The Relationship of Domestic Violence and Spousal Control with Female Voter Participation in Pakistan

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Abstract

Since its inception, Pakistan has operated under a strong patriarchal system which has a hold over the public and private lives of all women – regardless of their age, class, or location. This paper explores the challenges Pakistani women face in the intersection between their private and public life – between their marital relations and their voting choices. Although some attention has been paid to female experiences of domestic violence in Pakistan, there is a gap in literature in regards to how domestic violence and spousal control impact a woman's ability and choice to vote. By using survey data collected from 400 married women in Pakistan, this paper employs two list experiments in order to test the prevalence of domestic violence and spousal control, and their impact on voting behaviour. Demographic information collected from the respondents is used to find significant relationships between the sensitive behaviours and respondent characteristics. The paper does not find significant proof for the prevalence of domestic violence or spousal control, or their relationship with women going out to vote. However, an important contribution and finding of the paper is that women who marry later in their lives may experience spousal control, where their husband prohibits them from voting.

Keywords: Domestic Violence, Spousal Control, Female Voter Participation, Pakistan, List Experiment

I. INTRODUCTION

N account of multiple reports which have been carried out by international and national organizations alike, Pakistan ranks as one of the most dangerous countries for women to live in. In 2018, the Thomas Reuters Foundation placed Pakistan as the 6th most dangerous country for women to live in (Thomas Reuters Foundation 2018). Moreover, Pakistani women often face major barriers to securing their social, legal, and economic rights. The country was placed on the 153rd position for gender equality on the Global Gender Gap Index in 2021 (Global Gender Gap Report, 2021), showing how deeply steeped it is in patriarchal norms and culture. At home, from a young age, girls are burdened with limitations such as not being allowed to leave the house or to attain an education. Moreover, they must often forgo their own will in order to play the role of the obedient daughter or wife. In the public sphere, women face difficulties in securing political representation, economic opportunities and even basic

safety due to their gender. Thus, women face numerous problems both within the public and private spheres of their life, which have been cultivated across the years, with no relief. One of these problems is that of domestic violence and spousal control.

Domestic violence can take several forms, such as psychological, physical and emotional violence. These forms of abuse greatly impact a woman's physical health and her mental wellbeing (Abrar ul Haq et al. 2017). For instance, domestic abuse may result in physical harm and injuries, as well as chronic pain (Asif et al. 2010). It also results in issues of stress, anxiety, depression, and impacts decision making capabilities (Ali et al. 2021). Very few women ever report such incidences due to the stigma and shame associated within Pakistani society with domestic violence. In many cases, women are told to keep the affairs of the household "within the house", and the cruel actions of a husband are kept hidden in the name of preserving the honor of the family (Abrar ul Haq et al. 2017). In rural areas, the

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situation is worsened as women are treated as second class citizens in many communities, making such abuse easily justified, and more common (Abrar ul Haq et al. 2017).

In these circumstances, one possible way to alleviate the situation is through the election of people who have an agenda to stand up for women's rights, and support the feminist struggle in the country. This would be more likely among female candidates, who understand the position of other women, and work on passing legislation and policies that benefit and protect women in the country. According to existing literature, women's presence in policy making bodies is essential for achieving "women-friendly policy change" as female representatives can identify with the values, attitudes, priorities, and problems that other women have in society (Whitehead 2004). This makes it vital that not only are women encouraged to run as state representatives, but also that the maximum number of women vote to ensure inclusion in the political processes of the country. Any impediment to that process is extremely precarious for 48.54% of the population in Pakistan, which consists of women (The World Bank 2020). As it is, female voter participation in Pakistan is low. Only 40% of 46 million female registered voters voted in the last elections in 2018 (Cheema et al. 2019). Why is this the case? What factors are impeding women from going out to vote in larger numbers?

To that end, this paper explores domestic violence as a possible impediment to female political participation in Pakistan, and how it may impact women's choice to vote. It firstly tests out the prevalence of sensitive behaviours such as domestic violence and spousal interference to voting, and secondly tests whether a correlation exists between women who voted and those who experience these behaviours, in addition to other respondent characteristics as well (apart from voting choices). The paper is novel in its attempt to test directly whether domestic violence and spousal control prohibit married women from going out to vote, and so is adding to an unexplored area not only in literature in Pakistan, but worldwide as well. By analysing the relationships between the sensitive behaviours and respondent characteristics, this paper expands on the current use of list experiments in Pakistan, and assesses its success in eliciting sensitive behaviours, as well as their correlation with other characteristics such as demographics and voting habits.

Two list experiments covering 400 respondents, who are all married women above the age of 18 in Pakistan, are used to draw out comparisons between respondent characteristics and the sensitive items (experience of domestic violence and spousal control). The format of the list experiment offers a method to gain unbiased estimates of sensitive behaviours in the population. By providing an indirect way of asking about issues such as domestic violence and spousal control, the list experiment format ensures privacy, even if it is at the cost of variance. The respondents in the experiments used in this paper were split into two groups to test the prevalence of each sensitive behaviour: a control group, which received a list without the sensitive item, and the treatment group, which received the list with the sensitive item. The difference in means between the two groups was used to establish prevalence of the sensitive behaviour.

The survey was firstly able to gather a lot of important information in regards to the demographics of the respondents. A majority of the respondents belong to urban areas, are well educated, and live with their in-laws. Just about over half of them are employed, with the most popular profession being the educational sector. Almost all women in the sample are registered to vote, and about 83% of them had voted in the past. Secondly, the results from the two list experiments show a prevalence of domestic violence among 4.5% of the respondents, although the results are not significant. No significant relation can be established between voting choice and the sensitive behaviours (domestic violence and spousal barriers to voting) either. However, an important finding of the paper is that the higher the age at which a woman was married, the more likely it is that she experiences spousal control as a barrier to vote. This could be due to women entering unsuitable marriages in fear of being "leftover women", and so, more research is required to expand on this finding.

This paper has many important implications. Firstly, it offers a new dimension to the exploration of low female voter turnout in Pakistan, and how this may be related to domestic violence and spousal control. It majorly contributes to the existing literature in the country in regards to domestic violence and voting, as research on either of these, let alone the relationship between them, is sparse. Studying this is imperative as only by understanding what exactly lowers female voter participation can we begin to create paths to improve their participation. Through such studies, we can find ways to improve the standards of living of women in the country by increasing their political participation, and subsequent election of those members of the community that wish to enhance the status of women in Pakistan. Secondly, the list experiment methodology used in the paper is useful in eliciting sensitive behaviours in the population. Despite the null findings, the paper is an example of how list experiments can be used for further study of sensitive behaviours in Pakistan in the future, perhaps with larger and more varied samples. While the results of this paper are limited due to the survey being distributed online, and hence containing literacy and urban bias, they point towards new avenues of exploration of these topics in Pakistan with better tools and a different outlook to voting behaviours.

II. LITERATURE REVIEW

I. Barriers to Female Voter Participation

Political participation of women refers to the involvement of women in the political process of a country. Pandit writes that globally, politics has proven to be an "inhospitable terrain" for women, which is unfortunate given how participation and representation in politics and decision-making processes are crucial for female empowerment (Pandit 2010). Thanikodi and Sugirtha (2007) discuss the general factors impeding women from going out to vote, such as prevalence of the "masculine model" of political life, where men dominate and gatekeep the political arena by formulating and perpetuating masculine ideals and norms which are alien to women. Along with that, increased poverty, illiteracy, and cultural values also prevent participation of women in political processes (Latif et al. 2015). Specifically in the case of developing countries in South Asia, the main obstacles to women's participation are embedded in patriarchal social and cultural norms which prohibit women from freely participating in politics (Thanikodi and Sugirtha 2007). An example of such norms which prohibit women from participating in public life in South Asian countries is the belief that women must remain within the domestic sphere of the house, carry out household chores and look after the family (Omvedt 2005).

For the context of Pakistan in specific, Saeed, Mati Ullah and Alam (2019) cite cultural patterns, a "conservative-patriarchal structure" and "intense competition in politics" to be some of the key obstacles to female political participation and inclusion. These are similar to the features of the masculine model of political life which Thanikodu and Sugirtha had pointed out. Latif et al., (2015) also explore the impact of "male perception" on female political participation. After conducting qualitative research, they find that the patriarchal mindset, encompassing religious and economic issues, is the main hindrance to women participating in politics (Latif et al. 2015). A paper by Gine and Mansuri (2018) investigated how inaccessibility to information hinders female political participation in Pakistan. They find that a lack of information about the voting process acts as a barrier for women to participate in elections

(Gine and Mansuri 2018). Thanikodi and Sugirtha (2007) also point to religious leaders acting as barriers to female voter participation in the KPK and Punjab regions, where religious leaders lobbied against women running for seats or voting.

According to critical mass theory, once women hold a particular percentage of the legislature (30%), they will have the ability to "make a difference", and make substantial changes to improve the status of women (Whitehead 2004). In Pakistan, there is a reservation of 33% seats for women in local legislative bodies, which means that this critical mass can be obtained. However, that would only be possible if enough women are voted into these legislative bodies (Saeed, Mati Ullah and Alam 2019). Thus, every woman's vote counts, and impediments to this process turn out to be crucial in dictating female social and political life, and empowerment. Female political participation, despite being vital for the success and protection of women in a country, has historically had great hindrances in South Asia, and Pakistan in specific. Whether it is due to cultural norms, religious ideology, or simply the male dominated arena of politics - low female turnout could be the result of a combination of all these factors, and more. However, one issue which has remained overlooked among these factors is that of domestic violence, and how that impacts women's political life and choices.

II. Domestic Violence in Pakistan

Domestic violence can be categorized into 3 categories: physical, psychological, and sexual. Physical violence entails the "intentional use of physical force with the potential for causing death, injury, or harm", and it includes actions such as pushing, throwing, slapping, hitting, burning, or threatening to use a weapon (Ballington 2017). Psychological violence includes behaviour that takes the form of threats of isolation and confinement, using verbal aggression, as well as humiliating the other person (Ballington 2017). Lastly, sexual violence includes non-consensual acts, advances or comments (Ballington 2017).

Using these three categories, the Pakistan Demographic and Health Survey carried out interviews to assess the situation of domestic violence in Pakistan. They found that the prevalence of domestic violence, encompassing ever married women from the age of 15-49, is 34%. This estimate includes all three forms of domestic violence as discussed above. If we divide the country up into the amount of violence experienced in each province, then Khyber Pakhtukhwa stands with the largest percentage of domestic abuse (52%), followed by Balochistan (49%), Punjab (32%), and Sindh (18%). Moreover, more women of the age group 30-36 were likely to experience violence than the age group 20-24, and those living in rural areas experienced more violence than those living in urban areas. These findings point towards a serious issue of domestic violence in Pakistan, as even 34% is an alarming number on a national scale for a country where domestic violence is underreported due to the stigma and taboo associated with the issue (Pakistan Demographic and Health Survey 2017-2018). As women are considered inferior to men, violence against women is normalized to a great extent. Weiss (1999) writes about how the tight knit family structure in Pakistan, along with the perceptions of women's role within the family, society and the economy create "an atmosphere conducive to violence against women". Moreover, the situation is particularly worse in rural areas where residents face "physical and social isolation, socioeconomic distress" and "a lack of healthcare services (Ali et al. 2021). Thus, domestic violence seems to be an important aspect which could impact the choices and lifestyle of women in Pakistan, and it is one worth investigating in the context of their political participation and freedom as well.

III. Domestic Violence and Spousal Control as barriers to Female Political Participation

As we can see, while existing research has covered domestic violence in Pakistan, and the general reasons for why it is difficult for women to go out to vote, no study has combined these two factors, along with the direct role of spousal interference.¹ This paper works to address a gap in research, and test the relationships between voting, domestic violence and spousal control, and how these may lead to lower female voter participation. The contending explanation to this phenomenon is that women who experience domestic violence may have lower levels of self-efficacy, which in turn reduces their ability and choice to vote. General self-efficacy has been described as an individual's "evaluation of capacity for success and agency in life in general or across domains and tasks" (Condon and Holleque 2013). Thus, in the domain of elections and voting, women would be more likely to vote if they believed that they could vote freely and that their vote would count for something (Preece 2016). It has been said that women who experience domestic violence undergo feelings of "depression, hopelessness, helplessness, guilt, shame, self-blame, lower self-esteem, and reduced self-efficacy" (Clark 1998). Lower self-efficacy would indicate that women who experience domestic violence may become unable, or unwilling, to participate in decisions which impact their own lives, including voting. This could be because they don't see it positively impacting their future, due to existing feelings of helplessness and hopelessness as have been mentioned above. A paper by Chronister and McWhirter (2003) has discussed how feelings of fear and anxiety which result from undergoing domestic abuse may decrease the survivor's selfefficacy in regards to being successful in finding or keeping a job. Although this is related to women in the work-field rather than election processes, both are examples of female participation in public and civil life, and so there is something more to be said and studied here about the impact that domestic violence may have on self-efficacy and in turn, female participation in the public domain. In our case, the aspect of the public domain where the focus lies are voting and elections. In addition to such feelings, experiencing domestic violence also points towards the husband taking the dominant role in the relationship, and so exhibiting controlling and harmful behaviour towards their wife, and acting as a barrier to her true choices and freedom. The combination of these two factors could tell us more about why women do not vote, and whether there are more elements influencing these relationships as well. Domestic violence and spousal control go hand in hand in many cases, and a combination of both of these factors influences many aspects of a woman's life. Particularly in a country like Pakistan where privacy of the household, and in particular of marital relations, are rigidly maintained, and where wives are expected to follow the orders of their husbands, it is very likely that a woman is suffering in silence. Her silence could also extend to her voting choices, and so, it is important to discover whether domestic violence and spousal control impact these choices.

III. Hypotheses and Assumptions

The paper functions to test out the following three hypotheses:

Hypothesis 1 *There is a prevalence of domestic violence among married women in Pakistan.*

Hypothesis 2 Spousal control prohibits women from voting.

¹A paper by Xie, Heimer and Lauristsen (2012) looks at this relationship in the context of the US, and finds that with a decrease in victimization by both intimate partners and strangers, women's political participation as voters increases, independently of their participation in the labour market, their educational attainment as well as their income. However, certain factors may impact this situation and change how it is understood and studied in the context of Pakistan.

Hypothesis 3 *Women who vote are less likely to be suffering from domestic violence and spousal control.*

Two list experiments are used to test these hypotheses. One of them includes a treatment containing a sensitive item in regards to experiencing domestic violence. This tests Hypothesis 1 – the prevalence of domestic violence. The other treatment includes an item about spousal interference to voting, which tests Hypothesis 2. A linear regression between voting choices and the outcome of the domestic violence and spousal control list experiments tests Hypothesis 3. Additionally, by running multivariate regression analysis between the sensitive items from both lists and respondent characteristics, I explore which characteristics might be influencing the experience of domestic violence, and that of spousal control on voting behaviour. The relationship between the two list experiments and respondent characteristics provide us with information on this topic, and also provide us with new insights about what factors impact Pakistani women's voting behaviour.

IV. DATA AND METHODOLOGY

I. List Experiment Survey

The survey has been designed to contain three key sections: these include a section on demographic information and respondent characteristics, one list experiment which tests prevalence of domestic violence amongst married women, and the other which tests whether the husband acts as a barrier to voting for his wife by prohibiting her from voting.

List experiments have been conducted for sensitive issues as they provide an indirect form of asking the respondent about their views or experiences, which reduces the issue of social desirability bias as well as concerns of privacy (Imai, Greene and Park 2015). Social desirability bias occurs in relation to how respondents think they'll be perceived if they answer a sensitive question, for instance one which concerns sexual behaviour, marital relations, drug use, or attitudes towards other communities. If they want to hide their true preferences in fear of being embarrassed or to present themselves in a favourable way, respondents may deliberately misreport their answers, or refuse to answer them altogether (Gaia 2020). Thus, this leads to issues of high item nonresponse, nonresponse bias, and measurement errors (Gaia 2020). List experiments thus function so that sensitive questions are asked indirectly, rather than directly, so that these errors are reduced. This is done by dividing respondents into two groups, a control and a treatment group. Both of these groups are given a

list of items, and asked to count how many of those apply to them. However, the treatment group is given one extra item which is the "sensitive" item. Neither group knows about the other group, in order to ensure randomization and obtain unbiased samples. The respondents do not have to directly select, or answer, if the sensitive item applies to them. This information is hidden as they can select as many items as they choose, and so no one is directly admitting to selecting the sensitive item. By hiding their preferences and giving a list of items rather than asking about just one directly, the list experiment eliminates social desirability bias as well as privacy concerns. Once the respondents have given their answers, the responses are aggregated and then their means are compared. This difference in means between the control group and treatment group gives an estimate of the prevalence of the sensitive preference, or behaviour, being tested (Gaia 2020).

List experiments have been used to explore the prevalence of various sensitive topics in the past. For instance, Kuklinski, Cobb and Gilens conducted a study on racial prejudice in 1997, while Holbrook and Krosnick researched social desirability bias in voter turnout reports in 2010 (Li 2019). Specific to the background of this paper, list experiments have also been successful in regards to measuring attitudes and experiences of domestic violence and marital relations in the past. For instance, a list experiment was carried out in rural Bangladesh to study the attitudes of adolescent girls towards intimate partner violence and child marriage by Asadullah et al (2021). They found after using both methods of direct and indirect questioning that the list experiments revealed a much higher support for child marriage and intimate partner violence than direct questioning had. A paper by Gibson et al (2020) used a list experiment to measure support for physical intimate partner violence in South Central Ethiopia, and found that the list experiment revealed a high but hidden acceptance of physical IPV in certain rural areas in Ethiopia. A key insight offered by this paper was that people who were more likely to justify physically abusing their wife were the same ones who were also more likely to hide their views on the topic when asked directly (Gibson et al. 2020). A study conducted in Peru was used to assess the impact that the pandemic had on domestic violence (Porter et al 2021). Porter et al (2021) used a double list experiment and found that 8.3% of young people aged between 18-26 experienced an increase in physical violence in their households. List experiments have also been used to study sensitive behaviours in Pakistan recently, although use of the method has not become widespread yet. Huber-Krum et al (2020) used a double list experiment in order to

measure the prevalence of abortion in Karachi. They found that compared to direct questioning, from which the abortion prevalence was 8%, the double list experiment revealed 16% prevalence (Huber-Krum et al. 2020).

The success of these papers demonstrates the effectiveness of using a list experiment in order to discover views held by people in regards to sensitive topics like domestic violence, spousal relations and abortion. Due to these reasons, the list experiment is the most appropriate method to measure domestic violence and patriarchal control in the household in Pakistan. In a country where familial and household privacy is strictly maintained, even more stringently than in Western countries, the format of the list experiment functions to prevent female respondents from feeling uneasy while answering these questions, by ensuring that their privacy is maintained.

II. Data Collection

The survey covers 400 married women in Pakistan aged 18 and above. It has been designed in Urdu, the national language of Pakistan, and is short and simple in order to reduce response errors. The questions are straightforward, and the average total time taken to complete the survey was 4 to 5 minutes. The data was collected by Qualtrics, who used panels to distribute the survey across Pakistan. The respondents joined a panel through a double opt-in process. An invitation to take part in the survey was sent to them via email, and the respondents were given the link of the survey, and asked to participate for an incentive. The incentives are usually given on a point system, which can be accumulated and then redeemed in the form of gift cards, credit for online games, etc.

The first section of the survey contains questions on demographic information, such as age, region, education, household income, number of children, whether they live with their husband or not, and some questions on their past voting behaviour. All 400 respondents completed this section. The two list experiments were divided into two sections - List A asked the respondent to pick the number of statements that apply to their daily life, and List B asked the respondent about what they believe to be the biggest barriers for them going out to vote. The treatment group for List A contained a sensitive item on the list in regards to domestic violence, and the one for List B contained a sensitive item in regards to the husband prohibiting his wife from going out to vote. The following are the list experiment items used in the survey:

II.1 List Experiment 1 - Testing Domestic Violence

Control Group A - Domestic Violence
Q: The following statements pertain to your daily
life. Please select the options that apply to you.
1. I pray 5 times a day.
2. I have a social media account
(Facebook/Instagram/Twitter).
3. I meet my family often (2-3 times a week).
4. I don't get along with my in-laws.
Treatment Group A - Domestic Violence
Q. The following statements pertain to your daily
life. Please select the options that apply to you.
1. I pray 5 times a day.
2. I have a social media account
(Facebook/Instagram/Twitter).
3. I meet my family often (2-3 times a week).
4. I don't get along with my in-laws.
5. I have been abused (physically hit, or verbally
humiliated, or forced to have sex) by my
husband in the past.

II.2 List Experiment 2 - Testing Spousal Control over Voting Behaviour

Control Group B - Spousal Control
Q: What do you see as the biggest barrier to
going to vote during national elections? Please
select the options that apply to you.
1. Too busy with house chores.
2. Not interested in politics.
3. Polling location is too far.
4. Don't understand process to vote.
Treatment Group B - Spousal Control
Q. What do you see as the biggest barrier to
going to vote during national elections? Please
select the options that apply to you.
1. Too busy with house chores.
2. Not interested in politics.
3. Polling location is too far.
4. Don't understand process to vote.
5. Husband doesn't allow it.

List experiment 1 serves to test the prevalence for domestic violence among married women above the age of 18 in Pakistan. The question of the list has been designed in order to minimize any discomfort or uneasiness on part of the respondents – by asking about their daily life, the question aims to seem as generalized as possible, while still asking about their experience of

domestic violence, which is relevant to their daily life. The daily life of a married woman in Pakistan would encompass both her personal habits, like praying or using social media, as well as her social relations, such as those with her family and in-laws, and finally her relations with her husband. The list follows an order from least to most sensitive items – while praying or using social media is fairly common, and not very sensitive, meeting one's family varies according to each household, and even fewer women might admit to having bad relations with her in-laws. The experiment minimizes ceiling and floor effects in this way. Ceiling effects occur when the respondent's preference for all the non-sensitive (control items) as well as the sensitive item is in the affirmative (Blair and Imai 2012). Floor effects occur when the opposite happens, and the respondent answers in the negative for all the items (Blair and Imai 2012). The impact of ceiling and floor effects is that they hinder us from getting the true preferences of the respondent, and so must be avoided (Blair and Imai 2012). The methods used to avoid these two effects are discussed in the section below in detail.

List experiment 2 investigates the impact a husband has on his wife's voting behaviour. The question is very clear and focused on what it is asking - that is, barriers to voting, and so it is less "general" or vague than the question for experiment 1. However, the items in the list still provide an adequate variance in terms of commonality and sensitivity, so that ceiling and floor effects are avoided. For instance, items like being "too busy with house chores" or the "polling location" being too far might be fairly common reasons why a woman may not go out to vote. However, not being interested in politics would vary according to a number of factors depending on the respondent, and some may even consider the item of not being able to understand the voting process to be slightly sensitive. Thus, this list also functions to provide a variety of responses such that the sensitive item does not stand out, and the non-sensitive items are not too common or uncommon.

III. Methodology

Even though using a list experiment has its advantages, there are also certain risks and limitations which the experiment comes with. This section will expand on some of these risks and how the experiment has been designed in order to minimize these risks. Most of the concerns which have arisen in regards to list experiments come from its own methodology. Firstly, by asking respondents to choose a number of statements (rather than directly choosing the statement applicable to them) we introduce noise into the data through this method to protect privacy. Thus, although this method of indirect questioning might decrease the nonresponse bias, it may impact the variance. As Gaia (2020) states, we gain privacy at the cost of the variance, as a large sample size is usually needed in order to get significant results. This is known as the bias-variance trade-off: where although the experiment may reduce bias, this is done at the cost of efficiency and precision (Blair and Imai 2012). The sample used in this experiment has 400 respondents, who were divided into two groups for each experiment, so that they received the treatment for one list, and control for the other list. More respondents could not be covered by this survey as data collection and distribution is a difficult task in Pakistan, where there are not a lot of data collection agencies. Moreover, literacy rates are low, and access to the internet is mostly restricted to urban areas. This makes data collection a difficult task in the country, and it is challenging to get a sample which is representative of the entire population, specially through an online mode of distribution. This may introduce a certain amount of urban bias to the results of the survey, and show an underrepresentation of domestic violence and spousal control, given that these issues are more salient in rural areas. In order to combat this issue and to ensure the sample is as diverse as possible, the sample size was set to be 400 respondents and distributed across Pakistan in order to cover as many districts as possible.

An additional issue of using an aggregate of the number of statements respondents select is that studying individual level behaviour becomes difficult. Researchers previously had difficulty in performing regression analysis of list experiments and respondent characteristics for this reason (Lavrakas 2011). However, this obstacle has been overcome with the development of the multivariate regression analysis method, which has been developed by Imai and Blair (2012), and is used for analysis of the data in this paper.

III.1 Assumptions of a List Experiment

The success of a list experiment is based on the following three assumptions:

- 1) Randomization
- 2) No design effect
- 3) No liars assumption

The first assumption is fairly easy to ensure given that the format of the list experiment requires that respondents are randomly split into two groups – the control and treatment group. This helps to elicit truthful answers to the sensitive items in the experiment (Blair and Imai 2012). Moreover, because there are two experiments, they have been randomized to firstly ensure that no respondent receives both the control group and treatment group items for the same list experiment. Secondly, they have been randomized to ensure that no respondent receives both treatment groups containing the sensitive item, which might have made them uneasy to answer truthfully, thereby introducing bias in the model.

The no design effect assumption works on the basis that the sensitive item in the list must not be influencing which other statements the respondents choose (Lépine 2020). If the respondents alter their responses to the control items according to the presence or absence of the treatment item, this would result in giving biased estimates (Moseson et al. 2017). In order to avoid the design effect, we must choose control items that are clearly understood and for which respondents may have strong opinions (Blair and Imai 2012). For instance, one of the items on the list experiment 2 is about not having interest in politics. This is a clear and straightforward statement, and one which respondent would have a strong opinion for – politics being a divisive topic in the country, some may feel passionate about it while others don't. Additionally, the items should also be reasonably familiar to the respondent, and similar to the sensitive item in such a way that the sensitive item does not stand out, or seem out of place. In order to do this, the list experiment used in the domestic violence group contains items which relate to a woman's personal relations with her family, in-laws, and husband. Moreover, the item about the in-laws has negative connotations, so that the item on domestic violence doesn't stand out as being the only item with negative connotations.

The no-liars assumption holds that the respondents give a truthful answer to the sensitive item (Moseson et al. 2017). However, this assumption may be at risk of failing given two scenarios. The first scenario is where the respondent's answer to all items on a list, including the sensitive item, are in the affirmative (Kuha and Jackson 2014). This is also known as the ceiling effect. The result of this would be that the experiment is likely to show an underestimate of the prevalence of the sensitive characteristic (Lavrakas 2011). However, there is a way to alleviate this issue, and that is by creating a list that includes at least one non-sensitive statement that has a low rate of occurrence (Lavrakas 2011). This would ensure that not all the non-sensitive items are picked. For instance, the list experiment for domestic violence includes the statement "I meet my family often (2-3 times a week)". This item functions to avoid ceiling effects, as it is not the most common item out of the list, however, it is also different from the domestic violence item which is much more sensitive in nature. Not a lot of married women get to visit their family often, especially if they live with their in-laws, as there is an expectation to spend most of their time with their in-laws and lesser time with their own family (Ali et al. 2020). Thus, while this is a non-sensitive item, it may not be commonly chosen, and so helps to avoid the ceiling effect.

The other scenario in which this assumption is at risk of failing is when a respondent chooses none of the items on a list because they don't want their true answer for the sensitive question to be exposed (Blair and Imai 2012). This is known as the floor effect. This could happen if the control items are designed in a way that most people will answer in the negative to them, but affirmatively to the sensitive item (Kuha and Jackson 2014). Some measures can be taken in order to ensure that the sensitive item does not stand out, and that the control items are sufficiently relatable. The experiment avoids this issue in two ways. Firstly, the control items for both groups are designed in a way that they are sufficiently differentiated from one another, but are similar enough to the sensitive item so that it does not stand out or cause alarm to the respondents. Both the items on each list pertain to the questions asked about daily life and barriers to voting, and contain at least one or two items which are fairly common. For example, the domestic violence list contains items about praying and using social media which are fairly common, while the barriers to voting list contains items about being too busy with house chores, or the polling location being too far, which are also fairly obvious and common reasons not to go to vote.

Thus, the no design effect and the no liars assumption work together in order to ensure that the control and sensitive items do not influence responses to the list as a whole (Imai 2011). In addition to ensuring that the assumptions do not fail, there are also other considerations which have to be taken in order to ensure the success of a list experiment. The choice of items to put on a list matters, but so do the number of items to put on a list. The list must be designed so that it is not too short, as that would increase the likelihood of ceiling effects (Glynn 2010). They must also not be too long, as that would reduce the statistical power of the results and possibly result in respondent fatigue which will impact their true choices (Hinsley et al. 2018). In order to balance out these concerns, the list experiments in this study only have four items with short, precise statements on the control group, with an additional fifth on the treatment group list, so they are quick and easy to read and understand, while also avoiding ceiling effects.

III.2 Difference-in-means Estimator and Multivariate Regression Analysis

This paper will conduct analysis in a twofold manner. The first step is finding out the prevalence of domestic violence, and husbands curbing their wives' voting behaviour from the list experiments. This will be done using the standard difference-in-means estimator. The second step will be carrying out multivariate regression analysis between different respondent characteristics and the outcome of the treatment groups for each of the experiments. These will measure whether there is an association between the voting behaviour of women and their experience of domestic violence, as well as any intrusion from their husband. Other characteristics will also be tested, such as respondent's age, household income, education, etc.

In order to prepare the data for analysis of the list experiments, two new categories were first created for each of the list experiments. The treatment variable was created which represents the treatment status of the respondent, where 0 was coded for those who were only given the control list, while 1 was coded for those who received the list with the sensitive item. Next, the outcome variable was created by pooling together the responses to the treatment groups for each experiment, showing the total number of statements selected by each respondent in their respective group.

Difference-in-means estimator

The difference-in-means estimator calculates the difference between the means after aggregating the control group responses, and the treatment group responses (Gaia 2020). The difference-in-means estimator is the most commonly applied method for calculating the prevalence of sensitive behaviour or preferences, and so is used in this experiment in order to test hypotheses 1 and 2 – that women experience domestic violence, and that they are prohibited by voting by their husbands. The equation for the estimator is as follows:

$$\tau = \frac{1}{N_1} \sum_{i=1}^{N} T_i Y_i - \frac{1}{N_0} \sum_{i=1}^{N} (1 - T_i) Y_i$$

where ², τ is an estimate of the population's average response to the sensitive item. N_1 is the size of the treatment group, and N_0 is the size of the control group. Y_i denotes the potential answer that the respondent would give under treatment or control conditions (and so, the answer cannot exceed the total number of items on each list). T_i denotes the treatment list, where T_i is 1 if the respondent is in the treatment group, and 0 if they are in the control group. Thus $\frac{1}{N_1} \sum_{i=1}^{N} T_i Y_i$ shows the sum of responses with the sensitive item in the treatment group, and $\frac{1}{N_0} \sum_{i=1}^{N} (1 - T_i) Y_i$ shows the sum of responses without the sensitive item in the control group. When subtracted, τ gives us the difference in means between the two groups. The magnitude of the difference will tell us about the prevalence of domestic violence, or spousal control on voting behavior. If the value is significant, we can be sure that there is a prevalence of these two behaviors.

Multivariate Regression Analysis

Researchers have previously had difficulty in running regression analysis and predicting behaviour towards sensitive items using respondent characteristics. This has been one of the main limitations of the difference-in-means estimator described above (Blair and Imai 2012). However, Imai has developed a linear model for multivariate regression analysis, which has the following equation with interaction terms ³:

$$Y_i = X_i^t y + T_i X_i^t \delta + \epsilon_i$$

where, Y_i is the outcome variable, and will show how the sensitive behavior is impacted by respondent characteristics. X_i denotes the covariates – in this case, the respondent characteristics which are going to be used in order to assess their relationship with the sensitive behavior. The covariates being used in this experiment are the following: age, whether the respondent lives with her in-laws, the age at which she was married, her educational attainment, monthly household income, employment status, and whether she has ever voted or not. T_i is the treatment variable, and δ is the difference in effect between the treatment and control. ϵ_i is the error term.

The linear model is fitting for the experiment as estimation and interpretation of the results are straightforward, and easier to understand and interpret in comparison to other estimators which have been established, such as the nonlinear least squares (NLS) estimator, and the maximum likelihood (ML) estimator (Blair and Imai 2012). Moreover, because of the simplicity of the design of the experiment itself, it does not require highly complex models in order to analyze the results.

²This equation has been set out by Imai in the paper "Multivariate Regression Analysis for the Item Count Technique on page 409, 2011. ³This equation has been set out by Imai in the paper "Multivariate Regression Analysis for the Item Count Technique on page 409, 2011.

V. Results

I. Descriptive Statistics

68% of the women in the sample are between the age of 26 to 40, with the majority (58%) living in Punjab. Most of them are located in urban areas, almost 90%, and also have a college or university degree (89%). This means that the sample contains urban bias and literacy bias as the majority of the sample are highly educated and live in the city. This is not surprising given that the survey was distributed online, and so women who completed the survey must have had access to electronic gadgets and the internet. 64% are currently employed or have been employed in the past 12 months. The break down of the sectors in which they work is provided in the Appendix (figure 3) attached. Most women are employed in the educational sector, followed by selfidentified jobs and having their own business/ being self-employed. The average household income lies between 25,000-50,000, and 50,000-100,000. This would be in accordance with most of the women also being earning members of their family, as well as being situated in urban areas where income is higher, with college degrees. The following graph shows the distribution of household income in the sample:



Figure 1: Distribution of Monthly Household Income

It is interesting to note that 21 participants refused to answer the question. The average household income in Pakistan was recorded to be 41,545.000 rupees in 2019 (CEIC Data), and so we can see that the sample represents this to an extent, given the highest number of respondents report values between 25,000 and 50,000 rupees. Those belonging to higher income groups may be overrepresented here, as more respondents report earning above 50,000, and above 100,000, than those reporting below 25,000 and 10,000. This is also in tandem with the sample, which is likely to earn more given they have jobs in cities, where salaries of both the wives and husbands would be much higher than those living in rural areas.

In regards to voting, almost 90% of the respondents are registered voters. 19 respondents answered with "Don't know" to the question about whether they were registered voters or not, and 23 respondents answered that they are not registered to vote. 81% of the respondents had voted, while 17% had not. Even though 42 respondents either hadn't registered to vote or didn't know if they had or not, 72 respondents did not vote at all in any election. This leaves us with 30 women who were registered to vote, but did not end up voting. Although the number is small, it is still an interesting observation and raises the question of whether these women chose not to vote, or could not vote due to their circumstances. Being registered to vote means that they at least have awareness of the voting process to some degree, and so other issues might be the cause behind this result. A larger sample might increase these numbers, as well as the proportion of women who did not vote, given that this sample is mostly comprised of highly educated women, who are employed and live in urban areas, with access to cars. These factors would make it easier for them to vote than someone living in a rural village, with limitations on leaving their house.

Focusing on the household features of the sample, most of the women live with their husbands, with only 31 respondents not living with their husbands. Around 70% of them live with their in-laws, which reflects the usual family structure and expectation of married women to live with their in-laws in Pakistan, regardless of their being highly educated, or living in an urban city. 62% of these women got married at the age between 20-25. However, what is more interesting to note is that 42 respondents, about 10% of the sample, were married between the age of 15-19. This is surprising given that the sample is concentrated in urban areas, where one would expect girls with higher education to get married later than this age group. 26% of the sample was married at ages between 26 to 40 which is expected given this sample, as one would expect women to get married later if they are pursuing higher education, and marry after they have completed their degrees. About 70% of these women also have 1-3 children, which is slightly alarming given that about 10% of the sample was married at the age between 15-19.

II. Difference-in-means Analysis

Table 1: Domestic Violence Experiment



III. Regression Analysis with Other Respondent Characteristics

Table 3: Domestic Violence Experime
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	Sensitive Item		Control Items	
Variables	Est.	S.E.	Est.	S.E.
Intercept	0.11667	1.39952	0.36330	0.61402
Age	0.21537	0.23929	0.17794	0.13498
In-laws	0.01510	0.27027	0.11877	0.17904
Age Married	0.00265	0.21430	-0.02849	0.13486
Education	0.09588	0.33041	0.36883	0.15559
Income	-0.17626	0.10581	0.08845	0.06749
Employment	0.05227	0.25632	-0.11688	0.16612
Voting	-0.44956	0.35106	0.14228	0.22651

According to Table 1, the estimate for the sensitive item shows a positive value of 0.04495. This means that with the inclusion of the sensitive item in the list, more women answered in the affirmative to experiencing domestic violence. This put around 4.5% of the women in the sample to self-report experiencing domestic violence. However, the difference in means is not significant given that the value of the estimate is smaller than the standard error of 0.11271. The corresponding t statistic is also small, being 0.39979, and the p value is 0.6895 (See Appendix figure 4) which is more than 0.05, the value needed in order to get significant results. Thus, these results show that there isn't a statistically significant difference between the means of the control and treatment group.

Table 2: Barriers to Voting Experiment

	Sensitive Item		Control Items	
	Est.	S.E.	Est.	S.E.
Intercept	-0.00066	0.12161	1.28922	0.07973

Note: Residual standard error: 1.21936 with 403 degrees of freedom

According to Table 2, the estimate coefficient for this list experiment is -0.00066, which is interesting as it means that with the inclusion of the sensitive item, lesser women reported experiencing spousal control to their voting behaviour. The value of those who did report spousal control is also very small, as only 0.6% of the sample reported experiencing spousal control as a barrier to voting. However, the value is not significant given that the standard error is much higher than the estimate, with the value of 0.12161. The t test for this experiment further shows that there is not a significant difference in means, given that the p value is 0.9957, which is much higher than 0.05, as well as the extremely small value of the t statistic, being 0.0054283. These numbers show that there is not a significant difference in means between the control group and the treatment group for this experiment either.

The first thing to note given these results is that no respondent characteristic, including voting, is significant in regards to the experience of domestic violence, as most of the standard errors are higher than the estimate coefficients. However, some of the factors change in their negative or positive associations depending on whether the respondents were given the sensitive item or not. For instance, while voting and income are positive in the control group, they become negative in the sensitive group, which means that it is possible that those who are highly educated and belong to a higher income group are less likely to experience domestic violence. On the other hand, employment status and the age at which the respondents were married go from being negative in the control group to positive in the sensitive group. This implies that there may be a correlation between being married at a higher age and experiencing domestic violence, as well as by being employed. However, this cannot be concluded decisively as the results are not significant.

Table 4: Barriers to Voting Experiment

Variables	Sensitive Item		Control Items	
	Est.	S.E.	Est.	S.E.
Intercept	1.58338	1.63426	0.89086	1.18731
Age	0.07491	0.27484	0.02645	0.17855
In-laws	0.35876	0.29912	-0.29651	0.20024
Age Married	0.51508	0.23606	-0.18017	0.13922
Education	-0.69993	0.39318	0.27209	0.27661
Income	-0.05940	0.11378	0.01486	0.07042
Employment	-0.08000	0.26237	0.42714	0.16982
Voting	-0.19742	0.34206	-0.50627	0.23476

The most important insight from this experiment is that the age at which the women were married is a significant factor in determining whether the women's husbands stopped them from voting. The estimate coefficient is much higher than the standard error, being 0.51508, and so, it is the only significant factor in both the experiments. Living with in-laws, while not significant, is negative in the control group but positive in the sensitive group. This may mean that if women live with their in-laws, they are more likely to experience controlling behaviour from their husbands. As education, income and employment increase, the likelihood of the husband prohibiting his wife from voting seems to decrease, given these factors were positive in the control group but became negative in the sensitive group. Voting has a negative value in both lists, which shows that the inclusion of the sensitive item in the treatment makes no difference to the response of the women in the sample.

VI. DISCUSSION

This paper began with an exploration of domestic violence and spousal control, and the relationship they could have with a married woman's ability to vote in a Pakistani household. The two list experiments used above, combined with the demographic information which was collected by all 400 respondents, are employed in order to get an unbiased and accurate picture of these sensitive behaviours, their prevalence, and their relationship with voting behaviour. Given the results of the difference-in-means estimator, we cannot establish the prevalence of domestic violence or spousal control acting as a barrier to voting, as hypothesised in Hypothesis 1 and Hypothesis 2. This might be due to a small sample size, and it is possible that a larger sample may be needed in order to gain significant results. It could also be because the sample was concentrated in some aspects and did not contain enough variation. For instance, it contains literacy and urban bias - most of the women in the sample are highly educated women who live in urban areas, where (relatively) more modern ideals and practices prevail. One can assume that the lack of significant relationship of domestic violence and spousal control with voting behaviour is due to the nature of the sample, as such women may be more liberated and empowered given their educational attainment (Abbas et al. 2021). This would make it unlikely for them to experience domestic violence and controlling behaviour from their husbands in regards to voting, which is what the results of the analysis confirms. It is quite possible that having a sample with more representation of women from rural areas could alter these results, and show not only a higher prevalence of domestic violence and spousal control, but also a significant relationship between these factors and their impact on female voter participation.

However, it is still interesting to note the distribution of responses from the control and treatment groups of the experiments. From the plots shown below, we can see how the responses for the domestic violence group are mostly spread out, although they seem to be a little more concentrated between 2 and 3. This means that most women in both groups chose either 2 or 3 items, which proves that the experiment was safe from any ceiling or floor effects. However, we notice a different plot for the experiment about spousal control on voting behaviour, as most of the responses in this case are concentrated between 0 and 1. This means most women in both groups chose either 0 or 1 statements. This difference cannot be attributed to floor effects given that the majority of women in the control group also chose either 0 or 1 statements, and so we can say that the presence of the sensitive item in the treatment group did not invoke this reaction. It could be that given the sample was highly literate (89%), and most of them had voted (81%), that the items in the barriers to voting question simply did not apply to them. It is safe to assume that highly educated working women would not face barriers such as not knowing the process to vote. Given the urban bias, many women may also have cars, so that going to the polling location would also not be an issue. Thus, while the internal structure of the experiment is valid, the results may be skewed due to the distribution of the respondents in the sample.



Figure 2: Distribution of Responses from Control and Treatment Groups of Experiments

Comparing the two graphs, we can see that the mean for the treatment group of domestic violence (2.482759) is higher than that of the voting group (1.288557). This difference can be explained by the reasons in the discussion above regarding literacy and urban bias in the sample. Moreover, it is clear that these biases would not impact the domestic violence group as the question and items for that list were much more generalized and applicable across a wider range of women. For instance, education would not impact whether a woman prays or not, or goes to meet her family often, or how her relations with her in-laws are. Thus, the nature of the question asked in the domestic violence experiment seems to shield the respondents from the same biases which are experienced by the voting experiment groups, hence impacting the results of that experiment.

We cannot accept Hypothesis 3 because there was no significant relationship found between voting and the sensitive behaviours. Whether a woman voted or not did not have any correlation with whether they had been experiencing domestic violence, or whether their husband was acting as a barrier to them voting. However, we did find one factor which was significant to husbands acting as barriers to voting, and that was the age at which women were married. This might be a counter-intuitive idea, as one would expect that with rising age of marriage, women may be more independent and mature, and make their own decisions in the marriage. In a traditionally Western society, we expect that a woman's autonomy increases with the level of her education, her employment status, and if she lives in a modern (urban) setting, being exposed to mass media and more outlets of knowledge. However, in the context of a country like Pakistan where cultural norms often cloud factors like education or what we call "modernity" or "progressiveness", such results are explainable, and worth exploring further.

I. Late Marriage and Spousal Control

From the data collected by this survey alone, we can see that the majority of women, around 63%, got married when they were between the age of 20-25. If we add the women who were married between the ages of 15 to 19, this amounts to 73% of the total sample being married by the age of 25. The median age of marriage has increased from 19.1 in the Pakistan Health and Demographic Survey conducted in 2007 to 20.4 for the survey conducted in 2017 (Pakistan Demographic and Health Survey 2017-18). Thus, given this information and the results from the sample, the ideal age of marriage, and the norm, seems to lie between the 20-25 age group. Ages beyond this age may be defined as delayed, or late marriages. The definition of this term varies according to the norms of each country, however, in a country such as Pakistan where women marry by their early or midtwenties, ages higher than these can be considered to be delayed, compared to when the women "should" have married. Shaud and Asad reinforce this idea as they state that the "culturally appropriate" age for women to get married in Pakistan is the mid-twenties (Shaud and Asad 2020). In exploring the impact of delayed marriages among educated women in Pakistan, Sultan et al (2020) expand on how late or delayed marriages could result in poor partner selection due to a more

constricted "marriage market" at higher ages. Moreover, women who are not married by an earlier age may be seen as "leftover women", which is a term used by Ji in exploring single, educated women who have not married by their late twenties (Ji 2015). This idea that women who marry later are "left over" and have fewer choices in regards to choosing a partner hints on the fact that women in such situations may enter marriages for the sake of marrying – and not because it is the most ideal union for them. Lehrer and Chen (2013), in exploring delayed marriage and marital stability, corroborate this theory by finding that women who married in the late twenties or after usually entered unconventional matches. Moreover, Javed et al (2022) also discuss how being in the situation of a "left over" woman may result in lower self-esteem, lower confidence levels, loneliness, and impact the general mental wellbeing of women who are constantly facing social stigma at not having been married earlier. Given these findings, the results from the experiment can be explained as women who marry at higher ages may feel compelled to obey their husbands, given that it is possible they entered an unfavourable union due to social stigma and fear of being left over women. The husband's controlling behaviour would include prohibitions on voting, as explored in the survey. Thus, while these results lead us to a new direction, there is still much exploration which must be done in order to strengthen these results, and find out more about the relationship between the age of marriage and spousal control, particularly in the context of female voter participation.

VII. CONCLUSION

This paper aimed to study the relationships between domestic violence, spousal control in the household, and their relationship to the voting behaviour of married women in Pakistan. It used two list experiments in order to firstly test the prevalence of domestic violence and spousal control among married women, and secondly to see whether any relationship existed between women's voting choices (to vote or not) and their experience of domestic violence and spousal control. It presents a new perspective on why women have low turnout in Pakistan, and could be used to further the exploration of this topic in the country. It not only addresses a gap in research in regards to the relationship of voting and domestic violence in Pakistan, but also contributes to a global conversation about these factors which have not been studied together in depth. Moreover, it directs us to an important finding about the relationship between the age at which women marry and the corresponding spousal control over their voting

behaviour. It would be interesting to see what results one gains if the sample is expanded in terms of its size and its variety in Pakistan in order to study these behaviours and characteristics, and add even more characteristics, such as exposure to media, or ownership of assets (such as land). This paper is also one of the first and few to use a list experiment in Pakistan in order to assess the prevalence of sensitive behaviour. Despite the lack of significance found in the results, the paper shows the usefulness of the list experiment technique, which can be amplified if the experiment is conducted on the ground rather than online, with a larger sample which is more varied in terms of literacy and location. Lastly, the paper provides a new avenue of studying the reasons for lower female turnout in elections. Most previous literature has focused on a patriarchal system, lack of political awareness and lack of education as being factors for low female voter participation. However, this paper looks at both domestic violence and spousal control, factors which have not previously been addressed as possible reasons for low female turnout. Investigating these reasons allows us to think about female voter participation more broadly. What other household factors, relationships, or norms might be prohibiting women from voting freely? What issues in their daily life influence their voting behaviours? This paper provides a personal angle to exploring voting choices of women, rather than working under a systemic or large scale lens. This exploration is essential, so that one day all forms of barriers to voting can be eradicated for Pakistani women, granting them empowerment and protection through political processes.

References

Abrar ul Haq, Muhammad, Sadia Asraf and Saba Ashraf. 2017. "Domestic Violence Against Women: Empirical Evidence from Pakistan". *Pertanika Journal for Social Sciences and Humanities*.

Ali, Parveen Azam, Julie McGarry and Aneela Maqsood. 2020. "Spousal Role Expectations and Marital Conflict: Perspectives of Men and Women". *Journal of Interpersonal Violence*.: pp. 1-27.

Ali, Tazeen, Rozina Karmaliani, Rida Farhan, Syeda Hussain and Fatima Jawad. 2021. "Intimate partner violence against women: a comprehensive depiction of Pakistani literature". *Eastern Mediterranean Health Journal. Vol 27.*

Asadullah, M. Niaz, Elisabetta De Cao, Fathema Zhura Khatoon and Zahra Siddique. 2021."Measuring gender attitudes using list experiments". *Journal of Population Economics*.

Asif, Fawad, M. Iqbal Zafar, Ashfaq Ahmad Maann and Munir Ahmad. 2010."Domestic Violence – Rural-Urban Current Age and Age at Marriage Differential Impact on Women Physical Health in Punjab, Pakistan". *Pakistan Journal of Agricultural Sciences. Vol* 47(2).

Ballington, Julie. 2017. "Preventing Violence against Women in Elections: A programming guide." UN Women and UNDP.

Blair, Graeme and Kosuke Imai. 2012. "Statistical Analysis of List Experiments." *Oxford University Press*.

Burden, Barry C. 2009. "The dynamic effects of education on voter turnout." University of Wisconsin, Department of Political Science. Elsevier.

Cheema, Ali, Sarah Khan, Shandana Khan Mohmand, Anam Kuraish and Asad Liaqat. 2019. "Pakistan's Participation Puzzle: A Look at the Voting Gender Gap." *United States Institute of Peace.*

Chronister, Krista Marie and Ellen Hawley McWhirter. 2003. "Applying Social Cognitive Career Theory to the Empowerment of Battered Women." *Journal of Counseling and Development.*

Clark, Stacy. 1998. "The Relationship Between Domestic Violence and Self-Efficacy in Women." *Theses and Dissertations at Loyola eCommons.*

Condon, Meghan and Matthew Holleque. 2013. "Entering Politics: General Self-Efficacy and Voting Behavior Among Young People." *International Society of Political Psychology.*

Desposato, Scott and Barbara Norrander. 2008. "The Gender Gap in Latin America: Contextual and Individual Influences on Gender and Political Participation." *Cambridge University Press*.

Feroz, Anam Shahil, Saba Pervez, Narjis Rizvi and Oyinlola Oyebode. 2019. "Prevalence and Factors Associated with Violence against Women in Pakistan". *Journal of Women's Health and Gynecology.*

Gaia, Alessandra. 2020. "Item Count Technique." SAGE Research Methods Foundations.

Gibson, Mhairi A, Eshetu Gurmu, Beatriz Cobo, Maria M. Rueda and Isabel M. Scott. 2020. "Measuring Hidden Support for Physical Intimate Partner Violence: A List Randomization Experiment in South-Central Ethiopia." *Journal of Interpersonal Violence*. Gine, Xavier and Ghazala Mansuri. 2018. "Together We Will: Experimental Evidence on Female Voting Behavior in Pakistan." *American Economic Journal: Applied Economics. Vol 10.*

Global Gender Gap Report". 2019. Found at: https: //www3.weforum.org/docs/WEF_GGGR_2021.pdf

Glynn, Adam N. 2010. "What Can We Learn with Statistical Truth Serum? Design and Analysis of the List Experiment."

Hinsley, Amy, Aidan Keane, Freya A. V. St. John, Harriet Ibbett and Ana Nuno. 2019. "Asking sensitive questions using the unmatched count technique: Applications and guidelines for conservation." *Methods Ecol Evol. pp. 308–319.*

Huber-Krum, Sarah, Kristy Hackett, Navdep Kaur, Sidrah Nausheen, Sajid Soofi, David Canning and Iqbal Shah. 2020. "An Application of the List Experiment to Estimate Abortion Prevalence in Karachi, Pakistan." *International Perspectives on Sexual and Reproductive Health. pp. 13-24.*

Imai, Kosuke, Bethany Park and Kenneth F. Greene. 2015. "Using the Predicted Responses from List Experiments as Explanatory Variables in Regression Models." *Oxford University Press.*

Hinsley, Amy, Aidan Keane, Freya A. V. St. John, Harriet Ibbett and Ana Nuno. 2019. "Asking sensitive questions using the unmatched count technique: Applications and guidelines for conservation." *Methods Ecol Evol. pp.* 308–319.

Imran, Muhammad and Rehana Yasmeen. 2021. "Prevalence of physical, sexual and emotional violence among married women in Pakistan: A detailed analysis from Pakistan demographic health survey 2017-18." *International Journal of Women Empowerment.*

Javed, Nayab and Asma Seemi Mali. 2022. "Waiting for the Right One: Phenomenological Analysis of Contemporary Delayed Matrimonial Relationships in Pakistan." *Asian Social Studies and Applied Research*.

Ji, Yingchun. 2015. "Between Tradition and Modernity: "Leftover" Women in Shanghai." *Journal of Marriage and Family, Vol. 77, No. 5. pp.* 1057-1073.

Khanna, Manuka. 2009. "Political Participation of Women in India." *The Indian Journal of Political Science*. *Volume* 70.

Kuha, Jouni and Jonathan Jackson. 2014. "The item count method for sensitive survey questions: modelling criminal behaviour." *Journal of the Royal Statistical Society: Series C (Applied Statistics). pp.* 321-341.

Latif, Arfan, Ahmed Usman, Jafar Riaz Kataria and Muhammad Abdullah. 2015. "Female Political Participation in South Asia: a Case Study of Pakistan." *A Research Journal of South Asian Studies. Vol 30.*

Lavrakas, Paul J. 2011. "Encyclopedia of Survey Research Methods." *List-Experiment Technique. Sage Publications. pp.* 433-434.

Lehrer, Evelyn L and Yu Chen. 2013. "Delayed entry into first marriage and marital stability: Further evidence on the Becker-Landes-Michael hypothesis." *Demographic Research. pp.* 521-542.

Lépine, Aurélia, Carole Treibich and Ben D'Exelle. 2020. "Nothing but the truth: Consistency and efficiency of the list experiment method for the measurement of sensitive health behaviours." *Social Science Medicine*.

Moseson, Heidi, Caitlin Gerdts, Christine Dehlendorf, Robert A. Hiatt, and Eric Vittinghoff. 2017. "Multivariable regression analysis of list experiment data on abortion: results from a large, randomly-selected population based study in Liberia." *Population Health Metrics.*

Omvedt, Gail. 2005. "Women in Governance in South Asia." *Economic and Political Weekly*.

Pakistan Demographic and Health Survey." 2019. National Institute of Population Studies, Islamabad, Pakistan. The DHS Program, ICF, Maryland, USA.

Pandit, Latha A. 2010. "Political Leadership of Women: Constraints and Challenges." *The Indian Journal of Political Science. Vol* 71.

Population, female (% of total population) – Pakistan." The World Bank. 2020. Found at: https://data.worldbank.org/indicator/SP.POP. TOTL.FE.ZS?locations=PK

Porter, Catherine, Marta Favara, Alan Sanchez and Douglas Scott. 2021. "The impact of COVID-19 lockdowns on physical domestic violence: Evidence from a list randomization experiment." *SSM - Population Health.*

Preece, Jessica R. 2016. "Mind the Gender Gap: An Experiment on the Influence of Self-Efficacy on Political Interest." *Cambridge University Press.*

Saeed, Muhammad. Mati Ullah and Hamid Alam. 2019. "Women's Perceptions of Factors barring their political participation in Khyber Pakhtunkhwa: A case study of District Dir Upper." *Pakistan Journal of Women's Studies: Alam e Niswan. Vol 26.* Shaud, Shawal and Sara Asad. 2020. "Marital adjustment, convergent communication patterns, and psychological distress in women with early and late marriage."

Shiles, Megan N. 2011. "Impact of Intimate Partner Violence on Survivor's Work-Related Self Efficacy Expectations and Outcome Expectations."

Sultan, Tipu, Saeed Ahmad and Ayesha Ayub. 2020. "At Risk of "Leftover Singles": Dimensions and Sociopsychological Repercussions of Delayed Marriageability Among Educated Females in Pakistan." *The* *Family Journal: Counseling and Therapy for Couples and Families. Vol. 28(4). pp. 403-412.*

Thanikodi, A and M. Sugirtha. 2007. "Status of Women in Politics." *The Indian Journal of Political Science. Vol* 68.

Weiss, Anita M. 1999. "Women, civil society and politics in Pakistan." *Citizenship Studies*.

Xie, Min, Karen Heimer and Janet L. Lauritsen. 2012. "Violence against Women in the U.S. Metropolitan Areas: Changes in Women's Status an Risk, 1980-2004." *American Society of Criminology. Volume 50.*





Figure 3: Distribution of respondents by region



Figure 4: Distribution of votes by respondents in national elections

Employment by Sector



Figure 5: Sectors respondents are employed in

```
##
## Welch Two Sample t-test
##
## data: Abuse_Outcome by Abuse_Treatment
## t = -0.39979, df = 389.6, p-value = 0.6895
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -0.2659900 0.1760947
## sample estimates:
## mean in group 0 mean in group 1
## 2.437811 2.482759
```

Figure 6: *T test for domestic violence experiment*

```
##
##
    Welch Two Sample t-test
##
         Election_Outcome by Election_Treatment
## data:
## t = 0.0054283, df = 394.39, p-value = 0.9957
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
    -0.2378258 0.2391427
##
## sample estimates:
## mean in group 0 mean in group 1
##
          1.289216
                          1.288557
```

Figure 7: T test for voting experiment



Figure 8: Density plot showing outcome of voting list experiment



Figure 9: Density plot showing outcome of domestic violence list experiment

Survey – Sample provided in English Consent Form

You have been invited to take part in a research study to learn more about the voting choices and daily lifestyle of women in Pakistan. This study will be conducted by Eyza Hamdani, a 4th year student studying Political Science at New York University Abu Dhabi.

Taking part in this study entails the following:

- (1) Completing a questionnaire on basic demographic information, such as your age
- (2) Answering additional questions about your daily life and voting preferences

Participation in this study will take 5 minutes of your time. There are no known risks of taking part in this survey beyond those of everyday life. Confidentiality of your answers will be maintained by not collecting your name, or any other identifying information, apart from using respondent ID numbers which will be provided by Qualtrics, so that data are never directly linked to individual identity. The information you provide from this study will not be used for future research.

Participation in this survey is voluntary. You may refuse to participate in the survey, or skip any questions you prefer. You may find some questions to be sensitive, and if you do not wish to answer, you can choose the option 'Prefer not to answer' or skip the question and move on.

If there is anything about the study or your participation that you are unclear about or do not understand, or if you have any questions or wish to report a research-related problem, you may contact Eyza Hamdani at +971 55 616 1242, ehh283@nyu.edu, New York University Abu Dhabi, PO Box 129188, Abu Dhabi, UAE. For questions about your rights as a research participant, you may contact the University Committee on Activities Involving Human Subjects (UCAIHS), New York University, 665 Broadway, Suite 804, New York, New York, 10012, at ask.humansubjects@nyu.edu or (212) 998-4808. Please reference the study # (IRB-FY2021-XXX) when contacting the IRB (UCAIHS).

Do you consent to taking part in this survey? Yes (1)

No (2)

Introduction

This survey is part of a research study which analyzes female voter participation in Pakistan. It seeks to explore the lifestyle of married women in Pakistan, and how their responsibilities, their relations, and their work impacts their ability and choice to vote.

Answer each question in a way that best describes your choices. There will be a section on demographic information, and a small one on your lifestyle.

Please answer all questions truthfully. Your answers to all questions will be kept anonymous, and your identity will not be recorded.

```
Q1 What is your gender?
Male (1)
Female (2)
```

Q2 Are you married? Yes (1) No (2)

Q3 What is your age? 18-25 (1) 25-40 (2) 40-60 (3) 60+ (4) Prefer not to say (5)

Q4 Which province do you live in? Punjab (1) Sindh (2) Khyber Pakhtunkhwa (3) Balochistan (4) Azad Jammu and Kashmir (5) Gilgit Baltistan (6) Islamabad Capital Territory (7) Prefer not to say (8)

Q5 What district do you live in? ()

Q6 Do you live in a rural or urban area? Rural (1) Urban (2) Prefer not to say (3)

Q7 Do you live with your husband? Yes (1) No (2) Prefer not to say (3)

Q8 What age did you get married at? Less than 15 (1) 15-19 (2) 19-25 (3) 25-40 (4) More than 40 (5) Prefer not to say (6)

Q9 How many children do you have? None (1) 1-3 (2) More than 3 (3) Prefer not to say (4)

Q10 Do you live with your in-laws? Yes (1) No (2) Prefer not to say (3)

Q11 Up till what stage have you completed your education? Completed primary school (1) Completed secondary school (2) Completed high school (3) Completed a college/university degree (4) Prefer not to say (5)

Q12 Are you currently employed/were employed in the past 12 months? Yes (1) No (2) Prefer not to say (3)

Q13. a) If you answered yes to Q12: What is/was your profession/occupation?

Self employed/owned business (1) Education (2) Healthcare (3) Agriculture (4) Business / corporate (5) Other (6) Prefer not to say (7)

Q13. b) If you chose "other", please specify your occupation: ()

Q14 How much income do you earn (monthly)? Less than Rs 10,000 (1) Rs 10,000-25,000 (2) Rs 25,000-50,000 (3) Rs 50,000-100,000 (4) More than Rs 100,000 (5) Prefer not to say (6)

Q15 Are you registered to vote? Yes (1) No (2) Don't know (3) Prefer not to say (4)

Q16 Have you ever voted? Yes (1) No (2) Prefer not to say (3)

Please select those which apply

Q17 Did you vote in any of the following elections? Please select those which apply. 2018 (1) 2013 (2) 2008 (3) None of the above (4) Prefer not to say (5)

Q18a The following statements pertain to your daily life. Please select the options that apply to you. I pray 5 times a day (1) I have a social media account (Facebook/Instagram/Twitter) (2) I meet my family often (2-3 times a week) (3) I don't get along with my in-laws (4)

Q19a What do you see as the biggest barrier to going to vote during national elections? Please select the options that apply to you. Too busy with house chores. (1) Not interested in politics. (2) Polling location is too far. (3) Don't understand process to vote. (4) Husband doesn't allow it. (5)

Q18b The following questions pertain to your daily life. Please select the options that apply to you.

I pray 5 times a day (1) I have a social media account (Facebook/Instagram/Twitter) (2) I meet my family often (2-3 times a week) (3) I don't get along with my in-laws (4) I have been abused (physically hit, or verbally humiliated, or forced to have sex) by my husband in the past (5)

Q19b What do you see as the biggest barrier to going to vote during national elections? Please select the options that apply to you. Too busy with house chores. (1) Not interested in politics. (2) Polling location is too far. (3) Don't understand process to vote. (4)