandigarh from January 2004 to December 2004.	Violence was higher when: The husband had a low level of education. (Grade 10 and below) The husband was habituated to alcohol. Women were socially unsupported. The incidence of

Table 0.1—*Continued*

				domestic violence during pregnancy was 28.8%.
Effects of Domestic Violence on Perinatal and Early-Childhood Mortality: Evidence from North India	Ahmed, Koenig & Stephenson.American Journal of Public Health.(2006)	Physical	Sample of 2199 women in Uttar Pradesh, India.Data was collected from 2 surveys that were conducted in Uttar Pradesh between 1995 and 1996.	Low association between domestic violence during pregnancy and selected maternal health care behaviors—prenatal care, maternal tetanus toxoid immunization, institutional delivery care, and postnatal care.18% experienced domestic violence during pregnancy.Risks for both perinatal and neonatal mortality were more than 2-fold higher among mothers who experienced domestic violence.

Table 0.1—*Continued*

Physical violence during pregnancy	Chhabra. Department of Obstetrics and Gynaecology. (2007)	Physical	2,000 pregnant women living in the rural areas of India interviewed over a period of 6-8 months using a semi structured, pre-tested questionnaire.	47.6% had been physically hit or slapped or kicked, at some time during pregnancy, among which 70.32% women were illiterate. 22.4% women had a miscarriage or labour pains earlier than the expected time of delivery. 37% were more likely to deliver pre-term and the newborn children were 17% more likely to be born underweight.
A lifetime experience of violence and adverse reproductive outcomes: Findings from population surveys in India	Yoshikawa, Agrawal, Poudel & Jimba. Bioscience Trends. (2012)	Physical, Sexual, and Emotional	The study analyzed data from the National Family Health Survey conducted between November 2005 and August 2006. A total of 63,473 participants.	Clear association between IPV and having terminated a pregnancy: 18.3% terminated a pregnancy. Maternal age and partner's education were significantly associated with termination of a Pregnancy.

Table 0.1—*Continued*

Abuse from In-Laws during Pregnancy and Post-Partum: Qualitative and Quantitive Findings from Low-income Mothers of Infants in Mumbai, India	Raj, Sabarwal, Decker, Nair, Jethva, Krishnan, Donta, Saggurti & Silverman. Maternal and Child Health Journal. (2011)	Domestic Servitude, Food Denial, Efforts toward prevention of medical care acquisition, Physical abuse etc.	32 Qualitative, 1038 Quantitative. Low income families of Mumbai.	More than 1 in 4 women report perinatal abuse from in-laws. Greater reports of abuse in pregnancy rather than during the postpartum period. Domestic violence is more common among less educated women and those working outside the home. (Women seen to be threatening the patriarchal power structure via employment)
The effect of spousal violence on women's health: Findings from the Stree Arogya Shodh in Goa, India	Chowdhary & Patel. Journal of Posgraduate Medicine. (2008)	Verbal, Physical, Sexual	2494 randomly selected women were recruited for a population based cohort study collected primary from a health center in north Goa.	Lifetime spousal violence was reported by 16.6% women and this was associated with increased risk of a range of biomedical disorders along with self-reported gynecological complaints. Multivariate analyses adjusted for age, literacy, household per capita income.

Table 0.1—*Continued*

Wife Beating and the link with poor sexual health and risk behavior among men in Urban Slums in India	Verma & Collumbien. Journal of Comparative Family Studies. (2003)	Physical & Sexual	Secondary data from a community based study: 1,279 (initial survey in 1998). 553 (after 10 months).	43% reported to have been beaten by their husbands. Violence higher among low-educated & wage-earning women. Poor sexual health among men is associated with higher rate of violence.
Domestic Violence during Pregnancy in India	Mahapatro, V. Gupta, RN. Gupta & Kundu. Journal of Interpersonal Violence. (2011)	Physical, Sexual & Psychological	Cross sectional study using semi structured questionnaires & qualitative data. Inclusive of all zones of India: northern, southern, eastern, western, central, and northeast zones. 14,507 married women and 14,108 married men.	Antenatal care/immunization is 10% higher among women that were not abused. 10% abused women had preterm live birth. Pregnant women facing violence report lower intake of food and rest compared to non-abused women.
Domestic Violence, Contraceptive Use, and Unwanted Pregnancy in Rural India	Stephenson, Koenig, Acharya & Roy. Studies in Family Planning. (2008)	Physical & Sexual	Data analyzed from 1998–99 National Family Health Survey and a 2002–03 follow-up survey. 89,199 women in rural areas of four economically and culturally diverse states: Bihar, Jharkhand,	Women who experienced physical violence were less likely to practice contraception and were more likely to experience unwanted pregnancies. Domestic violence that originates from a husband's desire to

Table 0.1—*Continued*

			Maharashtra, and Tamil Nadu.	enforce perceived gender roles may limit a woman's access to sterilization.

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Biographical Information

This thesis marks the end of the Master's degree in Social work for Pallavi Acharya. Pallavi has excelled in her academic career and is expecting to graduate with a Master's of Science in Social Work (Summa cum Laude) in the spring of 2014.

This thesis is very dear to her as it represents the plight of women belonging to her culture. In the past, she has worked on multiple projects involving victims and perpetrators of domestic violence. She was involved with the Youthful Offender Diversion Program (YODA) which was designed to modify behavior among youth perpetrators within the Tarrant County using intensive counselling. Additionally, she provided direct clinical services to victims of domestic violence when within domestic violence shelters in the Dallas/Fort-Worth area.

For the future she plans to advance her academic knowledge by pursuing a Ph.D. after gaining further practise experience within the realm of social work. Her research interest has remained un-waivered and she would like to work towards the advancement of the status of women in developing countries.